

# IDO-SOM7608-V1 核心板规格书

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# IDO-SOM7608-V1

## 核心板规格书

深圳触觉智能科技有限公司

[www.industio.cn](http://www.industio.cn)

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### 文档修订历史

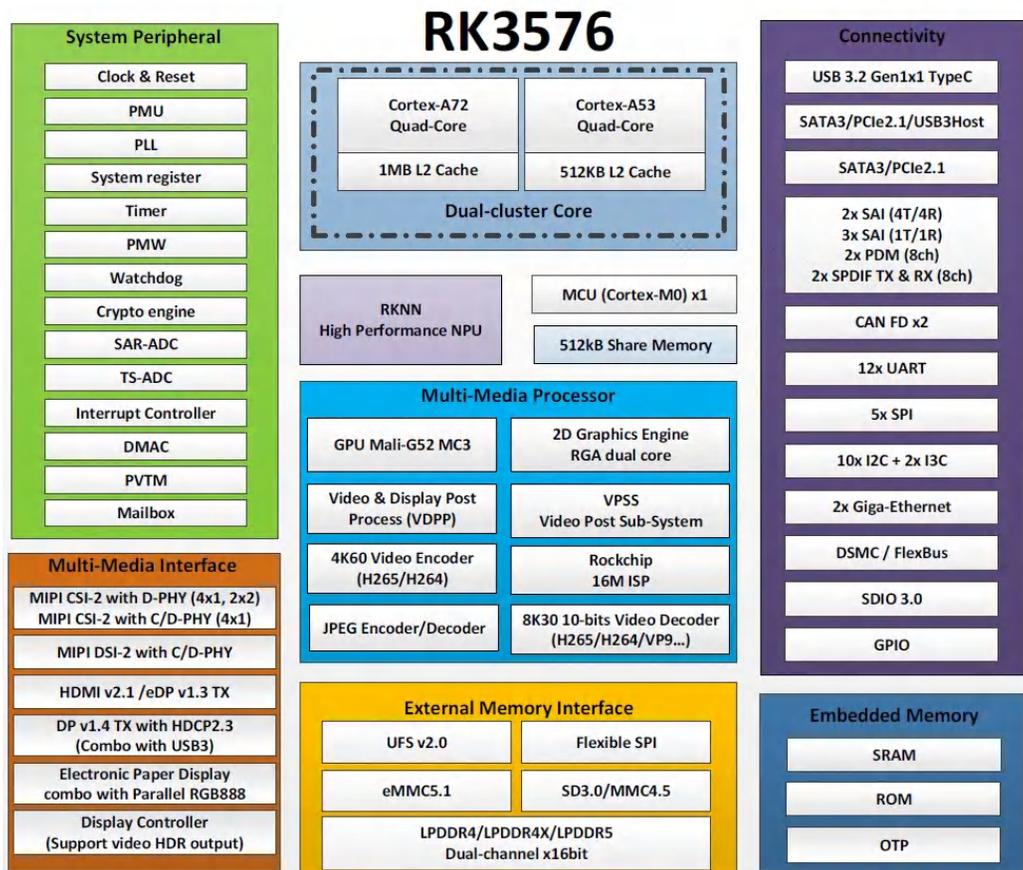
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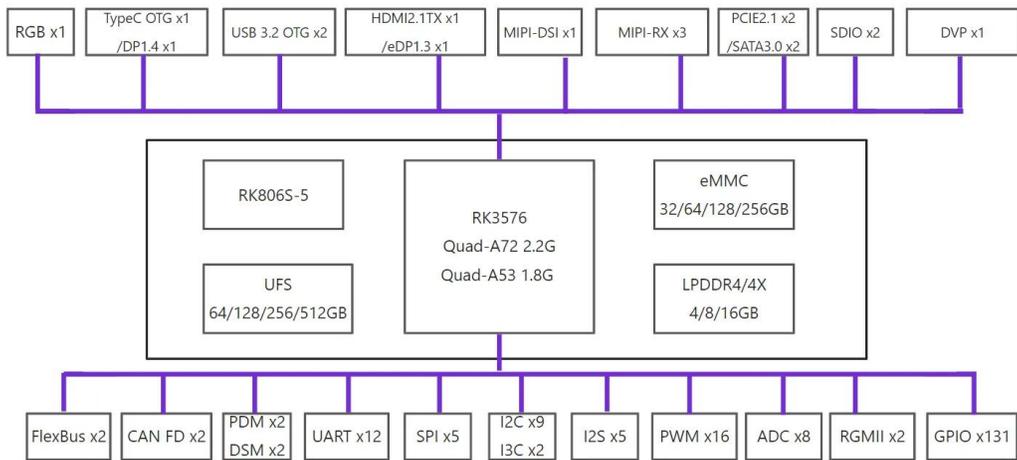
## 1、产品概述

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：

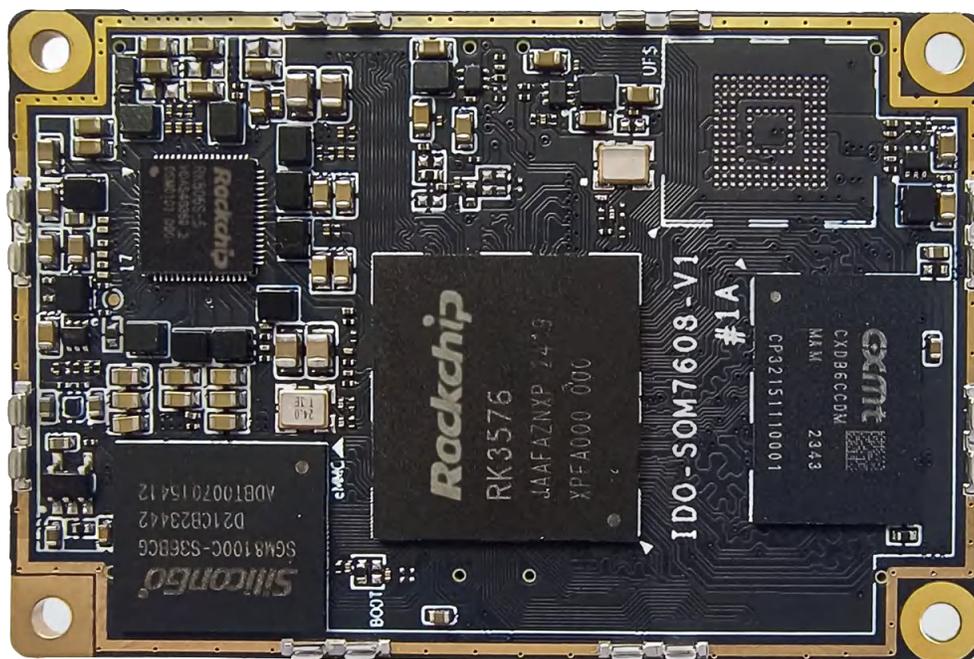


## 1.1 产品特点

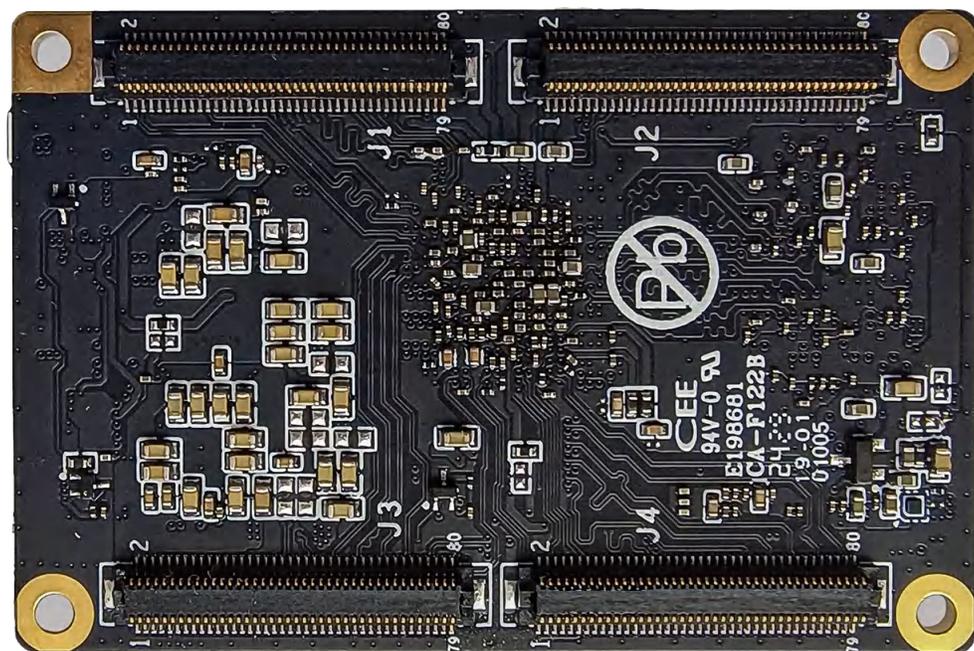
1. 处理器采用Quad A72 + Quad A53 CPU 8nm先进制程工艺，主频高达2.2GHz；
2. 内置6T RKNN AI 算力；
3. 5种屏幕显示接口：HDMI、eDP、MIPI DSI、DP、RG；
4. 丰富的总线接口：2xGMAC、2xCAN FD、PCIE/USB3.0、2xUSB2.0、12xUART、16xPWM、5xSPI、9xI2C等；
5. 核心板支持100%全国产。

## 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	<ol style="list-style-type: none"><li>1. ARM Mali G52 MC3 GPU</li><li>2. OpenGL ES 1.1,2.0, and 3.2</li><li>3. Vulkan 1.1</li><li>4. OpenCL 2.0 Full Profile</li><li>5. 2D Graphics Engine (RGA)</li></ol>
NPU	6TOPS INT8, 支持INT4/INT8/INT16/FP16/TF32混合运算
ISP	<ol style="list-style-type: none"><li>1. ISP V3.9</li><li>2. 16M Pixel ISP with HDR (up to 120dB)</li></ol>
VPU	视频解码： <ol style="list-style-type: none"><li>1. H.265/HEVC/AVS2/VP9/AV1, 8K@30fps or 4K@120fps</li><li>2. H.264/AVC/MJPEG, 4K@60fps</li></ol> 视频编码： <ol style="list-style-type: none"><li>1. H.265/H.264, 4K@60fps</li><li>2. MJPEG, 4K@60fps</li></ol>
内存	4GB/8GB/16GB LPDDR4/4x 4266Mbps
存储	<ol style="list-style-type: none"><li>1. 32GB/64GB/128GB/256GB eMMC (V5.1)</li><li>2. 64GB/128GB/256GB/512GB UFS (V2.0)</li></ol>
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	<p>1 × HDMI2.1(4096×2160@120Hz)/eDP1.3(4096×2160@60Hz支持1Lane/2Lane/4Lane 模式)</p> <p>1 × DP1.4 (4096×2160@120Hz)</p> <p>1 × EBC 输出接口 (支持 E-ink EPD (Electronic Paper Display), 2560×1920)</p> <p>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)</p> <p>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)</p>
音频	<p>2 × SAI (4T/4R)、3 × SAI (1T/1R), 支持I2S/TDM/PCM 模式, 支持高达192KHz 的采样率</p> <p>2 × SPDIF TX &amp; RX (8ch;最大支持24bits 解析度)</p> <p>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)</p> <p>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)</p>
USB	<p>1 × USB3.2 Gen1 OTG0 (与DP1.4复用)</p> <p>1 × USB3.2 Gen1 OTG1 (与PCIe 2.1/SATA 3.1复用)</p>
PCIe/SATA	<p>1 × PCIe2.1/SATA3.1 (1 lane)</p> <p>1 × PCIe2.1/SATA3.1/USB3.2 Gen1 (1 lane)</p>
扩展接口	<p>2 × FlexBus数据总线</p> <p>12 × UART</p> <p>5 × SPI, 支持主从模式</p> <p>2 × CAN FD</p> <p>9 × I2C</p> <p>2 × I3C</p> <p>2 × SDIO v3.0</p> <p>16 × PWM , 支持红外输入, 时钟计数</p> <p>8 × ADC , 1MS/s , 12bits</p> <p>131 × GPIO</p>
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°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

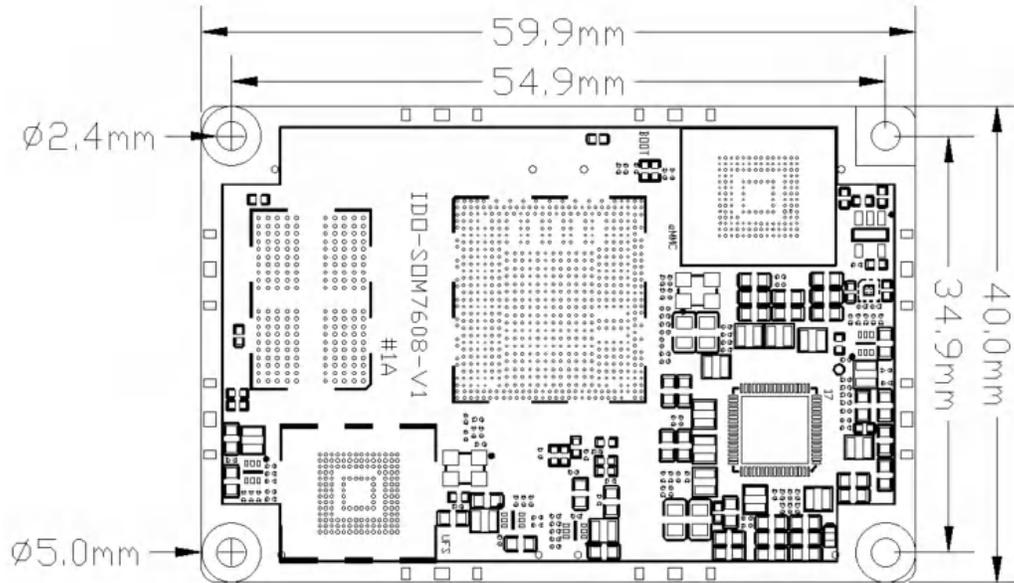
系统支持如下表所示：

序号	操作系统	支持	说明
1	Android	<input checked="" type="checkbox"/>	/
2	Debian	<input checked="" type="checkbox"/>	/
3	Buildroot	<input type="checkbox"/>	/
4	Ubuntu	<input type="checkbox"/>	/

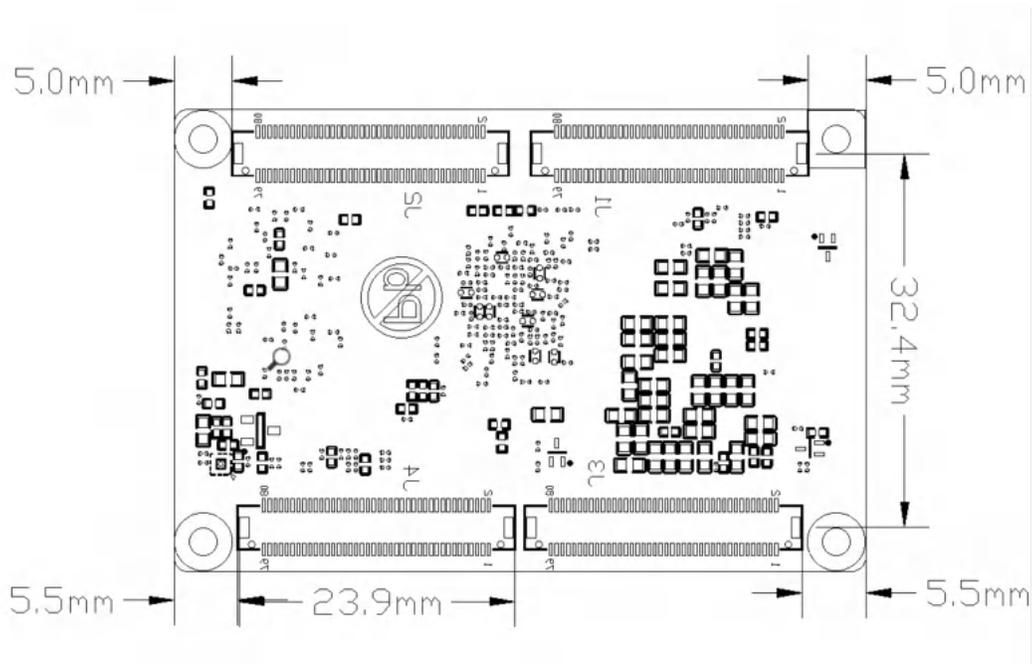
# 3、PCB 尺寸和电气参数

## 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
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VCC5V0_S YS_S5	4.5V	5.0V	5.5V	2A	3mA	<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°C ~ +70°C
IDO-SOM7608-V1-D4E64	4GB	64GB	0°C ~ +70°C

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

### 5.1 核心板引脚示意图

<b>MIPI DPHY CSI3/4 RX</b> MIPI V1.2/2.5Gbps		MIPI_DPHY_CSI3_RX_D0P MIPI_DPHY_CSI3_RX_D0N MIPI_DPHY_CSI3_RX_D1P MIPI_DPHY_CSI3_RX_D1N MIPI_DPHY_CSI3_RX_CLKP MIPI_DPHY_CSI3_RX_CLKN MIPI_DPHY_CSI3_RX_D2P/MIPI_DPHY_CSI4_RX_D0N MIPI_DPHY_CSI3_RX_D2N/MIPI_DPHY_CSI4_RX_D0P MIPI_DPHY_CSI3_RX_D3P/MIPI_DPHY_CSI4_RX_D1P MIPI_DPHY_CSI3_RX_D3N/MIPI_DPHY_CSI4_RX_D1N MIPI_DPHY_CSI4_RX_CLKP MIPI_DPHY_CSI4_RX_CLKN	A35 A33 A29 A27 A24 A21 A17 A15 A11 A9 A5 A3
<b>VCCIO1 Domain</b> Operating Voltage=1.8V/3.3V		PWM2_CH2_M0/CAN0_RX_M0/SP10_MOSI_M1/I2C8_SCL_M0/UART7_RX_M2/UART0_RX_M1/DSM_AUD_LP_M0/FSPI1_D0_M0/SDMMC0_D0/GPIO2_A0_d PWM2_CH3_M0/CAN0_TX_M0/SP10_MISO_M1/I2C5_SDA_M0/UART7_TX_M2/UART0_TX_M1/SAI3_MCLK_M3/DSM_AUD_LP_M0/FSPI1_D1_M0/SDMMC0_D1/GPIO2_A1_d I3C1_SCL_M1/CAN1_RX_M0/SP10_CSN1_M1/UART5_RTSN_M2/JTAG_TCK_M0/SAI3_LRCK_M3/DSM_AUD_LP_M0/FSPI1_D2_M0/SDMMC0_D2/GPIO2_A2_d I3C1_SDA_M1/CAN1_TX_M0/UART5_CTSN_M2/JTAG_TMS_M0/SAI3_SDI_M3/DSM_AUD_LP_M0/FSPI1_D3_M0/SDMMC0_D3/GPIO2_A3_d PWM2_CH4_M0/SP10_CSN0_M1/I2C5_SDA_M0/UART5_RX_M2/SAI3_SDO_M3/FSPI1_CSN0_M0/SDMMC0_CMD/GPIO2_A4_d I3C1_SDA_PU_M1/SP10_CLK_M1/I2C5_SCL_M0/UART5_TX_M2/TEST_CLK_OUT7_SAI3_SCLK_M3/FSPI1_CLK_M0/SDMMC0_CLK/GPIO2_A5_d	A39 A41 A43 A45 A47 A49 A53 A55 A57 A59 A61 A63 A65 A67
<b>SARADC</b> 12-bit 1MS/s		SARADC_IN0_BOOT SARADC_IN1 SARADC_IN2 SARADC_IN3 SARADC_IN4 SARADC_IN5 SARADC_IN6 SARADC_IN7	A53 A55 A57 A59 A61 A63 A65 A67
<b>VCCIO3 Domain</b> Operating VCC_1V8_S3		PWM1_CH0_M1/PCIE1_CLKREQN_M1/SP11_CLK_M0/I2C9_SDA_M1/SAI3_SCLK_M1/SDMMC1_D0_M0/ETH1_RXD2_M1/GPIO1_B4_d PWM1_CH1_M1/SP11_MOSI_M0/I2C9_SCL_M1/SAI3_LRCK_M1/SDMMC1_D1_M0/ETH1_RXD3_M1/GPIO1_B5_d PCIE0_BUTTONRSTN/SP12_MISO_M1/UART3_CTSN_M2/SAI3_SDO_M1/SDMMC1_D2_M0/ETH1_RXCLK_M1/GPIO1_B6_d SP11_CSN0_M0/UART3_RTSN_M2/SAI3_SDI_M1/SDMMC1_D3_M0/ETH1_TXD2_M1/GPIO1_B7_d PWM0_CH0_M1/SP11_CSN1_M0/UART3_TX_M2/PDM0_SD12_M2/SDMMC1_CMD_M0/ETH1_TXD3_M1/GPIO1_C0_d UART3_RX_M2/PDM0_CLK0_M2/SAI3_MCLK_M1/SDMMC1_CLK_M0/ETH1_TXCLK_M1/GPIO1_C1_d PWM1_CH2_M1/SP12_CSN1_M1/I2C6_SCL_M1/UART4_RTSN_M1/FSPI1_CSN1_M1/FSPI1_RSTN_M1/SDMMC1_PWREN_M0/ETH1_PPSCCLK_M1/GPIO1_C2_u SP12_CSN0_M1/I2C6_SDA_M1/UART4_CTSN_M1/FSPI1_CSN0_M1/SDMMC1_DET_N_M0/ETH1_PPSTRIG_M1/GPIO1_C3_u PCIE0_BUTTONRSTN/SP12_MOSI_M1/UART2_RTSN_M0/UART4_TX_M1/FSPI1_D0_M0/ETH1_TXD0_M1/GPIO1_C4_d PCIE1_BUTTONRSTN/SP12_MISO_M1/UART2_CTSN_M0/UART4_RX_M1/FSPI1_D1_M1/ETH1_TXD1_M1/GPIO1_C5_d SATA_CPODDI2C8_SCL_M1/UART2_TX_M0/PDM0_SD10_M2/FSPI1_D2_M1/ETH1_TXCTL_M1/GPIO1_C6_d SATA_CPDTE7/I2C8_SDA_M1/UART2_RX_M0/PDM0_SD11_M2/FSPI1_D3_M1/ETH1_RXD0_M1/GPIO1_C7_d UART10_TX_M1/SAI2_SDO_M0/ETH1_RXD1_M1/GPIO1_D0_d I3C0_SDA_PU_M1/UART10_RX_M1/SAI2_SCLK_M0/ETH1_FOCTL_M1/GPIO1_D1_d PWM1_CH3_M1/I3C0_SCL_M1/SAI2_LRCK_M0/ETH1_MDC_M1/GPIO1_D2_d PWM1_CH4_M1/I3C0_SDA_M1/SAI2_SDI_M0/ETH1_MDG_M1/GPIO1_D3_d I2C5_SCL_M1/UART10_RTSN_M1/SPDIF_RX1_M2/PDM0_SD13_M2/SAI2_MCLK_M0/ETH1_MCLK_M1/GPIO1_D4_d I2C5_SCL_M1/UART10_CTSN_M1/SPDIF_TX1_M2/PDM0_CLK1_M2/FSPI1_CLK_M1/ETH1_CLK1_25M_OUT_M1/GPIO1_D5_d	A4 A6 A8 A10 A12 A16 A18 A22 A24 A26 A30 A32 A34 A36 A38 A40 A42 A44 A46 A48 A50 A52 A54 A56 A58 A62 A64 A66 A68 A70 A72 A76 A77 A79 A81 A83 A85 A87 A89
<b>VCCIO2 Domain</b> Operating Voltage=1.8V/3.3V		PWM2_CH5_M0/AUPLL_CLK_IN_M2/SA4_MCLK_M0/SA1_MCLK_M0/GPIO4_A2_d PWM2_CH4_M1/I2C2_SCL_M2/UART5_RTSN_M1/SP3_CSN0_M2/FLEXBUS1_CSN_M4/SA11_SCLK_M0/GPIO4_A3_d CAN0_TX_M2/I2C4_SCL_M1/UART6_TX_M0/SP3_MOSI_M2/FLEXBUS0_D13_M1/PDM1_SD3_M1/SA4_SCLK_M0/GPIO4_A4_d PCIE1_CLKREQN_M2/I2C2_SDA_M2/UART5_CTSN_M1/SP4_CSN1_M2/FLEXBUS1_D12_M1/SA11_LRCK_M0/GPIO4_A5_d CAN0_RX_M2/I2C4_SDA_M1/UART6_RX_M0/SP3_MISO_M2/FLEXBUS0_D14_M1/PDM1_CLK0_M1/SA4_LRCK_M0/GPIO4_A6_d PWM2_CH6_M0/SP3_CLK_M2/SA4_SDI_M0/SA11_SDO0_M0/GPIO4_A7_d UART2_RTSN_M1/UART6_RTSN_M0/UART5_TX_M1/SP4_CLK_M2/FLEXBUS1_D13_M1/PDM1_CLK1_M1/SA11_SD3_M0/SA11_SDO1_M0/GPIO4_B0_d UART2_CTSN_M1/UART6_CTSN_M0/UART5_RX_M1/SP4_MOSI_M2/FLEXBUS1_D14_M1/PDM1_SD2_M1/SA11_SD2_M0/SA11_SDO2_M0/GPIO4_B1_d MIPITE_M0/SP4_MISO_M2/FLEXBUS1_D15_M1/PDM1_SD1_M1/SA11_SD1_M0/SA11_SDO3_M0/GPIO4_B2_d PWM2_CH7_M0/SP3_CSN1_M2/SP4_CSN0_M2/PDM1_SD10_M1/SA4_SDO_M0/SA11_SDO1_M0/GPIO4_B3_d CAN1_RX_M2/I2C3_SDA_M0/UART2_RX_M1/FLEXBUS0_CSN_M4/SPDIF_RX0_M0/GPIO4_B4_d CAN1_TX_M2/PCIE0_CLKREQN_M2/I2C3_SCL_M0/UART2_TX_M1/FLEXBUS0_D15_M1/SPDIF_TX0_M0/GPIO4_B5_d	A76 A75 A77 A79 A81 A83 A85 A87 A89
<b>VCCIO2_IN</b> VCC_1V8_S3 VCC_3V3_S3 VCC_1V8_S0 VCC_3V3_S0 VCCA_3V3_S0		VCCIO2_IN VCC_1V8_S3 VCC_3V3_S3 VCC_1V8_S0 VCC_3V3_S0 VCCA_3V3_S0	A76 A75 A77 A79 A81 A83 A85 A87 A89
U-SOM7608-320P		GND_A1 GND_A2 GND_A7 GND_A13 GND_A18 GND_A19 GND_A25 GND_A28 GND_A31 GND_A37 GND_A46 GND_A48 GND_A50 GND_A69 GND_A74 GND_A80 GND_A81 GND_A82 GND_A83 GND_A84	A81 A82 A83 A84

IDO-SOM3576-V1核心板J1连接器引脚定义图

VCCIO4 Domain		VCCIO5 Domain	
U1B	IC24_SCL_M2/SP4_CSN1_M3/UART8_TX_M1/SA0_SDO0_M0/ETH0_RXD0_M1/SDMMC1_D0_M1/VI_CIF_D15/GPIO2_A6_d	B8	
	IC24_SDA_M2/UART8_RX_M1/SA0_SDO1_M0/ETH0_TXCL_M1/SDMMC1_D1_M1/VI_CIF_D14/GPIO2_A7_d	B10	
Operating Voltage=1.8V/3.3V	UART1_TX_M1/PDM0_S0G_M3/SA0_SDO_M0/ETH0_TXD1_M1/SDMMC1_D2_M1/VI_CIF_D13/GPIO2_B0_d	B12	
	UART1_RX_M1/PDM0_S0I2_M3/SA0_SDI1_M0/ETH0_TXD0_M1/SDMMC1_D3_M1/VI_CIF_D12/GPIO2_B1_d	B14	
	POE0_CLKREQ0_M0/SP4_CSN0_M3/UART1_CTSN_M1/PDM0_S0I1_M3/SA0_SDI2_M0/ETH0_TXD3_M1/SDMMC1_CMD_M1/VI_CIF_D11/GPIO2_B2_d	B16	
	POE1_CLKREQ0_M0/SP4_CLK_M3/UART1_RTSN_M1/PDM0_S0I1_M3/SA0_SDI2_M0/ETH0_TXCL_M1/SDMMC1_CLK_M1/VI_CIF_D10/GPIO2_B3_d	B18	
	SATA0_ACTLED_M0/SP4_M0/SP4_M0/SP4_CTSN_M0/PDM0_S0I0_M3/SA0_SDI3_M0/ETH0_TXD2_M1/SDMMC1_PWREN_M1/VI_CIF_D9/GPIO2_B4_d	B22	
	SATA1_ACTLED_M0/SP4_MISO_M3/UART7_RTSN_M0/PDM0_S0I0_M3/SA0_SDI3_M0/ETH0_TXCL_M1/SDMMC1_DET_M1/VI_CIF_D8/GPIO2_B5_d	B24	
	IC26_SCL_M2/UART8_RTSN_M1/UART7_TX_M0/SA0_SCLK_M0/ETH0_RXD3_M1/ETH1_PTP_REFCLK_M1/VI_CIF_D7/GPIO2_B6_d	B26	
	IC26_SDA_M2/UART8_CTSN_M1/UART7_RX_M0/SA0_LRCK_M0/ETH0_RXD2_M1/VI_CIF_D6/GPIO2_B7_d	B28	
	PWM1_CH0_M2/UART9_RX_M0/PDM1_S0I1_M0/ETH_PTP_REFCLK_M1/ETH_RXD2_M0/VI_CIF_D5/GPIO2_C0_d	B30	
	PWM1_CH1_M2/SP11_CSN1_M1/UART9_TX_M0/PDM1_CLK1_M0/SA2_MCLK_M1/ETH_PPSCLK_M1/ETH_RXD3_M0/VI_CIF_D4/GPIO2_C1_d	B32	
	PWM1_CH2_M2/SP11_M0SI_M1/UART11_CTSN_M1/PDM1_SDI2_M0/SA2_SCLK_M1/ETH_PPSTRG_M1/ETH_RXCL_M0/VI_CIF_D3/GPIO2_C2_d	B34	
	PWM0_CH0_M2/SP11_MISO_M1/UART11_RTSN_M1/PDM1_SDI2_M0/SA2_LRCK_M1/ETH_TXD2_M0/VI_CIF_D2/GPIO2_C3_d	B36	
	PWM1_CH3_M2/SP11_CSN0_M1/UART11_TX_M1/PDM1_SDI0_M0/SA2_SDO_M1/ETH1_TXD3_M0/VI_CIF_D1/GPIO2_C4_d	B38	
	PWM1_CH4_M2/SP11_CLK_M1/UART11_RX_M1/PDM1_CLK0_M0/SA2_SDI1_M0/ETH1_TXCL_M0/VI_CIF_D0/GPIO2_C5_d	B40	
	PWM1_CH5_M2/IC26_SCL_M2/UART4_CTSN_M0/SA4_SCLK_M3/ETH1_TXD0_M0/GPIO2_C6_d	B42	
	PWM0_CH1_M2/IC26_SDA_M2/UART4_RTSN_M0/SA4_LRCK_M3/ETH1_TXD1_M0/GPIO2_C7_d	B44	
	PWM2_CH0_M2/IC26_SCL_M2/UART4_TX_M0/SA4_SDI1_M3/ETH1_TXCL_M0/GPIO2_D0_d	B46	
	PWM2_CH1_M2/IC26_SDA_M2/UART4_RX_M0/SA4_SDO_M3/ETH1_RXD0_M0/GPIO2_D1_d	B48	
	PWM2_CH2_M2/IC31_SCL_M0/UART8_TX_M1/SA4_MCLK_M3/ETH1_RXD1_M0/CAM_CLK0_OUT_M1/GPIO2_D2_d	B50	
	PWM2_CH3_M2/IC31_SDA_M0/UART8_RX_M1/ETH1_RXCL_M0/GPIO2_D3_d	B52	
	PWM2_CH4_M2/IC26_SDA_M2/UART8_RTSN_M1/ETH1_MDC_M0/SP_PRESLIGHT_TRG_M0/GPIO2_D4_d	B54	
	PWM2_CH5_M2/IC26_SCL_M2/UART8_CTSN_M1/ETH1_MDC_M0/SP_FLASH_TRGOUT_M0/GPIO2_D5_d	B56	
	PWM2_CH6_M2/IC31_SDA_PU_M0/UART8_RTSN_M0/SPDF_RX0_M2/SA3_MCLK_M2/ETH0_MCLK_M1/ETH_CLK1_25M_OUT_M0/CAM_CLK1_OUT_M1/GPIO2_D6_d	B58	
	PWM2_CH7_M2/SP13_CSN1_M0/UART8_CTSN_M0/SPDF_TX0_M2/SA3_SDO3_M0/ETH_CLK0_25M_OUT_M1/ETH1_MCLK_M0/CAM_CLK2_OUT_M1/GPIO2_D7_d	B60	
	IC27_SCL_M1/SP3_CLK_M0/UART3_TX_M0/SA3_SCLK_M2/ETH0_MDI0_M1/VI_CIF_HREF/GPIO3_A0_d	B72	
	IC27_SDA_M1/SP3_M0SI_M0/UART3_RX_M0/SA3_LRCK_M2/ETH0_MDC_M1/ETH_PPSTRG_M0/VI_CIF_VSYNC/GPIO3_A1_d	B74	
	MPLI_TE_M1/CAN1_TX_M3/SP3_MISO_M0/UART3_CTSN_M0/SPDF_RX0_M1/SA3_SDO_M2/ETH0_RXCL_M1/ETH1_PPSCLK_M0/VI_CIF_CLK/GPIO3_A2_d	B76	
	CAN1_RX_M3/SP3_CSN0_M0/UART3_RTSN_M0/SPDF_TX1_M1/SA3_SDI1_M2/ETH0_RXD1_M1/ETH1_PTP_REFCLK_M0/VI_CIF_CLK/GPIO3_A3_d	B78	
	VCCIO4_IN	B4	
Operating Voltage=1.8V/3.3V	PWM1_CH0_M3/SP2_CLK_M2/UART1_CTSN_M2/FLEXBUS0_CSN_M0/FLEXBUS1_D11/DSMC_RDYNSA4_SDI1_M1/ETH_CLK0_25M_OUT_M0/VO_EBC_SDSHR_VO_LCDC_D23/GPIO3_A4_d	B77	
	PWM1_CH1_M3/SP2_CSN1_M2/UART1_RTSN_M2/FLEXBUS0_D7/DSMC_DATA15/PDM1_SDI3_M2/ETH0_MDI0_M0/VO_EBC_GDSRVO_LCDC_D22/GPIO3_A5_d	B79	
	PWM1_CH2_M3/UART10_CTSN_M0/UART1_RX_M2/FLEXBUS0_D6/DSMC_DATA14/PDM1_SDI2_M2/ETH0_MDC_M0/VO_EBC_GDOE_VO_LCDC_D21/GPIO3_A6_d	B81	
	UART10_RTSN_M0/UART1_TX_M2/FLEXBUS0_D5/DSMC_DATA13/PDM1_CLK1_M2/ETH0_RXCL_M0/VO_EBC_VOCAM_VO_LCDC_D20/GPIO3_A7_d	B83	
	PWM0_CH0_M3/SP2_M0SI_M0/UART10_RX_M0/FLEXBUS0_D8/DSMC_CSN1/SA4_MCLK_M1/ETH_MCLK_M0/VO_EBC_SDCESVO_LCDC_D19/GPIO3_B0_d	B85	
	PWM1_CH3_M3/SP4_CSN0_M1/UART10_TX_M0/FLEXBUS0_D4/DSMC_DATA12/PDM1_CLK0_M2/ETH0_RXD1_M0/VO_EBC_SDCESVO_LCDC_D18/GPIO3_B1_d	B87	
	IC26_SDA_M3/UART9_RX_M1/FLEXBUS0_D3/DSMC_DATA11/PDM1_SDI1_M2/ETH0_RXD0_M0/VO_EBC_SDCESVO_LCDC_D17/GPIO3_B2_d	B89	
	IC26_SCL_M3/UART9_TX_M1/FLEXBUS0_D2/DSMC_DATA10/PDM1_SDI0_M2/ETH0_TXCL_M0/VO_EBC_SDCESVO_LCDC_D16/GPIO3_B3_d	B91	
	PWM1_CH4_M3/UART8_RTSN_M1/FLEXBUS0_D1/DSMC_DATA9/SPDF_RX1_M0/ETH0_TXD1_M0/VO_EBC_SDO01/VO_LCDC_D15/GPIO3_B4_d	B93	
	PWM1_CH5_M3/UART8_CTSN_M1/FLEXBUS0_D0/DSMC_DATA8/SPDF_TX1_M0/ETH0_TXD0_M0/VO_EBC_SDO01/VO_LCDC_D14/GPIO3_B5_d	B95	
	PWM0_CH1_M3/SP3_CSN0_M1/FLEXBUS0_CLK0/DSMC_DOS1/ETH0_TXCL_M0/VO_EBC_SDO01/VO_LCDC_D13/GPIO3_B6_d	B97	
	IC24_SDA_M3/UART3_CTSN_M1/UART2_RX_M2/FLEXBUS1_CSN_M0/FLEXBUS1_D10/DSMC_DOS0/SA1_SDI0_M1/ETH_PPSTRG_M0/VO_EBC_SDO01/VO_LCDC_D12/GPIO3_B7_d	B99	
	IC24_SCL_M3/UART3_RTSN_M1/UART2_TX_M2/FLEXBUS1_D9/DSMC_DATA7/SA1_SDI0_M1/ETH_PPSCLK_M0/VO_EBC_SDO01/VO_LCDC_D11/GPIO3_C0_d	B101	
	CAN0_RX_M3/IC26_SDA_M3/SP2_MISO_M2/UART11_RX_M0/FLEXBUS1_D8/DSMC_DATA6/SA1_SDI0_M1/ETH_PTP_REFCLK_M0/VO_EBC_SDO01/VO_LCDC_D10/GPIO3_C1_d	B103	
	PWM2_CH0_M3/IC26_SCL_M3/SP4_M0SI_M1/UART11_RTSN_M0/FLEXBUS0_D7/DSMC_DATA5/SA2_SCLK_M2/ETH0_TXD3_M0/VO_EBC_SDO08/VO_LCDC_D9/GPIO3_C2_d	B105	
	IC26_SCL_M3/UART9_TX_M1/FLEXBUS0_D2/DSMC_DATA10/PDM1_SDI0_M2/ETH0_TXCL_M0/VO_EBC_SDO08/VO_LCDC_D8/GPIO3_C3_d	B107	
	CAN0_TX_M3/IC26_SCL_M3/SP2_CSN0_M2/UART11_TX_M0/FLEXBUS1_D7/DSMC_DATA4/SA1_SDI1_M1/VO_EBC_SDO07/VO_LCDC_D7/GPIO3_C4_d	B109	
	PWM2_CH2_M3/SP11_MISO_M2/UART8_RX_M0/FLEXBUS1_D6/DSMC_DATA3/SA1_SDI0_M1/VO_EBC_SDO08/VO_LCDC_D6/GPIO3_C5_d	B111	
	SP11_M0SI_M2/UART8_TX_M0/FLEXBUS1_D5/DSMC_DATA2/SA1_LRCK_M1/VO_EBC_SDO08/VO_LCDC_D5/GPIO3_C6_d	B113	
	PWM1_CH3_M3/SP11_CSN0_M2/UART8_CTSN_M0/FLEXBUS1_D4/DSMC_DATA1/SA1_SCLK_M1/VO_EBC_SDO04/VO_LCDC_D4/GPIO3_C7_d	B115	
	IC31_SDA_PU_M2/SP4_CLK_M1/FLEXBUS1_CSN_M2/FLEXBUS0_D11/DSMC_CSN2/SA2_MCLK_M2/ETH0_RXCL_M0/VO_EBC_SDO02/VO_LCDC_D2/GPIO3_D1_d	B117	
	PWM2_CH4_M3/IC31_SDA_M2/SP4_CSN1_M1/UART2_RTSN_M2/FLEXBUS0_CSN_M3/FLEXBUS1_D15/M0/FLEXBUS0_D12/DSMC_CSN0/SA2_SDI2_M0/ETH0_RXD3_M0/VO_EBC_SDO01/VO_LCDC_D1/GPIO3_D2_d	B119	
	PWM2_CH5_M3/IC31_SCL_M2/UART2_CTSN_M2/FLEXBUS1_D2/DSMC_CSN0/SA2_SDI0_M2/ETH0_RXD2_M0/VO_EBC_SDO00/VO_LCDC_D0/GPIO3_D3_d	B121	
	IC23_SCL_M2/SP3_CLK_M1/UART8_RX_M0/FLEXBUS1_D10/DSMC_DATA0/SA1_SDI1_M1/VO_EBC_SDOLEVO_LCDC_DENGPIO3_D4_d	B123	
	IC23_SDA_M2/SP3_MISO_M1/UART8_TX_M0/FLEXBUS1_D10/DSMC_CLKNSA1_SDI2_M1/VO_EBC_SDOLEVO_LCDC_HSYNGPIO3_D5_d	B125	
	PWM2_CH6_M3/SP3_M0SI_M1/UART8_CTSN_M0/FLEXBUS1_CLK/DSMC_CLKNSA1_SDI3_M1/VO_EBC_SDOLEVO_LCDC_VSYNGPIO3_D6_d	B127	
	PWM2_CH7_M3/SP3_CSN1_M1/UART8_RTSN_M0/FLEXBUS1_CSN_M1/FLEXBUS1_D12/M0/FLEXBUS0_D15/M0/DSMC_RESETHSA4_SCLK_M1/CAM_CLK0_OUT_M0/VO_EBC_SDOLEVO_LCDC_CLK/GPIO3_D7_d	B129	
	MPLI_TE_M2/IC27_SCL_M2/SP11_CSN1_M2/UART3_TX_M1/FLEXBUS1_CSN_M3/FLEXBUS1_D14/M0/FLEXBUS0_D13/M0/DSMC_INT0/SA4_LRCK_M1/CAM_CLK1_OUT_M0/SPDF_RX0_M1/GPIO3_A0_d	B73	
	IC27_SDA_M2/UART3_RX_M1/FLEXBUS0_CSN_M1/FLEXBUS1_D13/M0/FLEXBUS0_D14/M0/DSMC_INT2/SA4_SDO_M1/CAM_CLK2_OUT_M0/SPDF_TX0_M1/VO_POST_EMP17/GPIO3_A1_d	B75	
	VCCIO5_IN	B3	
	B0 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 B32 B33 B34 B35 B36 B37 B38 B39 B40 B41 B42 B43 B44 B45 B46 B47 B48 B49 B50 B51 B52 B53 B54 B55 B56 B57 B58 B59 B60 B61 B62 B63 B64 B65 B66 B67 B68 B69 B70 B71 B72 B73 B74 B75 B76 B77 B78 B79 B80 B81 B82 B83 B84 B85 B86 B87 B88 B89 B90 B91 B92 B93 B94 B95 B96 B97 B98 B99		

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U1C				
<b>POWER_IN</b> PMIC RK806S-5 Management		VCC5V0_SYS_S5	C2	
		VCC5V0_SYS_S5	C4	
		VCC5V0_SYS_S5	C6	
		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	
	<b>PMUIO0 Domain</b> Operating VCC_1V8_S3	AUPLL_CLK_IN_M0/REF_CLK0_OUT/GPIO0_A0.d	C14	
		I2C0_SCL_M0/CLK0_32K_OUT/CLK_32K_IN/GPIO0_A2.d	C16	
		I2C0_SDA_M0/PWR_CTRL3/GPIO0_A5.d	C18	
SPI2_CSN1_M0/SDMMC0_DETIN/GPIO0_A7.u		C20		
I2C0_SCL_M0/SPI2_CSN0_M0/AUPLL_CLK_IN_M1/GPIO0_B0.z		C22		
I2C0_SDA_M0/SPI2_MISO_M0/GPIO0_B1.z		C26		
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		
<b>PMUIO1 Domain</b> Operating VCC_3V3_S3	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		
	PWM1_CH3_M0/CPULIT_AVS/UART1_RX_M0/I2C2_SDA_M0/GPIO0_C0.d	C36		
	I3C0_SCL_M0/UART8_TX_M2/I2C0_SCL_M1/GPIO0_C1.d	C38		
	I3C0_SDA_M0/UART8_RX_M2/I2C0_SDA_M1/GPIO0_C2.d	C40		
	PWM0_CH1_M0/SPI0_CSN1_M0/HDMI_TX_CEC_M1/PDM0_CLK1_M0/GPIO0_C3.d	C42		
	PWM0_CH0_M0/UART10_TX_M2/PDM0_CLK0_M0/SAIO_MCLK_M1/GPIO0_C4.d	C44		
	I3C0_SDA_PU_M0/UART10_RX_M2/DP_HPDIN_M1/SAIO_SDO0_M1/GPIO0_C5.d	C46		
	SPI0_CSN0_M0/I2C3_SCL_M1/SAIO_SCLK_M1/GPIO0_C6.d	C48		
	SPI0_CLK_M0/I2C3_SDA_M1/SAIO_LRCK_M1/GPIO0_C7.d	C50		
	SPI0_MOSI_M0/PDM0_SDIO_M0/SAIO_SDIO_M1/GPIO0_D0.d	C52		
	SPI0_MISO_M0/PDM0_SDI1_M0/SAIO_SDO3_M1/SAIO_SDI1_M1/GPIO0_D1.d	C54		
	UART1_CTSN_M0/PWM1_CH5_M0/CPUBIG_AVS/I2C4_SCL_M0/PDM0_SDI2_M0/SAIO_SDO2_M1/SAIO_SDI2_M1/GPIO0_D2.d	C56		
	UART1_RTSN_M0/PWM2_CH0_M0/GPU_AVS/I2C4_SDA_M0/PDM0_SDI3_M0/SAIO_SDO1_M1/SAIO_SDI3_M1/GPIO0_D3.d	C58		
JTAG_TCK_M1/UART0_TX_M0/GPIO0_D4.u	C41			
JTAG_TMS_M1/UART0_RX_M0/GPIO0_D5.u	C43			
<b>HDMI TX/eDP TX Combo Phy</b> HDMI:V2.1 12Gbps eDP :V1.3 5.4Gbps	HDMI_TX_D2P/EDP_TX_D2P	C51		
	HDMI_TX_D2N/EDP_TX_D2N	C53		
	HDMI_TX_D1P/EDP_TX_D1P	C55		
	HDMI_TX_D1N/EDP_TX_D1N	C57		
	HDMI_TX_D0P/EDP_TX_D0P	C59		
	HDMI_TX_D0N/EDP_TX_D0N	C61		
	HDMI_TX_D3P/EDP_TX_D3P	C63		
	HDMI_TX_D3N/EDP_TX_D3N	C65		
	HDMI_TX_SBDP/EDP_TX_AUXP	C67		
HDMI_TX_SBDN/EDP_TX_AUXN	C69			
<b>PCIE1/SATA1/USB3_OTG1 Combo PHY1</b> PCIE1:Gen1/Gen2 SATA1:Gen1/Gen2/Gen3 USB :USB3.2 Gen1x1 OTG1	PCIE1_TXP/SATA1_TXP/USB3_OTG1_SSTXP	C38		
	PCIE1_TXN/SATA1_TXN/USB3_OTG1_SSTXN	C40		
	PCIE1_RXP/SATA1_RXP/USB3_OTG1_SSRXP	C42		
	PCIE1_RXN/SATA1_RXN/USB3_OTG1_SSRXN	C44		
	PCIE1_REFCLKP	C46		
	PCIE1_REFCLKN	C48		
<b>PCIE0/SATA0 Combo PHY0</b> PCIE0:Gen1/Gen2 SATA0:Gen1/Gen2/Gen3	PCIE0_TXP/SATA0_TXP	C56		
	PCIE0_TXN/SATA0_TXN	C58		
	PCIE0_RXP/SATA0_RXP	C62		
	PCIE0_RXN/SATA0_RXN	C64		
	PCIE0_REFCLKP	C68		
	PCIE0_REFCLKN	C70		
<b>USB2 OTG0</b> OTG/HOST/DEVICE HS/FS/LS	Download Port	USB2_OTG0_DM	C74	
		USB2_OTG0_DP	C76	
		USB2_OTG0_ID	C78	
		C8		
		C9		
		C10		
		C11		
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		C90		

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