

IDO-SOM7608-V1 核心板规格书



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深圳触觉智能科技有限公司

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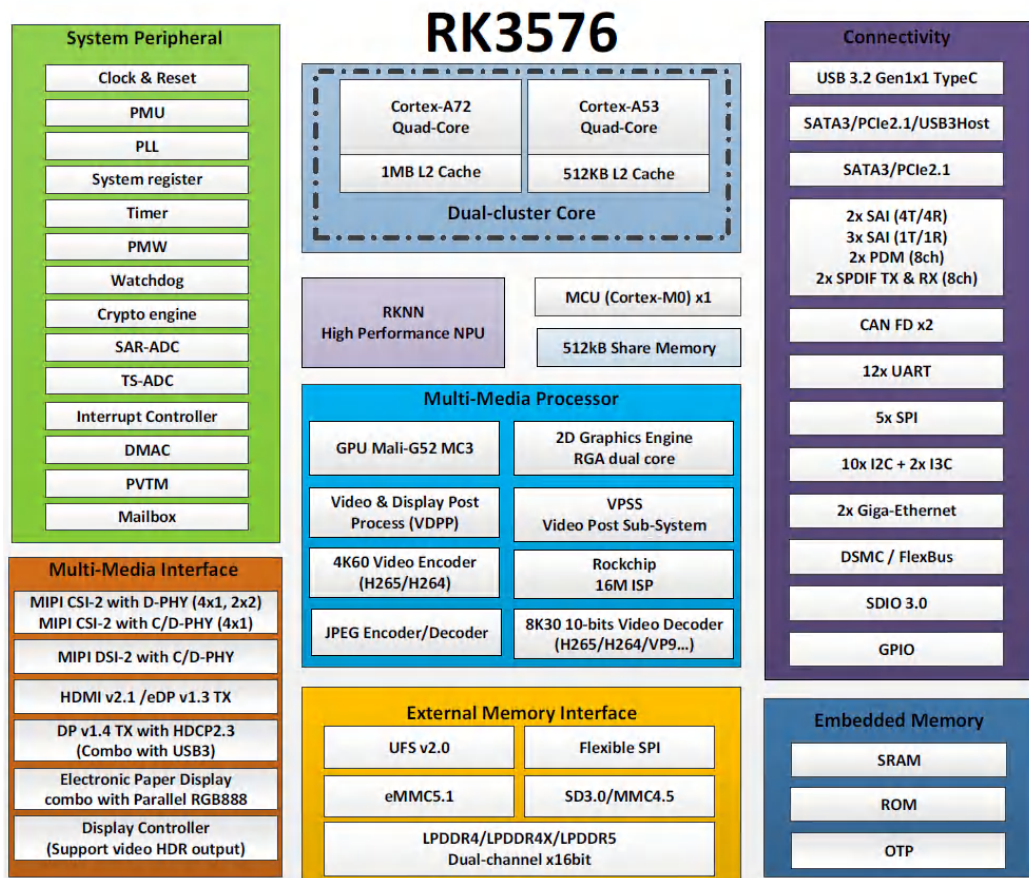
文档修订历史

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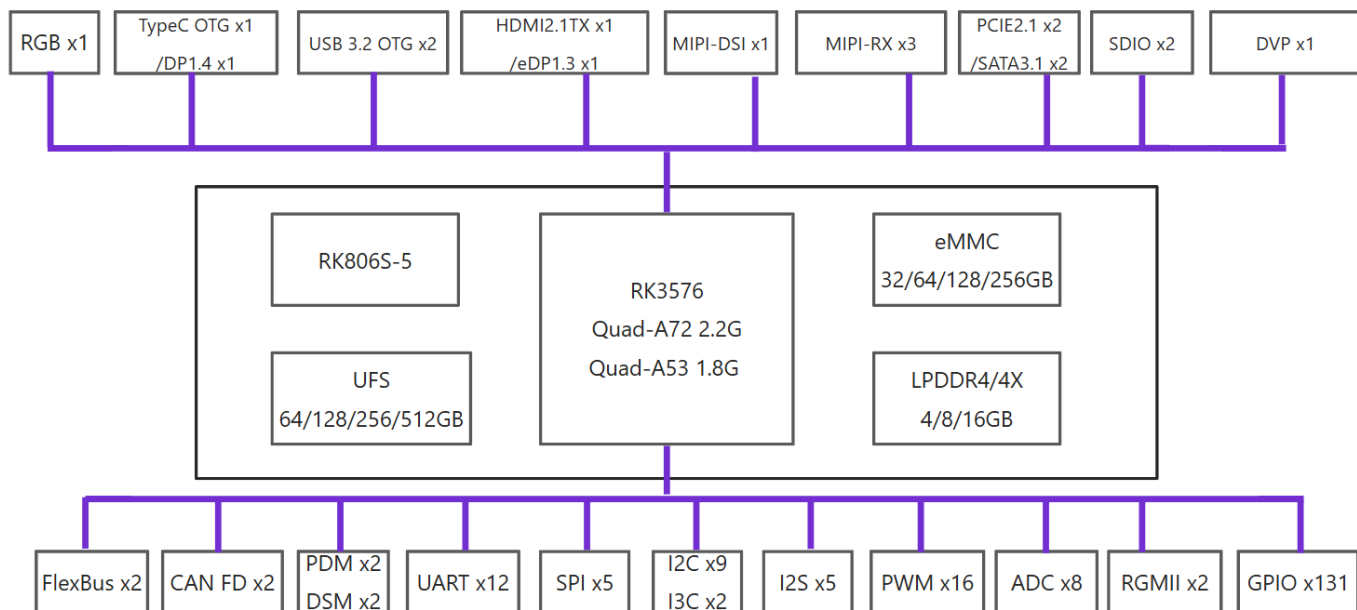
1、产品概述

IDO-SOM7608-V1是一款基于瑞芯微第二代8nm高性能AIOT平台RK3576设计的核心板，在40x60mm的小体积上集成了RK3576 SoC, PMIC, LPDDR4(X) , eMMC和UFS，通过高速B2B连接器引出RK3576的全部引脚资源。

RK3576 是一颗高性能低功耗处理器芯片，集成了 4 个 Cortex-A72 和 4 个 Cortex-A53 及独立的NEON 协处理器；适用于 ARM PC、边缘计算、个人移动互联网设备及其它多媒体产品。RK3576 内置了多种功能强大的嵌入式硬件引擎，为高端应用提供了优异的性能，支持 4K@120fps 的H.265、VP9、AVS2 和 AV1 解码器，支持 4k@60fps 的 H.264 解码器；还支持 4K@60fps 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。内置 3D GPU，能够完全兼容 OpenGL ES1.1/2.0/3.2、OpenCL 2.0 和 Vulkan 1.1。带有 MMU 的特殊 2D硬件引擎将最大限度地提高显示性能，并提供流畅的操作体验。引入了新一代完全基于硬件的最大 16M 像素 ISP（图像信号处理器），实现了多种算法加速器，如HDR、3A、CAC、3DNR、2DNR、锐化、去雾、增强、鱼眼校正、伽马校正等。内嵌的 NPU 支持 INT4/INT8/INT16/FP16/BF16/TF32 混合运算。此外，凭借其强大的兼容性，可以轻松转换基于 TensorFlow/MXNet/PyTorch/Caffe 等一系列框架的网络模型。



IDO-SOM7608-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，IDO-SOM7608-V1模块逻辑框图，如下图所示：



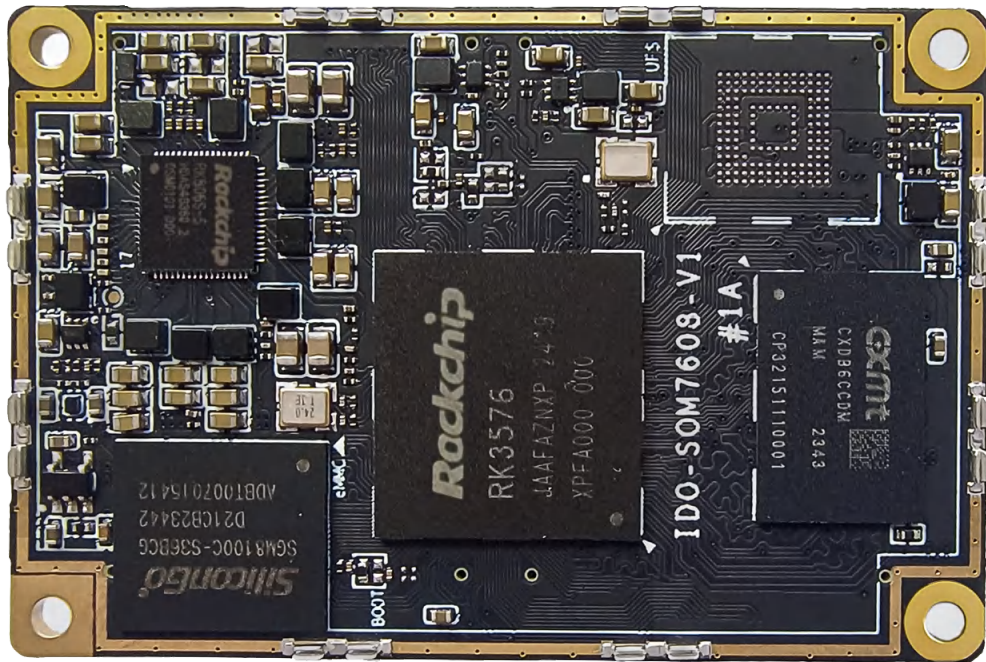
1.1 产品特点

1. 处理器采用Quad A72 + Quad A53 CPU 8nm先进制程工艺，主频高达2.2GHz；

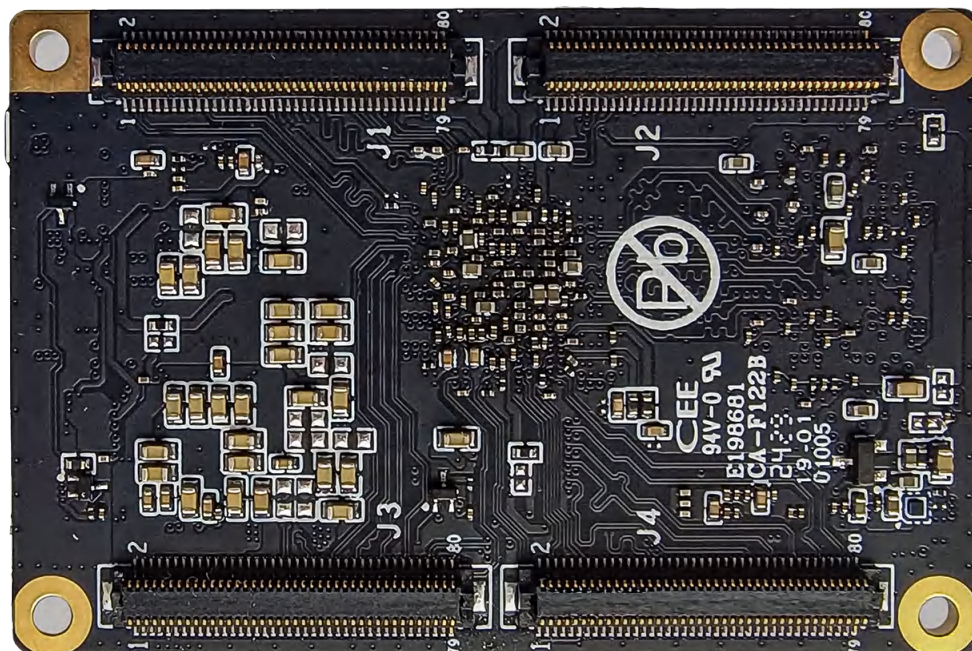
2. 内置6T RKNN AI 算力；
3. 5种屏幕显示接口：HDMI、eDP、MIPI DSI、DP、RG；
4. 丰富的总线接口：2×GMAC、2×CAN FD、PCIE/USB3.2、2×USB2.0、12×UART、16×PWM、5×SPI、9×I2C等；
5. 核心板支持100%全国产。

1.2 产品图片

IDO-SOM7608-V1核心板正面，如下图所示：



IDO-SOM7608-V1核心板背面，如下图所示：



1.3 适用场景

IDO-SOM7608-1采用瑞芯微第二代8nm高性能AIOT平台RK3576/RK3576J，可广泛应用在边缘计算、大模型本地化、智慧商显、云终端产品、工控主机、汽车电子等行业领域。

2、硬件参数规格

2.1 基本参数

基本参数如下图所示：

基本参数	
SOC	RockChip RK3576
CPU	Quad-core Cortex-A72 and quad-core Cortex-A53，主频高达2.2GHz
GPU	1. ARM Mali G52 MC3 GPU 2. OpenGL ES 1.1,2.0, and 3.2 3. Vulkan 1.1 4. OpenCL 2.0 Full Profile 5. 2D Graphics Engine (RGA)
NPU	6TOPS INT8，支持INT4/INT8/INT16/FP16/TF32混合运算

ISP	1. ISP V3.9 2. 16M Pixel ISP with HDR (up to 120dB)
VPU	视频解码： 1. H.265/HEVC/AVS2/VP9/AV1, 8K@30fps or 4K@120fps 2. H.264/AVC/MJPEG, 4K@60fps 视频编码： 1. H.265/H.264, 4K@60fps 2. MJPEG, 4K@60fps
内存	4GB/8GB/16GB LPDDR4/4x 4266Mbps
存储	1. 32GB/64GB/128GB/256GB eMMC (V5.1) 2. 64GB/128GB/256GB/512GB UFS (V2.0)
硬件参数	
网络	2 × RGMII 支持2路千兆以太网
视频输入	2 × MIPI DPHY CSI (支持MIPI V1.2 版本; 1 × 4 Lanes 或2 × 2 Lanes) 、 1 × MIPI DCPHY CSI RX (DPHY 支持V2.0 版本支持4Lane/2Lane/1Lane模式; CPHY 支持V1.1 版本支持0/1/2 Trio模式) 1 × DVP (8/10/12/16-bit, BT.601/BT.656 and BT.1120)
视频输出	1 × HDMI2.1(4K@120fps)/eDP1.3(4K@60fps支持1Lane/2Lane/4Lane 模式) 1 × DP1.4 (4K@120fps) 1 × EBC 输出接口 (支持 E-ink EPD (Electronic Paper Display), 2560×1920@85fps) 1 × MIPI_DCPHY_TX(支持V2.0 版本支持0/1/2/3 Lane模式; C-PHY 支持V1.1 版本支持0/1/2 Trio模式; 2560×1600@60fps) 1 × LCDC TX(支持并行24bit RGB 模式1920×1080@60fps、16bit BT1120 模式1920×1080@60fps、8bit BT656 模式720×576@60fps)
音频	2 × SAI (4T/4R)、3 × SAI (1T/1R), 支持I2S/TDM/PCM 模式, 支持高达192KHz 的采样率 2 × SPDIF TX & RX (8ch;最大支持24bits 解析度) 2 × PDM (最高8 channels, 音频分辨率16~24 位, 采样率达192KHz, 支持PDM 主接收模式) 2 × DSM (支持双倍数据速率接口; 支持8 线和16 线串行传输模式; DSMC_CLKP/N 最高速率为100MHz)

USB	1 × USB3.2 Gen1 OTG0 (与DP1.4复用) 1 × USB3.2 Gen1 OTG1 (与PCIe 2.1/SATA 3.1复用)
PCIe/SATA	1 × PCIe2.1/SATA3.1 (1 lane) 1 × PCIe2.1/SATA3.1/USB3.2 Gen1 (1 lane)
扩展接口	2 × FlexBus数据总线 12 × UART 5 × SPI, 支持主从模式 2 × CAN FD 9 × I2C 2 × I3C 2 × SDIO v3.0 16 × PWM, 支持红外输入, 时钟计数 8 × ADC, 1MS/s, 12bits 131 × GPIO
其他	
核心板尺寸	40mm X 60mm X 5mm
接口类型	320Pin 间距0.5 B to B连接器
PCB规格	1.6mm多层高密板, 沉金工艺
重量	14.9g

2.2 工作环境

工作环境如下表所示：

工作环境	
工作温度	0°C~+70°C [RK3576 商业级] -40°C~+85°C [RK3576J 工业级]
存储温度	-40°C ~ +85°C
存储湿度	0%~90% RH (无凝露)

2.3 系统支持

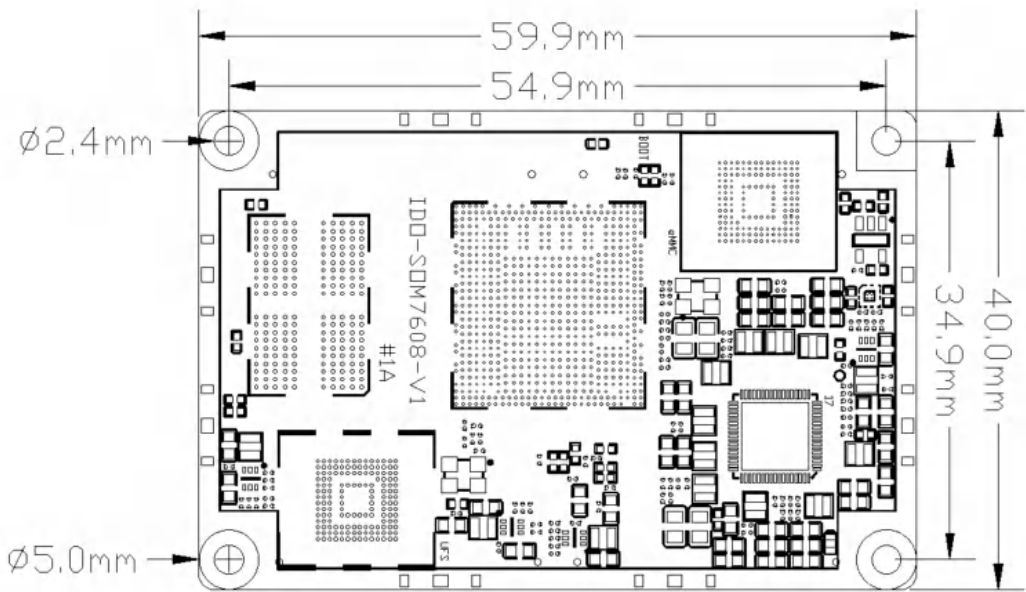
系统支持如下表所示：

序号	操作系统	支持	说明
1	Android	✓	/
2	Debian	✓	/
3	Buildroot	✓	/
4	Ubuntu	✓	/
5	OpenHarmony	✓	/

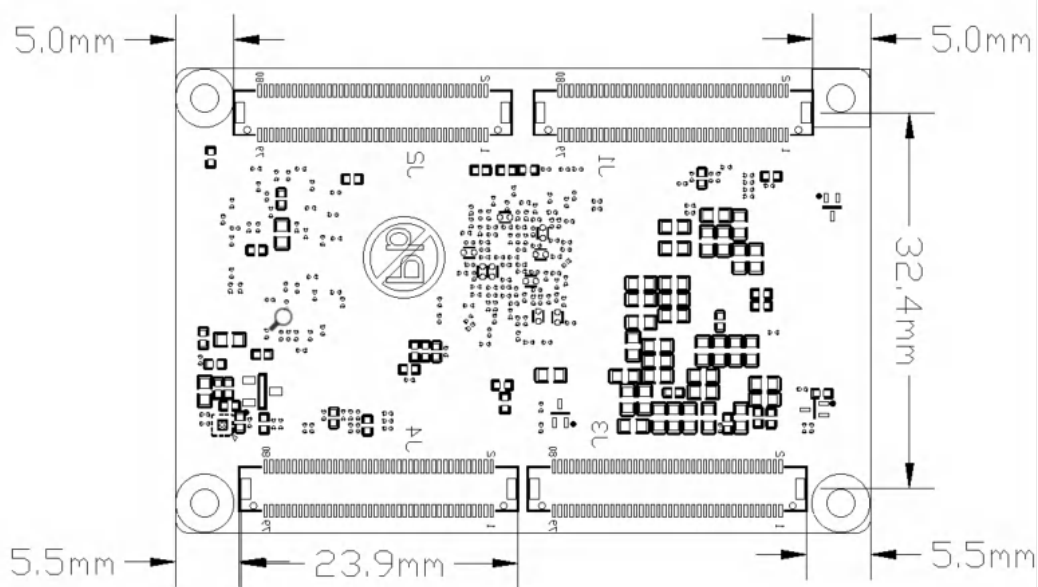
3、PCB 尺寸和电气参数

3.1 PCB尺寸

IDO-SOM7608-V1核心板正面尺寸，如下表所示：



IDO-SOM7608-V1核心板背面尺寸，如下图所示：



3.2 电气参数

3.2.1 主电源输入

电源输入如下表所示：

电源名称	最小电压	标称值	最大电压	峰值电流	待机电流	关机电流
VCC5V0_S YS_S5	4.5V	5.0V	5.5V	2A	5mA	<1mA

3.2.2 IO电源输入

电源名称	最小电压	最大电压	峰值电流	备注
VCCIO2_IN	1.75V	3.4V	<50mA	VCCIO2电源域电压
VCCIO4_IN	1.75V	3.4V	<50mA	VCCIO4电源域电压
VCCIO5_IN	1.75V	3.4V	<50mA	VCCIO5电源域电压

3.2.3 电源输出

电源输入如下表所示：

电源名称	最小电压	标称值	最大电压	限制电流
VCC_1V8_S3	1.75V	1.8V	1.85V	100mA
VCC_3V3_S3	3.2V	3.3V	3.4V	100mA
VCC_1V8_S0	1.75V	1.8V	1.85V	100mA
VCC_3V3_S0	3.2V	3.3V	3.4V	100mA
VCCA_3V3_S0	3.2V	3.3V	3.4V	100mA

4、采购型号

采购型号如下表所示：

采购型号	LPDDR4x	eMMC	标称工作温度
IDO-SOM7608-V1-D4E32	4GB	32GB	0℃ ~ +70℃
IDO-SOM7608-V1-D4E64	4GB	64GB	0℃ ~ +70℃
IDO-SOM7608-V1-D8E64	8GB	64GB	0℃ ~ +70℃
IDO-SOM7608-V1-D8E128	8GB	128GB	0℃ ~ +70℃
IDO-SOM7608J-V1-D4E32	4GB	32GB	-40℃ ~ +85℃

5、引脚定义说明

IDO-SOM7608-V1核心板连接器：

HCTL(华灿天禄)：

核心板连接器采用HCTL(华灿天禄)的HC-PBB12NC(3.0)-80DS-0.5V-P-03

 [HC-PBB12NC\(3.0\)-80DS-0.5V-P-03.PDF](#)

底板连接器采用HCTL(华灿天禄)的 HC-PBB12NC(3.0)-80DP-0.5V-P-03

 [HC-PBB12NC\(3.0\)-80DP-0.5V-P-03.PDF](#)

5.1 核心板引脚示意图

MIPI DPHY CSI3/4 RX		MIPI_DPHY_CSI3_RX_D0P	A35
MIPI V1.2/2.5Gbps		MIPI_DPHY_CSI3_RX_D0N	A33
		MIPI_DPHY_CSI3_RX_D1P	A29
		MIPI_DPHY_CSI3_RX_D1N	A27
		MIPI_DPHY_CSI3_RX_CLKP	A23
		MIPI_DPHY_CSI3_RX_CLKN	A21
		MIPI_DPHY_CSI3_RX_D2P/MIPI_DPHY_CSI4_RX_D0P	A17
		MIPI_DPHY_CSI3_RX_D2N/MIPI_DPHY_CSI4_RX_D0N	A15
		MIPI_DPHY_CSI3_RX_D3P/MIPI_DPHY_CSI4_RX_D1P	A11
		MIPI_DPHY_CSI3_RX_D3N/MIPI_DPHY_CSI4_RX_D1N	A9
		MIPI_DPHY_CSI4_RX_CLKP	A5
		MIPI_DPHY_CSI4_RX_CLKN	A3
			A39
			A41
VCCIO1 Domain	PWM2_CH2_M0/CAN0_RX_M0/SPI0_MOSI_M1/I2C8_SCL_M0/UART7_RX_M2/UART0_RX_M1/DSM_AUD_LP_M0/FSPI1_D0_M0/SDMMC0_D0/GPIO2_A0_d		A43
	PWM2_CH3_M0/CAN0_TX_M0/SPI0_MISO_M1/I2C8_SDA_M0/UART7_TX_M2/UART0_TX_M1/SAI3_MCLK_M3/DSM_AUD_LN_M0/FSPI1_D1_M0/SDMMC0_D1/GPIO2_A1_d		A45
	IC1_SCL_M1/CAN1_RX_M0/SPI0_CSN1_M1/UART5_RTSN_M2/JTAG_TCK_M0/SAI3_LRCK_M3/DSM_AUD_FP_M0/FSPI1_D2_M0/SDMMC0_D2/GPIO2_A2_d		A47
	IC1_SDA_M1/CAN1_TX_M0/UART5_CTSN_M2/JTAG_TMS_M0/SAI3_SDI_M3/DSM_AUD_RN_M0/FSPI1_D3_M0/SDMMC0_D3/GPIO2_A3_d		A49
	PWM2_CH4_M0/SPI0_CSN0_M1/I2C5_SDA_M0/UART5_RX_M2/SAI3_SDO_M3/FSPI1_CSN0_M0/SDMMC0_CMD/GPIO2_A4_d		A49
	IC1_SDA_PU_M1/SPI0_CLK_M1/I2C5_SCL_M0/UART5_TX_M2/TEST_CLK_OUT/SAI3_SCLK_M3/FSPI1_CLK_M0/SDMMC0_CLK/GPIO2_A5_d		A53
Operating Voltage=1.8V/3.3V			A55
SARADC		SARADC_IN0_BOOT	A57
		SARADC_IN1	A59
		SARADC_IN2	A61
		SARADC_IN3	A63
		SARADC_IN4	A65
		SARADC_IN5	A67
		SARADC_IN6	A67
		SARADC_IN7	A67
			A4
			A6
			A8
			A10
			A12
			A16
VCCIO3 Domain	PWM1_CH0_M1/PCIE1_CLKREQN_M1/SP11_CLK_M0/I2C9_SDA_M1/SAI3_SCLK_M1/SDMMC1_D0_M0/ETH1_RXD2_M1/GPIO1_B4_d		A20
	PWM1_CH1_M1/SP11_MOSI_M0/I2C9_SCL_M1/SAI3_LRCK_M1/SDMMC1_D1_M0/ETH1_RXD3_M1/GPIO1_B5_d		A22
	PCIE0_CLKREQN_M1/SP11_MISO_M0/UART3_CTSN_M2/SAI3_SDO_M1/SDMMC1_D2_M0/ETH1_RXCLK_M1/GPIO1_B6_d		A24
	SP11_CSN0_M0/UART3_RTSN_M2/SAI3_SDI_M1/SDMMC1_D3_M0/ETH1_TXD2_M1/GPIO1_B7_d		A26
	PWM0_CH0_M1/SP11_CSN1_M0/UART3_TX_M2/PDM0_SD2_M2/SDMMC1_CMD_M0/ETH1_TXD3_M1/GPIO1_C0_d		A28
	UART3_RX_M2/PDM0_CLK0_M2/SAI3_MCLK_M1/SDMMC1_CLK_M0/ETH1_TXCLK_M1/GPIO1_C1_d		A30
	PWM1_CH2_M1/SPI2_CSN1_M1/I2C6_SCL_M1/UART4_RTSN_M1/FSPI1_CSN1_M1/FSPI1_RSTN_M1/SDMMC1_PWREN_M0/ETH1_PPSTRG_M1/GPIO1_C2_u		A32
	SPI2_CSN0_M1/I2C6_SDA_M1/UART4_CTSN_M1/FSPI1_CSN0_M1/SDMMC1_DET_N_M0/ETH1_PPSTRG_M1/GPIO1_C3_u		A34
	PCIE0_BUTTONRSTN/SPI2_MISO_M1/UART2_RTSN_M0/UART4_TX_M1/FSPI1_D0_M1/ETH1_TXD0_M1/GPIO1_C4_d		A36
	PCIE1_BUTTONRSTN/SPI2_MISO_M1/UART2_CTSN_M0/UART4_RX_M1/FSPI1_D1_M1/ETH1_TXD1_M1/GPIO1_C5_d		A38
	SATA_CPDDET/I2C8_SCL_M1/UART2_TX_M0/PDM0_SD0_M2/FSPI1_D2_M1/ETH1_TXCTL_M1/GPIO1_C6_d		A40
	SATA_CPDDET/I2C8_SDA_M1/UART2_RX_M0/PDM0_SDI1_M2/FSPI1_D3_M1/ETH1_RXD0_M1/GPIO1_C7_d		A42
	UART10_TX_M1/SAI2_SDO_M0/ETH1_RXD1_M1/GPIO1_D0_d		A44
	IC30_SDA_PU_M1/I3C0_SCL_M1/SAI2_LRCK_M0/ETH1_RXCTL_M1/GPIO1_D1_d		A46
	PWM1_CH3_M1/I3C0_SCL_M1/SAI2_LRCK_M0/ETH1_MDC_M1/GPIO1_D2_d		A48
	PWM1_CH4_M1/I3C0_SDA_M1/SAI2_SDI_M0/ETH1_MDIO_M1/GPIO1_D3_d		A50
	I2C5_SCL_M1/UART10_RTSN_M1/SPDIF_RX1_M2/PDM0_SD3_M2/SAI2_MCLK_M0/ETH1_MCLK_M1/GPIO1_D4_d		A52
	CLK1_32K_OUT/ SATA_MPSWIT/ SPI2_CLK_M1/I2C5_SDA_M1/UART10_CTSN_M1/SPDIF_TX1_M2/PDM0_CLK1_M2/FSPI1_CLK_M1/ETH1_CLK1_25M_OUT_M1/GPIO1_D5_d		A54
			A48
			A50
			A52
VCCIO2 Domain	PWM2_CH5_M0/AUPLL_CLK_IN_M2/SAI4_MCLK_M0/SAI1_MCLK_M0/GPIO4_A2_d		A54
	CAN0_TX_M2/I2C4_SCL_M1/UART6_TX_M0/SPI3_MOSI_M2/FLEXBUS0_D13_M1/PDM1_SD3_M1/SA4_SCLK_M0/GPIO4_A4_d		A56
	PCIE1_CLKREQN_M2/I2C2_SDA_M2/UART5_CTSN_M1/SP4_CSN1_M2/FLEXBUS1_D12_M1/SA1_LRCK_M0/GPIO4_A5_d		A58
	CAN0_RX_M2/I2C4_SDA_M1/UART6_RX_M0/SPI3_MISO_M2/FLEXBUS0_D14_M1/PDM1_CLK0_M1/SA4_LRCK_M0/GPIO4_A6_d		A60
	PWM2_CH6_M0/SPI3_CLK_M2/SAI4_SDI_M0/SA1_SDO1_M0/GPIO4_A7_d		A62
	UART2_RTSN_M1/UART6_RTSN_M0/UART5_TX_M1/SP4_CLK_M2/FLEXBUS1_D13_M1/PDM1_CLK1_M1/SA1_SD3_M0/SA1_SDO0_M0/GPIO4_B0_d		A64
	UART2_CTSN_M1/UART6_CTSN_M0/UART5_RX_M1/SP4_MOSI_M2/FLEXBUS1_D14_M1/PDM1_SD2_M1/SA1_SD2_M0/SA1_SDO2_M0/GPIO4_B1_d		A66
	MIPLTE_M0/SPI4_MISO_M2/FLEXBUS1_D15_M1/PDM1_SDI1_M1/SA1_SDI1_M0/SA1_SDO3_M0/GPIO4_B2_d		A68
	PWM2_CH7_M0/SPI3_CSN1_M2/SP4_CSN0_M2/PDM1_SDI0_M1/SA1_SDI0_M0/GPIO4_B3_d		A70
	CAN1_RX_M2/I2C3_SDA_M0/UART2_RX_M1/FLEXBUS0_CSN_M4/SPDIF_RX0_M0/GPIO4_B4_d		A72
	CAN1_TX_M2/PCIE0_CLKREQN_M2/I2C3_SCL_M0/UART2_TX_M1/FLEXBUS0_D15_M1/SPDIF_TX0_M0/GPIO4_B5_d		A74
		VCCIO2_IN	A76
		VCC_1V8_S3	A75
		VCC_3V3_S3	A77
		VCC_1V8_S0	A71
		VCC_3V3_S0	A73
		VCCA_3V3_S0	A78
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VCCIO4 Domain Operating Voltage=1.8V/3.3V	I2C4_SCL_M2/SP4_CSN1_M3/UART8_TX_M1/SA0_SDO0_M0/ETH0_RXD0_M1/SDMMC1_D0_M1/V1_CIF_D15/GPIO2_A6_d	B8
	I2C4_SDA_M2/UART8_RX_M1/SA0_SDO1_M0/ETH0_TXCTL_M1/SDMMC1_D1_M1/V1_CIF_D14/GPIO2_A7_d	B10
	UART1_TX_M1/PDM0_SD0_M3/SA0_SDO_M0/ETH0_TXD1_M1/SDMMC1_D2_M1/V1_CIF_D13/GPIO2_B0_d	B12
	UART1_RX_M1/PDM0_SD02_M3/SA0_SDO1_M0/ETH0_TXD0_M1/SDMMC1_D3_M1/V1_CIF_D12/GPIO2_B1_d	B16
	PCIE0_CLKREQN_M0/SP4_CSN0_M3/UART11_CTSN_M1/PDM0_SD01_M3/SA0_SDO2_M0/ETH0_TXD3_M1/SDMMC1_CMD_M1/V1_CIF_D11/GPIO2_B2_d	B18
	PCIE1_CLKREQN_M0/SP4_CLK_M3/UART11_RTSN_M1/PDM0_CLK1_M3/SA0_SDO2_M0/ETH0_TXCLK_M1/SDMMC1_CLK_M1/V1_CIF_D10/GPIO2_B3_d	B18
	SATA0_ACTLED_M0/SP4_MOSI_M3/UART7_CTSN_M0/PDM0_SDO0_M3/SA0_SDO3_M0/ETH0_TXD2_M1/SDMMC1_PWREN_M1/V1_CIF_D9/GPIO2_B4_d	B22
	SATA1_ACTLED_M0/SP4_MISO_M3/UART7_RTSN_M0/PDM0_CLK0_M3/SA0_MCLK_M0/ETH0_RXCLK_M1/SDMMC1_DET_M1/V1_CIF_D8/GPIO2_B5_d	B24
	I2C7_SCL_M2/UART8_RTSN_M1/UART7_TX_M0/SA0_SCLK_M0/ETH0_RXD3_M1/ETH1_PTP_REFCLK_M1/V1_CIF_D7/GPIO2_B6_d	B24
	I2C8_SDA_M2/UART8_CTSN_M1/UART7_RX_M0/SA0_LRCK_M0/ETH0_RXD2_M1/V1_CIF_D6/GPIO2_B7_d	B26
	PWM1_CH0_M2/UART8_RX_M0/PDM1_SDO1_M0/ETH1_PTP_REFCLK_M1/ETH1_RXD2_M0/V1_CIF_D5/GPIO2_C0_d	B38
	PWM1_CH1_M2/SP11_CSN1_M1/UART8_TX_M0/PDM1_CLK1_M0/SA2_MCLK_M1/ETH1_PPSCLK_M1/ETH1_RXD3_M0/V1_CIF_D4/GPIO2_C1_d	B30
	PWM1_CH2_M2/SP11_MOSI_M1/UART11_CTSN_M1/PDM1_SDO2_M0/SA2_SCLK_M1/ETH1_PPSTRG_M1/ETH1_RXCLK_M0/V1_CIF_D3/GPIO2_C2_d	B30
	PWM0_CH0_M2/SP11_MISO_M1/UART11_RTSN_M1/PDM1_SDO3_M0/SA2_LRCK_M1/ETH1_TXD3_M0/V1_CIF_D2/GPIO2_C3_d	B30
	PWM1_CH3_M2/SP11_CSN0_M1/UART11_TX_M1/PDM1_SDO0_M0/SA2_SDO_M1/ETH1_TXD3_M0/V1_CIF_D1/GPIO2_C4_d	B34
	PWM1_CH4_M2/SP11_CLK_M1/UART11_RX_M1/PDM1_CLK0_M0/SA2_SDO_M1/ETH1_TXCLK_M0/V1_CIF_D0/GPIO2_C5_d	B38
	PWM1_CH5_M2/SP11_CSN0_M1/UART11_TX_M1/PDM1_SDO0_M0/SA2_SDO_M1/ETH1_TXD3_M0/V1_CIF_D1/GPIO2_C6_d	B30
	PWM0_CH1_M2/I2C5_SDA_M2/UART4_RTSN_M0/SA4_LRCK_M3/ETH1_TXD1_M0/GPIO2_C7_d	B30
	PWM2_CH0_M2/I2C6_SCL_M2/UART4_TX_M0/SA4_SDO1_M3/ETH1_TXCTL_M0/GPIO2_D0_d	B34
	PWM2_CH1_M2/I2C6_SDA_M2/I2C6_SCL_M2/UART4_RX_M0/SA4_SDO_M3/ETH1_RXD0_M0/GPIO2_D1_d	B36
	PWM2_CH2_M2/I2C3_SCL_M2/UART8_TX_M1/SA4_MCLK_M1/ETH1_RXD1_M0/CAM_CLK0_OUT_M1/GPIO2_D2_d	B32
	PWM2_CH3_M2/I2C3_SDA_M2/UART8_RX_M1/ETH1_RXCTL_M0/GPIO2_D3_d	B38
	PWM2_CH4_M2/I2C3_SDA_M2/UART8_RTSN_M1/ETH1_MDC_M0/SP_FLASH_TRGOUT_M0/GPIO2_D4_d	B38
	PWM2_CH5_M2/I2C3_SCL_M2/UART8_CTSN_M1/ETH1_MDC_M0/SP_FLASH_TRGOUT_M0/GPIO2_D5_d	B38
	PWM2_CH6_M2/I2C1_SDA_PU_M0/UART8_RTSN_M0/SPDF_RX0_M0/SA3_MCLK_M2/ETH0_MCLK_M1/ETH1_CLK1_ZSM_OUT_M0/CAM_CLK1_OUT_M1/GPIO2_D6_d	B24
	PWM2_CH7_M2/SP3_CSN1_M1/UART8_CTSN_M0/SPDF_TX0_M0/SA0_SDO3_M0/ETH1_CLK0_ZSM_OUT_M1/ETH1_MCLK_M0/CAM_CLK2_OUT_M1/GPIO2_D7_d	B24
	I2C7_SCL_M1/SP3_CLK_M0/UART3_TX_M0/SA3_SCLK_M2/ETH0_MDO_M1/V1_CIF_HREF/GPIO3_A1_d	B72
	I2C7_SDA_M1/SP3_MOSI_M0/UART3_RX_M0/SA3_LRCK_M2/ETH0_MDC_M1/ETH1_PPSTRG_M0/V1_CIF_VSYNC/GPIO3_A1_d	B72
	MIPI_TE_M1/CAN1_TX_M3/SP3_MISO_M0/UART3_CTSN_M0/SPDF_RX0_M1/SA3_SDO_M2/ETH0_RXCTL_M1/ETH1_PPSCLK_M0/V1_CIF_CLK/GPIO3_A2_d	B76
	CAN1_RX_M3/SP3_CSN0_M0/UART3_RTSN_M0/SPDF_TX1_M1/SA3_SDO_M2/ETH0_RXD1_M1/ETH1_PTP_REFCLK_M0/V1_CIF_CLK/GPIO3_A3_d	B76
	VCCIO4_IN	B4
VCCIO5 Domain Operating Voltage=1.8V/3.3V	PWM1_CH0_M3/SP12_CLK_M2/UART1_CTSN_M2/FLEXBUS0_CSN0_M0/FLEXBUS1_D11/DSMC_RDYNSA4_SDO1_M1/ETH1_CLK0_ZSM_OUT_M0/V0_EBC_SDSHRV_VO_LCDC_D23/GPIO3_A4_d	B7
	PWM1_CH1_M3/SP12_CSN1_M2/UART1_RTSN_M2/FLEXBUS0_D7/DSMC_DATA15/PDM1_SDO3_M2/ETH0_MDO_M0/V0_EBC_GDSRVO_LCDC_D22/GPIO3_A5_d	B11
	PWM1_CH2_M3/UART0_CTSN_M0/UART1_RX_M2/FLEXBUS0_D6/DSMC_DATA14/PDM1_SDO2_M2/ETH0_MDC_M0/V0_EBC_GDOE_VO_LCDC_D21/GPIO3_A6_d	B13
	UART0_RTSN_M0/UART1_TX_M2/FLEXBUS0_D5/DSMC_DATA13/PDM1_CLK1_M2/ETH0_RXCTL_M0/V0_EBC_VCO0VVO_LCDC_D20/GPIO3_A7_d	B39
	PWM0_CH0_M3/SP2_MOSI_M2/UART0_RX_M0/FLEXBUS0_D8/DSMC_CSN1/SA4_MCLK_M1/ETH0_MCLK_M0/V0_EBC_SDOE3VVO_LCDC_D19/GPIO3_B0_d	B45
	PWM0_CH1_M3/SP4_CSN0_M1/UART0_TX_M0/FLEXBUS0_D4/DSMC_DATA13/PDM1_CLK0_M2/ETH0_RXD1_M0/V0_EBC_SDOE2VVO_LCDC_D18/GPIO3_B1_d	B35
	I2C8_SDA_M3/UART9_RX_M1/FLEXBUS0_D3/DSMC_DATA11/PDM1_SDO1_M2/ETH0_RXD0_M0/V0_EBC_SDOE1VVO_LCDC_D17/GPIO3_B2_d	B25
	I2C8_SCL_M3/UART9_TX_M1/FLEXBUS0_D2/DSMC_DATA10/PDM1_SDO0_M2/ETH0_TXCTL_M0/V0_EBC_SDOE0VVO_LCDC_D16/GPIO3_B3_d	B21
	PWM1_CH4_M3/UART8_RTSN_M1/FLEXBUS0_D1/DSMC_DATA9/SPDF_RX0_M1/ETH0_TXD1_M0/V0_EBC_SDO01VVO_LCDC_D15/GPIO3_B4_d	B21
	PWM1_CH5_M3/UART8_CTSN_M1/FLEXBUS0_D0/DSMC_DATA8/SPDF_TX0_M1/ETH0_TXD0_M0/V0_EBC_SDO014VVO_LCDC_D14/GPIO3_B5_d	B27
	PWM0_CH1_M3/SP3_CSN0_M1/FLEXBUS0_CLK0/DSMC_DS01/ETH0_TXCLK_M0/V0_EBC_SDO013VVO_LCDC_D13/GPIO3_B6_d	B49
	I2C4_SDA_M3/UART3_CTSN_M1/UART2_RX_M2/FLEXBUS1_CSN0_M0/FLEXBUS1_D10/DSMC_DS00/SA1_SDO0_M1/ETH0_PPSTRG_M0/V0_EBC_SDO012VVO_LCDC_D12/GPIO3_B7_d	B51
	I2C4_SCL_M3/UART3_RTSN_M1/UART2_TX_M2/FLEXBUS1_D9/DSMC_DATA7/SA1_SDO3_M1/ETH0_PPSCLK_M0/V0_EBC_SDO011VVO_LCDC_D11/GPIO3_C0_d	B51
	CAN0_RX_M3/I2C5_SDA_M3/SP2_MISO_M2/UART11_RX_M0/FLEXBUS1_D8/DSMC_DATA6/SA1_SDO2_M1/ETH0_PTP_REFCLK_M0/V0_EBC_SDO010VVO_LCDC_D10/GPIO3_C1_d	B17
	PWM2_CH0_M3/I2C9_SCL_M3/SP4_MISO_M1/UART11_CTSN_M0/FLEXBUS0_D4/DSMC_CSN0/SA2_SDO1_M2/ETH0_RXD3_M0/V0_EBC_SDO08VVO_LCDC_D9/GPIO3_C2_d	B19
	PWM2_CH1_M3/I2C9_SCL_M3/SP4_MOSI_M1/UART11_RTSN_M0/FLEXBUS0_D3/DSMC_CSN0/SA2_SDO1_M2/ETH0_TXD2_M0/V0_EBC_SDO08VVO_LCDC_D8/GPIO3_C3_d	B19
	CAN0_TX_M3/I2C5_SCL_M3/SP2_CSN0_M2/UART11_TX_M0/FLEXBUS1_D7/DSMC_DATA5/SA1_SDO1_M1/V0_EBC_SDO07VVO_LCDC_D7/GPIO3_C4_d	B57
	PWM2_CH2_M3/SP11_MISO_M2/UART8_RX_M0/FLEXBUS1_D6/DSMC_DATA4/SA1_SDO0_M1/V0_EBC_SDO06VVO_LCDC_D6/GPIO3_C5_d	B59
	SP11_MOSI_M2/UART8_TX_M0/FLEXBUS1_D5/DSMC_DATA3/SA1_LRCK_M1/V0_EBC_SDO05VVO_LCDC_D5/GPIO3_C6_d	B59
	SP11_CLK_M2/UART8_RTSN_M0/FLEXBUS1_D4/DSMC_DATA2/SA1_SCLK_M1/V0_EBC_SDO04VVO_LCDC_D4/GPIO3_C7_d	B61
	PWM2_CH3_M3/SP11_CSN0_M2/UART8_CTSN_M0/FLEXBUS1_D3/DSMC_DATA1/SA1_MCLK_M1/V0_EBC_SDO03VVO_LCDC_D3/GPIO3_D0_d	B63
	I2C1_SDA_PU_M2/SP4_CLK_M1/FLEXBUS1_CSN1_M2/FLEXBUS0_D11/DSMC_CSN2/SA2_MCLK_M2/ETH0_RXCLK_M0/V0_EBC_SDO02VVO_LCDC_D2/GPIO3_D1_d	B31
	PWM2_CH4_M3/I2C1_SDA_PU_M2/SP4_CSN1_M1/UART2_RTSN_M2/FLEXBUS0_CSN1_M2/FLEXBUS0_D10/DSMC_CSN0/SA2_SDO1_M2/ETH0_RXD3_M0/V0_EBC_SDO01VVO_LCDC_D1/GPIO3_D2_d	B33
	PWM2_CH5_M3/I2C1_SCL_M2/UART2_CTSN_M2/FLEXBUS1_D2/DSMC_CSN0/SA2_SDO_M2/ETH0_RXD2_M0/V0_EBC_SDO00VVO_LCDC_D0/GPIO3_D3_d	B65
	I2C3_SCL_M2/SP3_CLK_M1/UART8_RX_M0/FLEXBUS1_D10/DSMC_DATA0/SA1_SDO1_M1/V0_EBC_SDOE1VVO_LCDC_DENGR/GPIO3_D4_d	B67
	I2C3_SDA_M2/SP3_MISO_M1/UART8_TX_M0/FLEXBUS1_D0/DSMC_CLKP/SA1_SDO2_M1/V0_EBC_SDOE0VVO_LCDC_HSYNGR/GPIO3_D5_d	B69
	PWM2_CH6_M3/SP3_MOSI_M1/UART8_CTSN_M0/FLEXBUS1_CLK0/DSMC_CLKN/SA1_SDO3_M1/V0_EBC_SDOE0VVO_LCDC_VSYNGR/GPIO3_D6_d	B73
	PWM2_CH7_M3/SP3_CSN1_M1/UART8_RTSN_M0/FLEXBUS1_CSN1_M1/FLEXBUS1_D12/M0/FLEXBUS0_D15_M0/DSMC_RESE1N/SA4_SDO1_M1/CAM_CLK0_OUT_M0/V0_EBC_SDOE0VVO_LCDC_CLK/GPIO3_D7_d	B75
	MIPI_TE_M2/I2C7_SCL_M2/SP11_CSN1_M2/UART3_TX_M1/FLEXBUS1_CSN1_M3/FLEXBUS1_D14_M0/FLEXBUS0_D13_M0/DSMC_INT0/SA4_LRCK_M1/CAM_CLK1_OUT_M0/SPDF_RX0_M1/GPIO4_A0_d	B77
	I2C7_SDA_M2/UART3_RX_M1/FLEXBUS0_CSN1_M1/FLEXBUS1_D13_M0/FLEXBUS0_D14_M0/DSMC_INT2/SA4_SDO1_M1/CAM_CLK2_OUT_M0/SPDF_TX0_M1/V0_POST_EMPTY/GPIO4_A1_d	B77
	VCCIO5_IN	B3

U-SOM/608-320P



IDO-SOM3576-V1核心板J2连接器引脚定义图

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U3D			
USB2 OTG1	USB2_OTG0_VBUSDET		D4
OTG/HOST/DEVICE	USB2_OTG1_DM		D8
HS/FS/LS	USB2_OTG1_DP		D6
	USB2_OTG1_ID		D10
	USB2_OTG1_VBUSDET		D12
VCCIO6 Domain	PWM1_CH5_M1/UART11_TX_M2/SP4_CS_N1/MQI2C7_SCL_M3/HDMI_TX_CEC_M0/SA4_MCLK_M2/DSM_AUD_LP_M1/GPI04_C0_PWM0_CH1_M1/UART11_RX_M2/EDP_TX_HPDIN_M0/I2C7_SDA_M3/PCIE1_CLKREGN_M3/HDMI_TX_HPDIN_M0/DSM_AUD_IN_M1/GPI04_C2_PWM2_CH0_M1/UART9_TX_M2/CAN0_TX_M1/I2C2_SCL_M3/HDMI_TX_SCUDSM_AUD_RP_M1/GPI04_C3_PWM2_CH1_M1/UART9_RX_M2/CAN0_RX_M1/I2C2_SDA_M3/HDMI_TX_SCVDSM_AUD_RM_M1/GPI04_C5_PWM2_CH6_M1/UART6_TX_M3/SP4_CS_N0/MQI2C3_SCL_M0DP_HPDIN_M0/SA4_LRCK_M2/ISP_PRGBLGT_TRIG_M1/NOK_C7_PWM2_CH5_M1/UART6_RX_M3/SP4_MOSI_M0/I2C3_SDA_M3/ATA1_ACTLED_M1/P0_SYNC_OUT/SA4_SDO_M2/ISP_FLASH_TRIGOUT_M1/GPI04_C6_PWM2_CH2_M1/CAN1_TX_M1/SP4_MISO_M0/I2C6_SCL_M3/SATA0_ACTLED_M1/PCIE0_CLKREGN_M3/V1_SYNC_OUT/SA4_SDI_M2/GPI04_C6_PWM2_CH3_M1/CAN1_RX_M1/SP4_CLK_M0/I2C6_SDA_M3/V2_SYNC_OUT/SA4_SCLK_M2/GPI04_C7_L		D3 D9 D7 D5 D13 D11 D17
USB3 OTG0/DP1.4 Alt	DP_TX_AUXN DP_TX_AUXP USB3_OTG0_SSRX1P/D0P_TX_D0P2 USB3_OTG0_SSRX1NDP_TX_D0N USB3_OTG0_SSTX1P/D0P_TX_D1P USB3_OTG0_SSTX1NDP_TX_D1N USB3_OTG0_SSRX2P/D0P_TX_D2P USB3_OTG0_SSRX2NDP_TX_D2N USB3_OTG0_SSTX2P/D0P_TX_D3P USB3_OTG0_SSTX2NDP_TX_D3N		D76 D78 D70 D72 D74 D68 D66 D64 D62
USB:USB3.2 Gen1x1 OTG0 DP :RBR/HBR/HSR2/HBR3			D76 D78 D70 D72 D74 D68 D66 D64 D62
MIPI DCPHY CSI RX	MIPI_DPHY_CSIO_RX_D0N/MIPI_DPHY_CSI_RX_TRI00_A MIPI_DPHY_CSIO_RX_D0P/MIPI_DPHY_CSI_RX_TRI00_B MIPI_DPHY_CSIO_RX_D1N/MIPI_DPHY_CSI_RX_TRI00_C MIPI_DPHY_CSIO_RX_D1P/MIPI_DPHY_CSI_RX_TRI01_A MIPI_DPHY_CSIO_RX_CLKN/MIPI_DPHY_CSI_RX_TRI01_B MIPI_DPHY_CSIO_RX_CLKP/MIPI_DPHY_CSI_RX_TRI01_C MIPI_DPHY_CSIO_RX_D2N/MIPI_DPHY_CSI_RX_TRI02_A MIPI_DPHY_CSIO_RX_D2P/MIPI_DPHY_CSI_RX_TRI02_B MIPI_DPHY_CSIO_RX_D3N/MIPI_DPHY_CSI_RX_TRI02_C MIPI_DPHY_CSIO_RX_D3P/NO_USE		D21 D23 D27 D29 D33 D35 D39 D41 D45 D47 D46
D-PHY:V2.0 .5Gbps/Lane C-PHY:V1.1 2.5Gbps/Trio			D21 D23 D27 D29 D33 D35 D39 D41 D45 D47 D46
MIPI DPHY CSII/2 RX	MIPI_DPHY_CSII_RX_D0N MIPI_DPHY_CSII_RX_D1N MIPI_DPHY_CSII_RX_D1P MIPI_DPHY_CSII_RX_CLKN MIPI_DPHY_CSII_RX_CLKP MIPI_DPHY_CSII_RX_D2N/MIPI_DPHY_CSII_RX_D0P MIPI_DPHY_CSII_RX_D2P/MIPI_DPHY_CSII_RX_D0P MIPI_DPHY_CSII_RX_D3N/MIPI_DPHY_CSII_RX_D1N MIPI_DPHY_CSII_RX_D3P/MIPI_DPHY_CSII_RX_D1P MIPI_DPHY_CSII_RX_CLKN MIPI_DPHY_CSII_RX_CLKP		D17 D18 D22 D24 D28 D30 D34 D36 D40 D42 D46 D48
MIFI V1.2/2.5Gbps			D17 D18 D22 D24 D28 D30 D34 D36 D40 D42 D46 D48
MIPI DCPHY DSI TX	MIPI_DPHY_DSI_TX_D0N/MIPI_DPHY_DSI_TX_TRI00_A MIPI_DPHY_DSI_TX_D0P/MIPI_DPHY_DSI_TX_TRI00_B MIPI_DPHY_DSI_TX_D1N/MIPI_DPHY_DSI_TX_TRI01_A MIPI_DPHY_DSI_TX_D1P/MIPI_DPHY_DSI_TX_TRI01_B MIPI_DPHY_DSI_TX_CLKN/MIPI_DPHY_DSI_TX_TRI01_C MIPI_DPHY_DSI_TX_CLKP/MIPI_DPHY_DSI_TX_TRI01_C MIPI_DPHY_DSI_TX_D2N/MIPI_DPHY_DSI_TX_TRI02_A MIPI_DPHY_DSI_TX_D2P/MIPI_DPHY_DSI_TX_TRI02_B MIPI_DPHY_DSI_TX_D3N/MIPI_DPHY_DSI_TX_TRI02_C MIPI_DPHY_DSI_TX_D3P/NO_USE		D51 D53 D57 D59 D63 D65 D69 D71 D75 D77
D-PHY:V2.0 2.5Gbps/Lane C-PHY:V1.1 1.7Gbps/Trio			D51 D53 D57 D59 D63 D65 D69 D71 D75 D77

ID0-SOM3576-V1核心板J4连接器引脚定义图

5.2 核心板引脚列表

核心板引脚列表具体参考：