

IDO-SOM7608-V1 核心板规格书

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IDO-SOM7608-V1

核心板规格书

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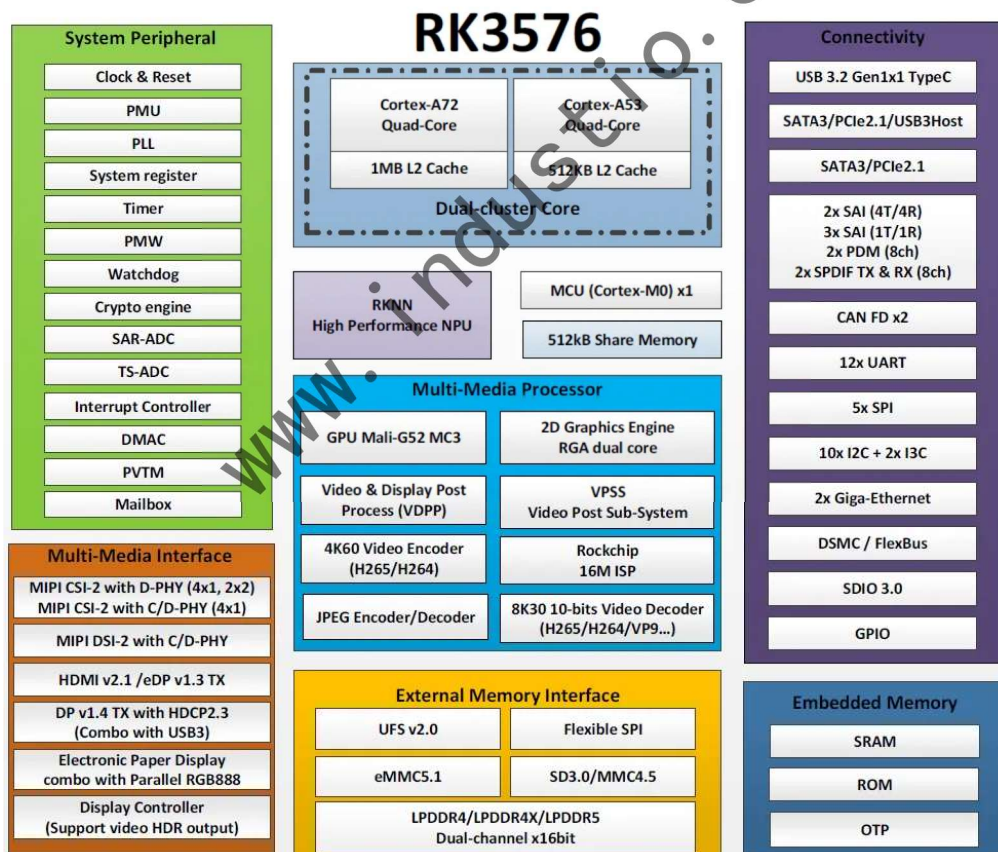
文档修订历史

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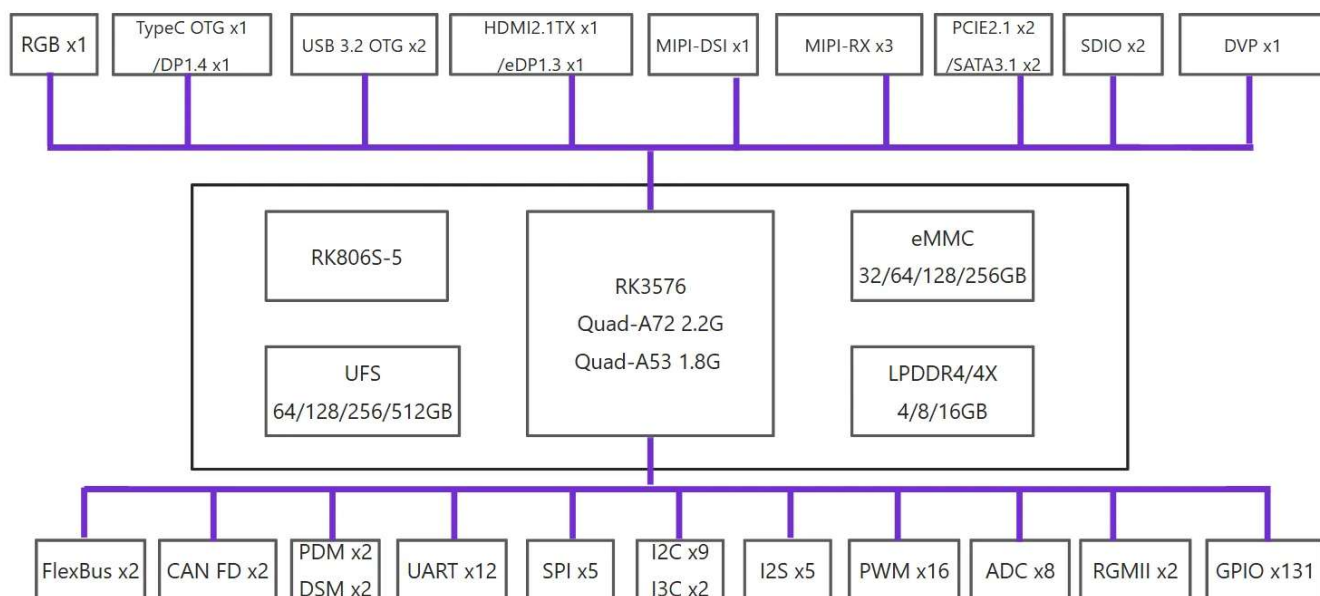
1、产品概述

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：

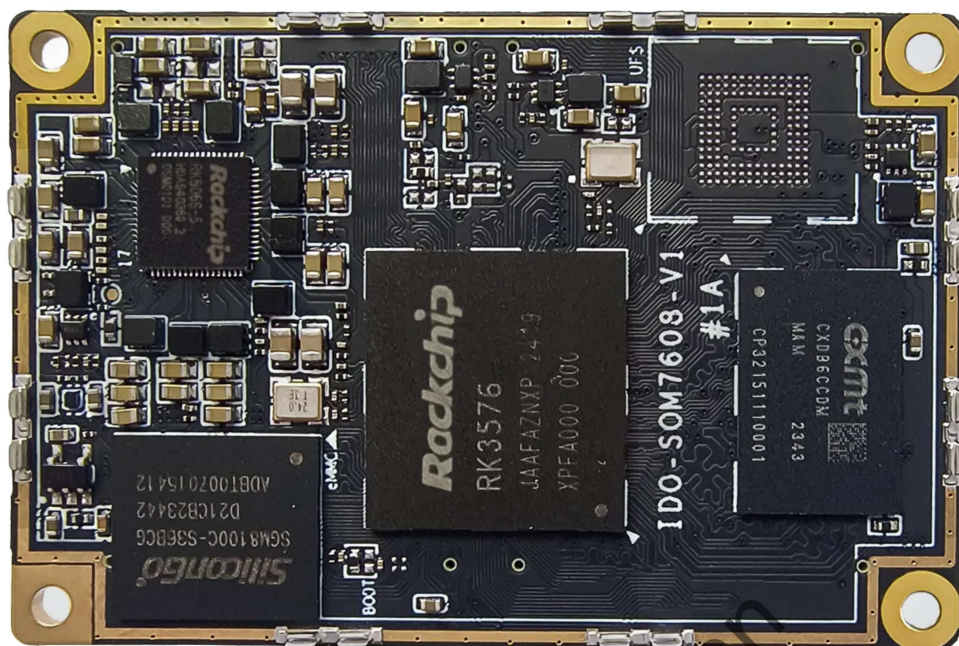


1.1 产品特点

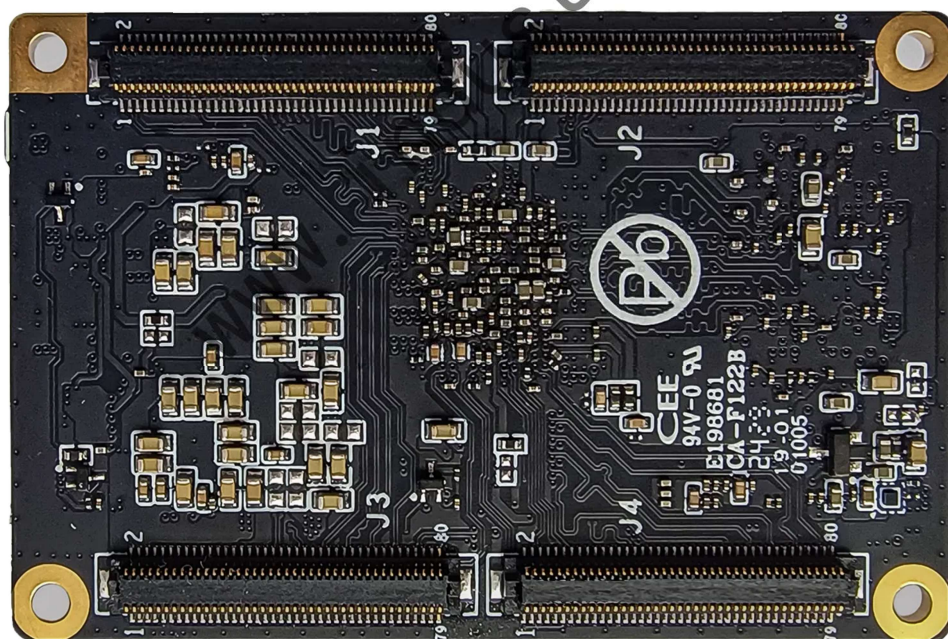
1. 处理器采用Quad A72 + Quad A53 CPU 8nm先进制程工艺，主频高达2.2GHz；
2. 内置6T RKNN AI 算力；
3. 5种屏幕显示接口：HDMI、eDP、MIPI DSI、DP、RG；
4. 丰富的总线接口：2xGMAC、2xCAN FD、PCIE/USB3.2、2xUSB2.0、12xUART、16xPWM、5xSPI、9xI2C等；
5. 核心板支持100%全国产。

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(4096×2160@120Hz)/eDP1.3(4096×2160@60Hz支持1Lane/2Lane/4Lane 模式) 1 × DP1.4 (4096×2160@120Hz) 1 × EBC 输出接口 (支持 E-ink EPD (Electronic Paper Display), 2560×1920) 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@60Hz) 1 × LCDC TX(支持并行24bit RGB 模式1920×1080@60Hz、16bit BT1120 模式1920×1080@60Hz、8bit BT656 模式720×576@60Hz 以及MCU模式)
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
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2.2 工作环境

工作环境如下表所示：

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

2.3 系统支持

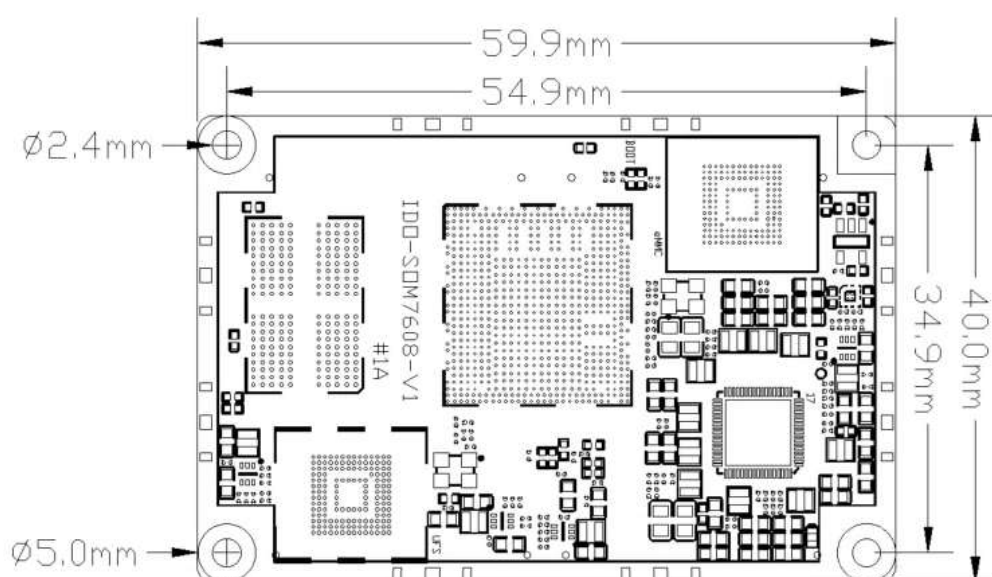
系统支持如下表所示：

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

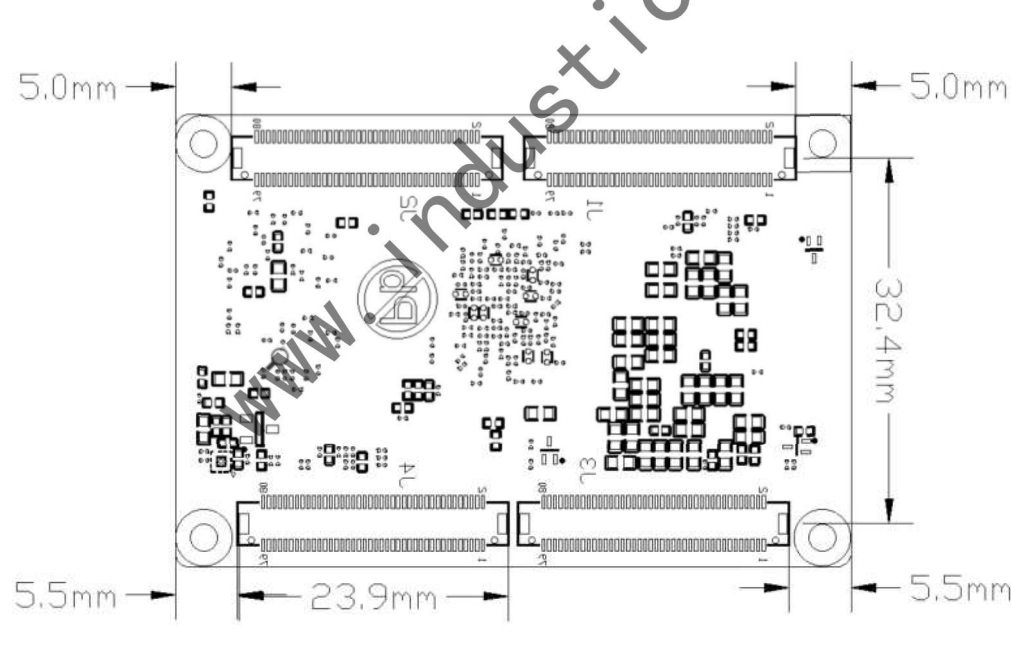
3、PCB 尺寸和电气参数

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
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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°C ~ +70°C
IDO-SOM7608-V1-D8E128	8GB	128GB	0°C ~ +70°C
IDO-SOM7608J-V1-D4E32	4GB	32GB	-40°C ~ +85°C

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

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U1A		
MIPI DPHY CSI3/4 RX MIPI V1.2/2.5Gbps	MIPI_DPHY_CSI3_RX_D0P	A36
	MIPI_DPHY_CSI3_RX_D0N	A35
	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	A15
	MIPI_DPHY_CSI3_RX_D2N/MIPI_DPHY_CSI4_RX_D0N	A11
	MIPI_DPHY_CSI3_RX_D3P/MIPI_DPHY_CSI4_RX_D1P	A9
	MIPI_DPHY_CSI3_RX_D3N/MIPI_DPHY_CSI4_RX_D1N	A5
VCCIO1 Domain Operating Voltage=1.8V/3.3V	PWM2_CH2_M0/CAN0_RX_M0/SP10_M0SI_M1/I2C8_SCL_M0/UART7_RX_M2/UART0_RX_M1/DSM_AUD_LP_M0/FSPH1_D0_M0/SDMMC0_D0/GPIO2_A0_d	A39
	PWM2_CH3_M0/CAN0_TX_M0/SP10_M0SO_M1/I2C8_SDA_M0/UART7_TX_M2/UART0_TX_M1/SAI3_MCLK_M3/DSM_AUD_LP_M0/FSPH1_D1_M0/SDMMC0_D1/GPIO2_A1_d	A41
	I3C1_SCL_M1/CAN1_RX_M0/SP10_CSN1_M1/UART5_RTSN_M2/JTAG_TCK_M0/SAI3_LRCK_M3/DSM_AUD_RP_M0/FSPH1_D2_M0/SDMMC0_D2/GPIO2_A2_d	A43
	I3C1_SDA_M1/CAN1_TX_M0/UART5_CTSN_M2/JTAG_TMS_M0/SAI3_SDI_M3/DSM_AUD_RN_M0/FSPH1_D3_M0/SDMMC0_D3/GPIO2_A3_d	A45
	PWM2_CH4_M0/SP10_CSN0_M1/I2C5_SDA_M0/UART5_RX_M2/SAI3_SDO_M3/FSPH1_CSN0_M0/SDMMC0_CMD/GPIO2_A4_d	A49
	I3C1_SDA_PU_M1/SP10_CLK_M1/I2C5_SCL_M0/UART5_TX_M2/TEST_CLK_OUT/SAI3_SCLK_M3/FSPH1_CLK_M0/SDMMC0_CLK/GPIO2_A5_d	A47
		A3
		A37
		A38
		A39
SARADC 12-bit 1MS/s	SARADC_IN0_BOOT	A53
	Recovery/ SARADC_IN1	A57
	SARADC_IN2	A59
	SARADC_IN3	A61
	SARADC_IN4	A63
	SARADC_IN5	A65
	SARADC_IN6	A67
	SARADC_IN7	A69
		A4
		A6
VCCIO3 Domain Operating VCC_1V8_S3	PWM1_CH0_M1/PCIE1_CLKREQN_M1/SP11_CLK_M0/I2C9_SDA_M1/SAI3_SCLK_M1/SDMMC1_D0_M0/ETH1_RXD0_M1/GPIO1_B4_d	A8
	PWM1_CH1_M1/SP11_M0SI_M1/I2C9_SCL_M1/SAI3_LRCK_M1/SDMMC1_D1_M0/ETH1_RXD3_M1/GPIO1_B5_d	A8
	PCIE0_CLKREQN_M1/SP11_MISO_M0/UART3_CTSN_M2/SAI3_SDO_M1/SDMMC1_D2_M0/ETH1_RXCLK_M1/GPIO1_B6_d	A10
	SP11_CSN0_M0/UART3_RTSN_M2/SAI3_SDI_M1/SDMMC1_D3_M0/ETH1_TXD0_M1/GPIO1_B7_d	A12
	PWM0_CH0_M1/SP11_CSN1_M0/UART3_TX_M2/PDM0_SD02_M2/SDMMC1_CMD_M0/ETH1_TXD3_M1/GPIO1_C0_d	A16
	UART3_RX_M2/PDM0_CLK0_M2/SAI3_MCLK_M1/SDMMC1_CLK_M0/ETH1_TXCLK_M1/GPIO1_C1_d	A20
	PWM1_CH2_M1/SP12_CSN1_M1/I2C6_SCL_M1/UART4_RTSN_M1/FSPH1_CSN1_M1/FSPH1_RSTN_M1/SDMMC1_PWREN_M0/ETH1_PPSTRIG_M1/GPIO1_C2_d	A22
	SP12_CSN0_M1/I2C6_SDA_M1/UART4_CTSN_M1/FSPH1_CSN0_M1/SDMMC1_DET_N_M0/ETH1_PPSTRIG_M1/GPIO1_C3_d	A26
	PCIE0_BUTTONRSTN/SP12_M0SI_M1/UART2_RTSN_M0/UART4_TX_M1/FSPH1_D0_M0/ETH1_TXD0_M1/GPIO1_C4_d	A30
	PCIE1_BUTTONRSTN/SP12_MISO_M1/UART2_CTSN_M0/UART4_RX_M1/FSPH1_D1_M1/ETH1_TXD1_M1/GPIO1_C5_d	A34
VCCIO2 Domain Operating Voltage=1.8V/3.3V	SATA_CPPD0/I2C8_SCL_M1/UART2_TX_M0/PDM0_SD00_M2/FSPH1_D2_M1/ETH1_TXCTL_M1/GPIO1_C6_d	A38
	SATA_CPD0/I2C8_SDA_M1/UART2_RX_M0/PDM0_SD01_M2/FSPH1_D3_M1/ETH1_RXD0_M1/GPIO1_C7_d	A42
	UART10_TX_M1/SAI2_SDO_M0/ETH1_RXD1_M1/GPIO1_D0_d	A34
	I3C0_SDA_PU_M1/UART10_RX_M1/SAI2_SCLK_M0/ETH1_RXCTL_M1/GPIO1_D1_d	A38
	PWM1_CH3_M1/I3C0_SCL_M1/SAI2_LRCK_M0/ETH1_MDO_M1/GPIO1_D2_d	A40
	PWM1_CH4_M1/I3C0_SDA_M1/SAI2_SDI_M0/ETH1_MDO_M1/GPIO1_D3_d	A44
	I2C5_SCL_M1/UART10_RTSN_M1/SPDIF_RX1_M2/PDM0_SD03_M2/SAI2_MCLK_M0/ETH1_MCLK_M1/GPIO1_D4_d	A48
	CLK1_32K_OUT/SAI2_SDA_M1/UART10_CTSN_M1/SPDIF_TX1_M2/PDM0_CLK1_M2/FSPH1_CLK_M1/ETH1_CLK1_25M_OUT_M1/GPIO1_D5_d	A52
	PWM2_CH5_M0/AUPLL_CLK_IN_M2/SAI4_MCLK_M0/SAI1_MCLK_M0/GPIO4_A2_d	A50
	PWM2_CH4_M1/I2C2_SCL_M2/UART5_RTSN_M1/SP13_CSN0_M2/FLEXBUS1_CSN_M4/SAI1_SCLK_M0/GPIO4_A3_d	A54
VCCIO2 Domain Operating Voltage=1.8V/3.3V	CAN0_TX_M2/I2C4_SCL_M1/UART6_TX_M0/SP13_M0SI_M2/FLEXBUS0_D13_M1/PDM1_SD03_M1/SAI4_SCLK_M0/GPIO4_A4_d	A58
	PCIE1_CLKREQN_M2/I2C2_SDA_M2/UART5_CTSN_M1/SP14_CSN1_M2/FLEXBUS1_D02_M1/SAI1_LRCK_M0/GPIO4_A5_d	A62
	CAN0_RX_M2/I2C4_SDA_M1/UART6_RX_M0/SP13_MISO_M2/FLEXBUS0_D14_M1/PDM1_CLK0_M1/SAI4_LRCK_M0/GPIO4_A6_d	A66
	PWM2_CH6_M0/SP13_CLK_M2/SAI4_SDI_M0/SAI1_SDO0_M0/GPIO4_A7_d	A70
	UART2_RTSN_M1/UART6_RTSN_M0/UART5_TX_M1/SP14_CLK_M2/FLEXBUS1_D13_M1/PDM1_CLK1_M1/SAI1_SDI3_M0/SAI1_SDO1_M0/GPIO4_B0_d	A62
	UART2_CTSN_M1/UART6_CTSN_M0/UART5_RX_M1/SP14_M0SI_M2/FLEXBUS1_D14_M1/PDM1_SD02_M1/SAI1_SDI2_M0/SAI1_SDO2_M0/GPIO4_B1_d	A66
	MIPI_TE_M0/SP14_MISO_M2/FLEXBUS1_D15_M1/PDM1_SDI1_M1/SAI1_SDI1_M0/SAI1_SDO3_M0/GPIO4_B2_d	A70
	PWM2_CH7_M0/SP13_CSN1_M2/SP14_CSN0_M2/PDM1_SDO0_M1/SAI4_SDO_M0/SAI1_SDO0_M0/GPIO4_B3_d	A74
	CAN1_RX_M2/I2C3_SDA_M0/UART2_RX_M1/FLEXBUS0_CSN_M4/SPDIF_RX0_M0/GPIO4_B4_d	A78
	CAN1_TX_M2/PCIE0_CLKREQN_M2/I2C3_SCL_M0/UART2_TX_M1/FLEXBUS0_D15_M1/SPDIF_TX0_M0/GPIO4_B5_d	A82
VCCIO2_IN		A76
VCC_1V8_S3		A75
VCC_3V3_S3		A77
VCC_1V8_S0		A71
VCC_3V3_S0		A73
VCCA_3V3_S0		A78
GND_A1		A1
GND_A2		A2
GND_A3		A3
GND_A4		A4
GND_A5		A5
GND_A6		A6
GND_A7		A7
GND_A8		A8
GND_A9		A9
GND_A10		A10
GND_A11		A11
GND_A12		A12
GND_A13		A13
GND_A14		A14
GND_A15		A15
GND_A16		A16
GND_A17		A17
GND_A18		A18
GND_A19		A19
GND_A20		A20
GND_A21		A21
GND_A22		A22
GND_A23		A23
GND_A24		A24
GND_A25		A25
GND_A26		A26
GND_A27		A27
GND_A28		A28
GND_A29		A29
GND_A30		A30
GND_A31		A31
GND_A32		A32
GND_A33		A33
GND_A34		A34
GND_A35		A35
GND_A36		A36
GND_A37		A37
GND_A38		A38
GND_A39		A39
GND_A40		A40
GND_A41		A41
GND_A42		A42
GND_A43		A43
GND_A44		A44
GND_A45		A45
GND_A46		A46
GND_A47		A47
GND_A48		A48
GND_A49		A49
GND_A50		A50
GND_A51		A51
GND_A52		A52
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GND_A100		A100
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GND_A103		A103
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GND_A136		A136
GND_A137		A137
GND_A138		A138
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GND_A140		A140
GND_A141		A141
GND_A142		A142
GND_A143		A143
GND_A144		A144
GND_A145		A145
GND_A146		A146
GND_A147		A147
GND_A148		A148
GND_A149		A149
GND_A150		A150
GND_A151		A151
GND_A152		A152
GND_A153		A153
GND_A154		A154
GND_A155		A155
GND_A156		A156
GND_A157		A157
GND_A158		A158
GND_A159		A159
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GND_A161		A161
GND_A162		A162
GND_A163		A163
GND_A164		A164
GND_A165		A165
GND_A166		A166
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GND_A170		A170
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GND_A172		A172
GND_A173		A173
GND_A174		A174
GND_A175		A175
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GND_A181		A181
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GND_A186		A186
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GND_A188		A188
GND_A189		A189
GND_A190		A190
GND_A191		A191
GND_A192		A192
GND_A193		A193
GND_A194		A194
GND_A195		A195
GND_A196		A196</

UART15_RTSN_M0FLEXBUS1_CSN_M1FLEXBUS1_D12_M0FLEXBUS0_D15_M0DSMC_RESE_IN1SAH_SCLK_M1CAM_CLK0CAM_M0VO_EBC1
T_SCL_M2SP1_CSN1_M2UART3_TX_M1FLEXBUS1_CSN_M3FLEXBUS1_D14_M0FLEXBUS0_D13_M0DSMC_INT0SAH_LRCK_M1CAM_CLK1_OUT
GDA_M2UART3_RX_M1FLEXBUS0_CSN_M1FLEXBUS1_D13_M0FLEXBUS0_D14_M0DSMC_INT2SAH_SDO_M1CAM_CLK2_OUT_M0SPDF_TDO

B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30	B31		
GND	B1	GND	B2	GND	B3	GND	B4	GND	B5	GND	B6	GND	B7	GND	B8	GND	B9	GND	B10	GND	B11	GND	B12	GND	B13	GND	B14	GND	B15	GND	B16	B17

IDO-SOM3576-V1核心板J2连接器引脚定义图

POWER_IN		VCC5V0_SYS_S5	C2	
PMIC RK806S-5 Managerment		VCC5V0_SYS_S5	C4	
		VCC5V0_SYS_S5	C5	
		VCC5V0_SYS_S5	C1	
		VCC5V0_SYS_S5	C3	
		VCC5V0_SYS_S5	C5	
		VCC5V0_SYS_S5	C7	
		VCC5V0_SYS_S5	C15	
		VDC	C17	
		EXT_EN	C19	
		PWRON	C21	
		RESETB	C13	
		PMIC_PWR_CTRL2	C12	
PMUIO0 Domain		AUPLL_CLK_IN_M0/REF_CLK0_OUT/GPIO0_A0_d	C14	
		I2C6_SCL_M0/CLK0_32K_OUT/CLK_32K_IN/GPIO0_A2_d	C16	
		I2C6_SDA_M0/PWR_CTRL3/GPIO0_A5_d	C18	
		SPI2_CSN1_M0/SDMMC0_DETIN/GPIO0_A7_u	C20	
Operating VCC_1V8_S3		I2C0_SCL_M0/SPI2_CSN0_M0/AUPLL_CLK_IN_M1/GPIO0_B0_2	C22	
		I2C0_SDA_M0/SPI2_MISO_M0/GPIO0_B1_2	C26	
PMUIO1 Domain		PWM1_CH0_M0/UART4_TX_M2/I2C1_SCL_M1/REF_CLK1_OUT/GPIO0_B4_d	C28	
		PWM1_CH1_M0/UART4_RX_M2/I2C1_SDA_M1/REF_CLK2_OUT/GPIO0_B5_d	C30	
		PWM1_CH2_M0/EDP_TX_HPDIN_M1/HDMI_TX_HPDIN_M1/SDMMC1_DETIN_M2/SDMMC0_PWREN/GPIO0_B6_d	C32	
		PWM1_CH4_M0/NPU_AVS/UART1_TX_M0/I2C2_SCL_M0/GPIO0_B7_d	C34	
Operating VCC_3V3_S3		PWM1_CH3_M0/CPULIT_AVS/UART1_RX_M0/I2C2_SDA_M0/GPIO0_C0_d	C25	
		I3C0_SCL_M0/UART8_TX_M2/I2C0_SCL_M1/GPIO0_C1_d	C27	
		I3C0_SDA_M0/UART8_RX_M2/I2C0_SDA_M1/GPIO0_C2_d	C24	
		PWM0_CH1_M0/SPI0_CSN1_M0/HDMI_TX_CEC_M1/PDM0_CLK1_M0/GPIO0_C3_d	C29	
		PWM0_CH0_M0/UART10_TX_M2/PDM0_CLK0_M0/SAI0_MCLK_M1/GPIO0_C4_d	C31	
		I3C0_SDA_PU_M0/UART10_RX_M2/DP_HPDIN_M1/SAI0_SDO0_M1/GPIO0_C5_d	C33	
		SPI0_CSN0_M0/I2C3_SCL_M1/SAI0_SCLK_M1/GPIO0_C6_d	C35	
		SPI0_CLK_M0/I2C3_SDA_M1/SAI0_LRCK_M1/GPIO0_C7_d	C37	
		SPI0_MOSI_M0/PDM0_SDI0_M0/SAI0_SDI0_M1/GPIO0_D0_d	C39	
		SPI0_MISO_M0/PDM0_SDI1_M0/SAI0_SDO3_M1/SAI0_SDI1_M1/GPIO0_D1_d	C41	
		UART1_CTSN_M0/PWM1_CH5_M0/CPUBIG_AVS/I2C4_SCL_M0/PDM0_SDI2_M0/SAI0_SDO2_M1/SAI0_SDI2_M1/GPIO0_D2_d	C43	
		UART1_RTSN_M0/PWM2_CH0_M0/GPU_AVS/I2C4_SDA_M0/PDM0_SDI3_M0/SAI0_SDO1_M1/SAI0_SDI3_M1/GPIO0_D3_d	C45	
		JTAG_TCK_M1/UART0_TX_M0/GPIO0_D4_u	C47	
		JTAG_TMS_M1/UART0_RX_M0/GPIO0_D5_u	C51	
HDMI TX/eDP TX Combo Phy		HDMI_TX_D2P/EDP_TX_D2P	C53	
		HDMI_TX_D2N/EDP_TX_D2N	C57	
		HDMI_TX_D1P/EDP_TX_D1P	C59	
		HDMI_TX_D1N/EDP_TX_D1N	C63	
		HDMI_TX_D0P/EDP_TX_D0P	C65	
		HDMI_TX_D0N/EDP_TX_D0N	C69	
		HDMI_TX_D3P/EDP_TX_D3P	C71	
		HDMI_TX_D3N/EDP_TX_D3N	C75	
		HDMI_TX_SBDP/EDP_TX_AUXP	C77	
		HDMI_TX_SBDN/EDP_TX_AUXN	C79	
PCIE1/SATA1/USB3_OTG1 Combo PHY1		PCIE1_TXP/SATA1_TXP/USB3_OTG1_SSTXP	C80	
		PCIE1_TXN/SATA1_TXN/USB3_OTG1_SSTXN	C84	
		PCIE1_RXP/SATA1_RXP/USB3_OTG1_SSRXP	C86	
		PCIE1_RXN/ SATA1_RXN/USB3_OTG1_SSRXN	C90	
		PCIE1_REFCLKP	C52	
		PCIE1_REFCLKN	C56	
PCIE0/SATA0 Combo PHY0		PCIE0_TXP/SATA0_TXP	C58	
		PCIE0_TXN/SATA0_TXN	C62	
		PCIE0_RXP/SATA0_RXP	C64	
		PCIE0_RXN/SATA0_RXN	C68	
		PCIE0_REFCLKP	C70	
		PCIE0_REFCLKN	C74	
USB2_OTG0		Download Port	USB2_OTG0_DM	C76
			USB2_OTG0_DP	C78
			USB2_OTG0_ID	C79
OTG/HOST/DEVICE HS/FS/LS				

