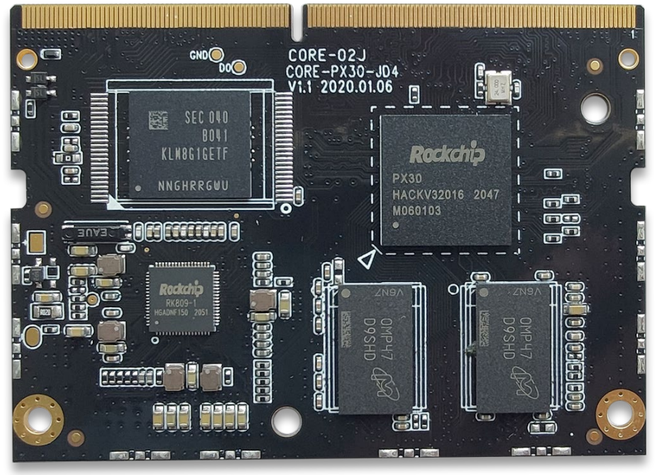
高性能AI智能视觉核心板

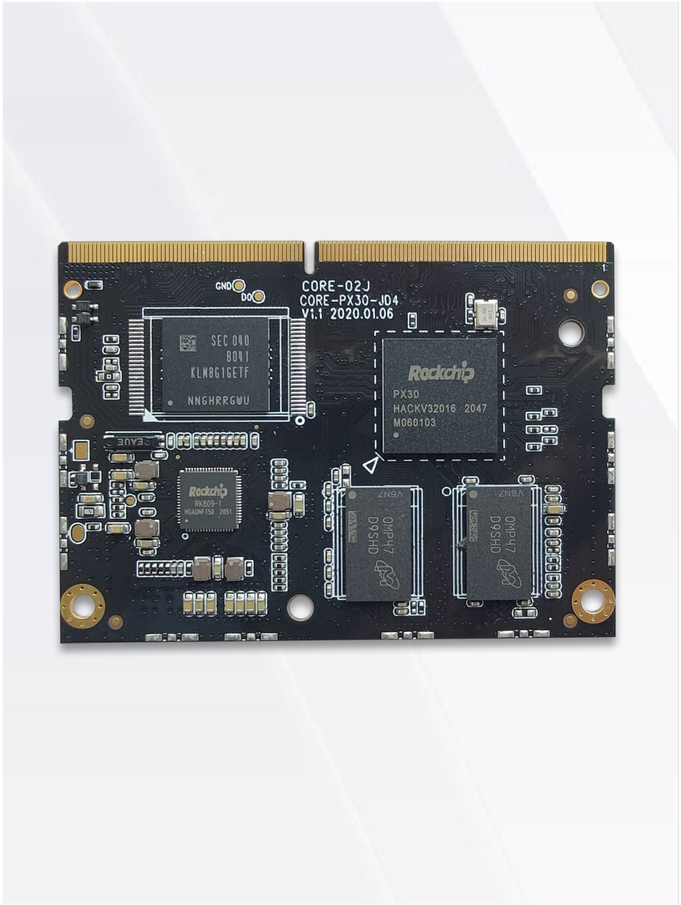
- Core-PX30-JD4（商规级）
- Core-PX30K-JD4（工业宽温）



V1.1 2023-12-26

天 启 智 能 科 技

产品特点 Product features



四核64位工业级核心板

采用PX30工业级64位低功耗处理器，拥有四核Cortex-A35，双核Mali-G31 GPU

强大的硬解码能力

支持双屏显示、多格式1080P 60fps视频解码，1080P（H.264、VP8格式）视频编码

AI智能语音交互

可配置远场麦克风阵列板，支持8路数字麦克风阵列输入，实现AI智能语音交互

支持多种操作系统

支持Android、Linux+QT、Ubuntu多个操作系统，性能稳定可靠

广泛的应用场景

适应于AIOT物联网设备、车载中控、游艺/游戏设备、商显一体设备、医疗健康设备、自动售货机、工业电脑等

丰富的扩展接口

拥有I2C、UART、SPI、SDIO3.0、USB2.0、PWM、RMII、I2S（支持8路数字麦克风阵列输入）等扩展接口

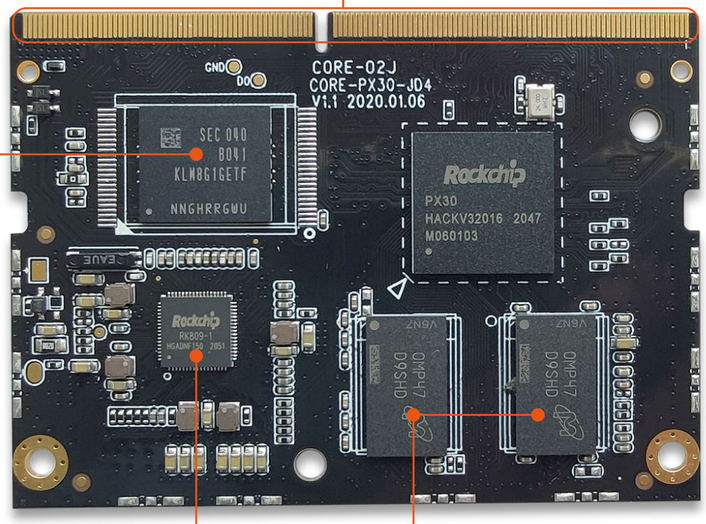
规格参数 Specifications

		Core-PX30-JD4（商规级）	Core-PX30K-JD4（工规宽温）
基本参数	CPU	Rockchip PX30 四核 ARM Cortex-A35处理器，主频高达 1.5GHz	Rockchip PX30K 四核 ARM Cortex-A35处理器，主频高达 1.5GHz
	GPU	Mali-G31 GPU，支持OpenGL ES3.2, Vulkan 1.0, OpenCL 2.0，内嵌高性能2D 加速硬件	
	ISP	内置8M ISP	
	编解码	1080P@60fps视频解码 (H.265、H.264、VC-1、MPEG-1/2/4、VP8) 1080P 视频编码（H.264 、VP8）	
	内存	2GB DDR3（1GB/2GB可选）	
	存储	8GB eMMC（8GB/16GB/32GB/64GB/128GB可选）	
	电源	DC 输入电压5V（电压误差±5%）	
	系统	Android 、Linux	
	接口	金手指（SODIMM 标准260P接口， 0.5mm间距）	
	尺寸	69.6mm * 49.6 mm	
	环境	工作温度：-20℃～60℃ ，工作湿度: 10%～90%RH（无凝露）	工作温度：-20℃～70℃ ，工作湿度: 10%～90%RH（无凝露）
接口参数	网络	可通过RMII接口扩展100 Mbps 以太网	
	显示	支持支持RGB/LVDS/MIPI-DSI接口，双VOP（支持双屏同显、双屏异显），分辨率最高1920 * 1080	
	音频	1 * SPDIF 数字音频接口， 1 * 8ch I2S /TDM、1 * 8ch PDM、1 * 2ch I2S/PCM	
	USB	1 * USB2.0 OTG，1 * USB2.0 HOST	
	其它	4 * I2C、6 * UART、2 * SPI、8 * PWM、SDIO3.0	

接口描述 Interface description

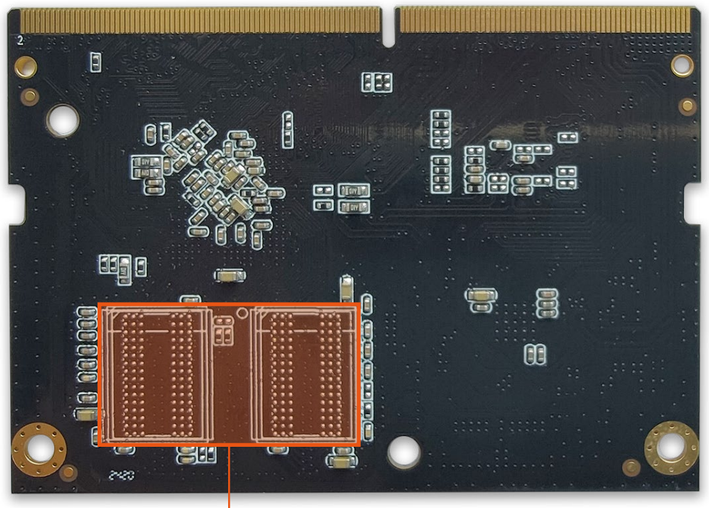
标准 SODIMM 接口
260P

eMMC
8/16/32/64/128GB
配置可选



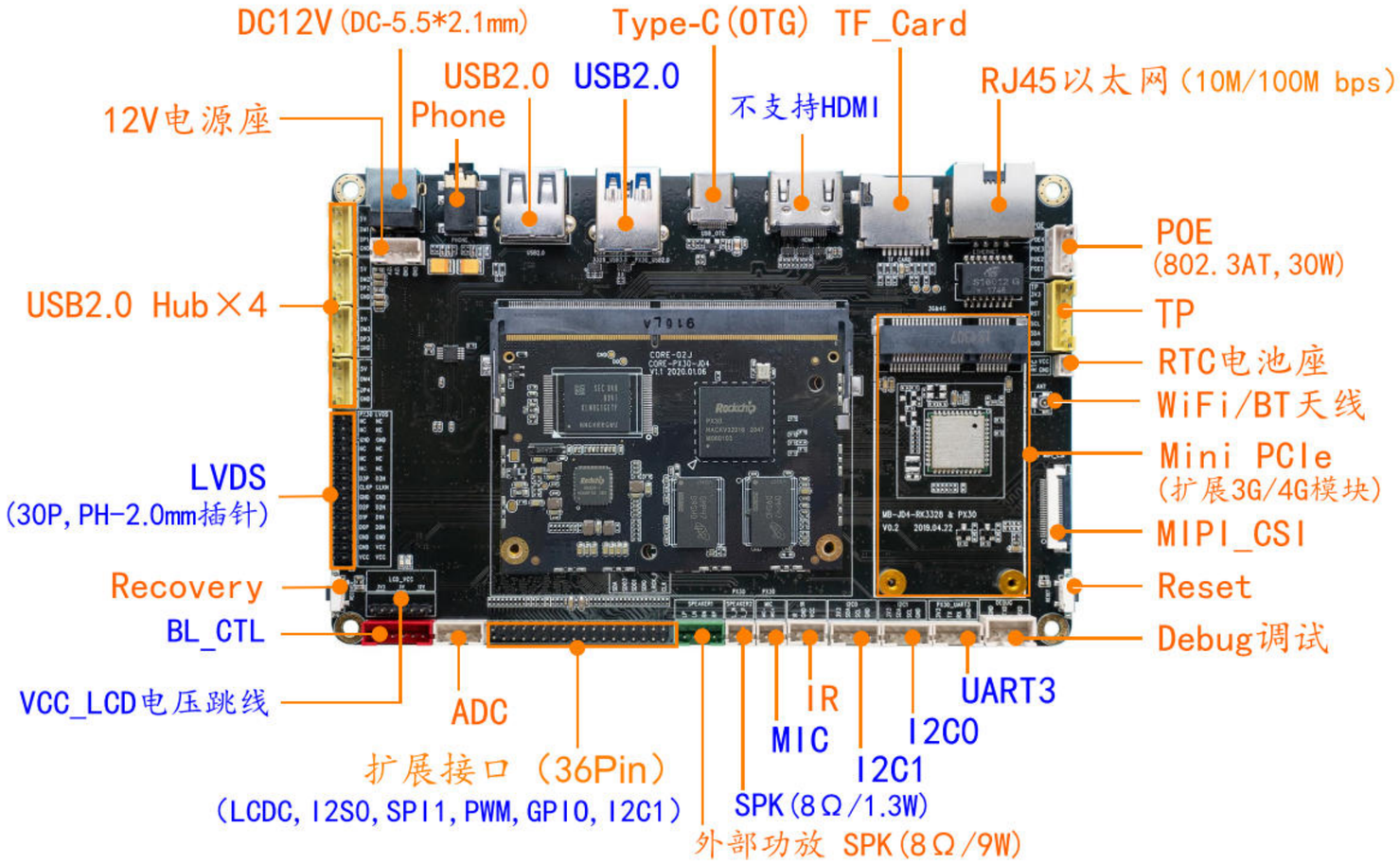
电源管理单元
PMU

DDR3
1GB/2GB 可选



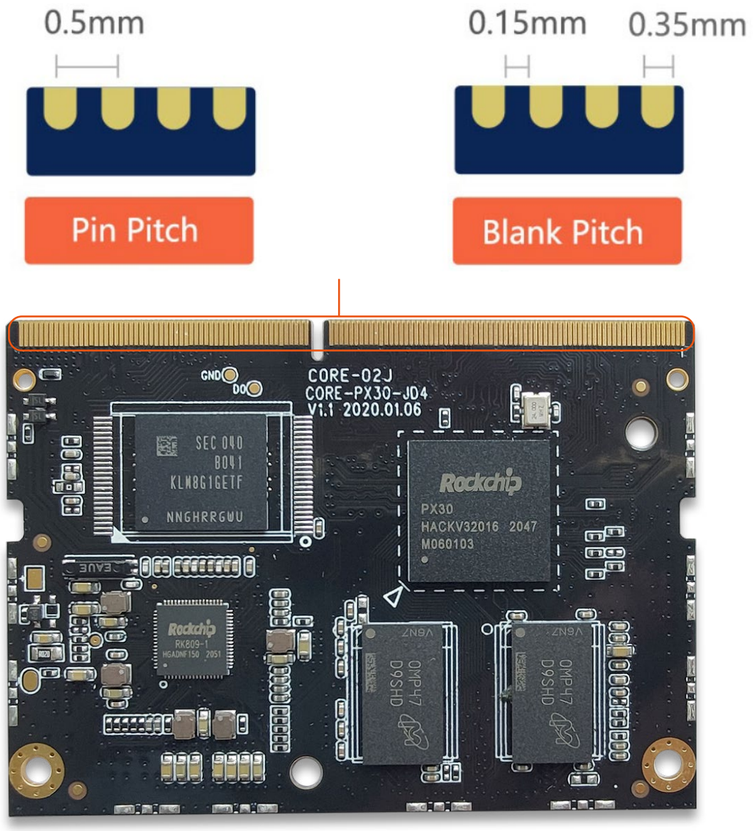
配置为 1GB DDR3 的核心板，此处不贴

接口描述 Interface description

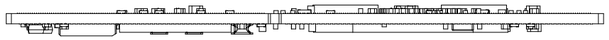


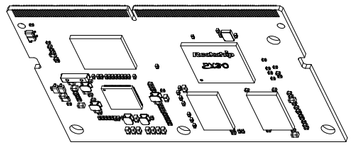
备注：此底板兼容两款核心板：Core-PX30-JD4 和 Core-3328-JD4，
以上用蓝色标注的接口，因核心板不同而功能有所不同。

产品尺寸 Dimension

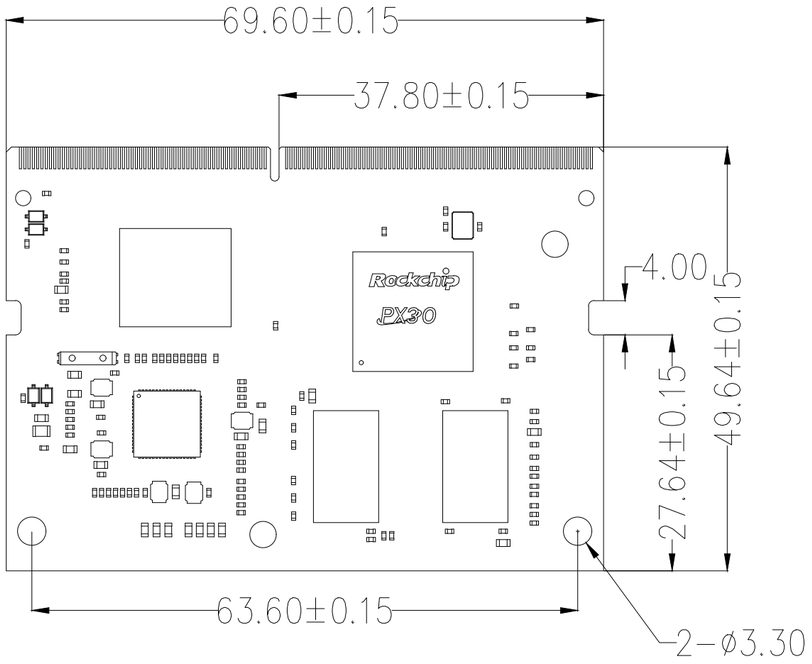


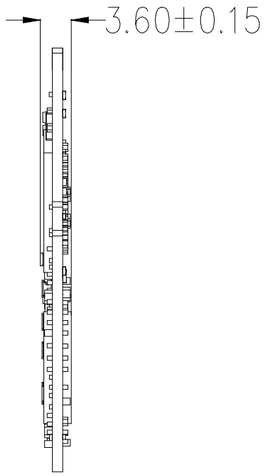
产品尺寸 Dimension

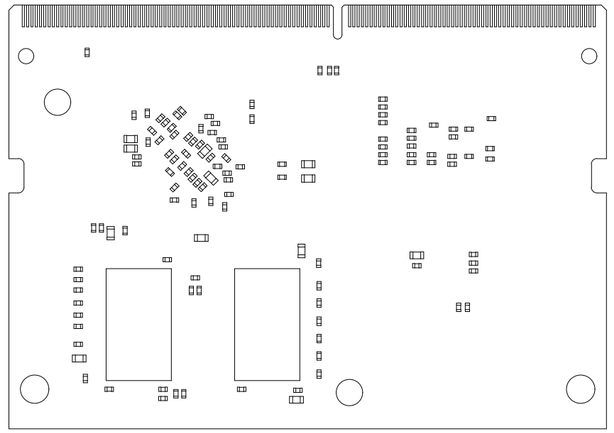




比例 0.5







接口定义 Interface Definition

Notes1:
① : Pad types: I = input, O = output, I/O = input/output (bidirectional) , I/GPIO = When used as GPIO port, it is input (I) ,
A = Analog , G= Ground , P = power supply , DOWN = Internal pull down , UP = Internal pull UP
0 = Lowe Level 1 = High level

Part A	PIN	Core board pin definition	Pad type	IO Pull	Function for Floor(MB-PX30-JD4)	Defual function description	IO Power domain	PX30 Pin Number	PX30 Pin Name
	1	GND_1	G		GND	GND			
	3	GPIO1_B5/FLASH_WRN/UART3_RTS_M1/SPI0_MISO/I2C3_SCL_U_1.8V	I/O	UP	WORK_LED	System LED control , Core board internal series resistance 0R 1:Enable, 0:Disable	1.8V	H20	GPIO1_B5/FLASH_WRN/UART3_RTS_M1/SPI0_MISO/I2C3_SCL
	5	GPIO1_B4/FLASH_CLE/UART3_CTS_M1/SPI0_MOSI/I2C3_SDA_D_1.8V	I/O	DOWN	DIY_LED	Diy led control , Core board internal series resistance 0R 1:Enable, 0:Disable	1.8V	G21	GPIO1_B4/FLASH_CLE/UART3_CTS_M1/SPI0_MOSI/I2C3_SDA
	7	USB_HOST_DP	A		HOST_DP	USB HOST Data Plus port		AA12	USB_HOST_DP
	9	USB_HOST_DM	A		HOST_DM	USB HOST0 Data Minus port		Y12	USB_HOST_DM
	11	USB_ID	I		USB_ID	USB ID detect input (USB Mode H or fload:Slave, L:Host)		Y11	USB_ID
	13	GND_2	G		GND	GND			
	15	GND_3	G		GND	GND			
	17	GND_4	G		GND	GND			
	19	GND_5	G		GND	GND			
	21	GND_6	G		GND	GND			
	23	GND_7	G		GND	GND			
	25	GND_8	G		GND	GND			
	27	GND_9	G		GND	GND			
	29	GND_10	G		GND	GND			
	31	GND_11	G		GND	GND			
	33	GND_12	G		GND	GND			
	35	GND_13	G		GND	GND			
	37	GPIO0_A3/SDMMC0_DETN_U_1.8V	I/O	UP	SDMMC0_DET	Card plug_in detect input(plug_in: L)	3.0V	AA20	GPIO0_A3/SDMMC0_DETN
	39	GPIO1_D3/SDMMC0_D1/UART2_RX_M0_U_3.3V	I/O	UP	SDMMC0_D1	SDMMC0 data1	3.3V	AA18	GPIO1_D3/SDMMC0_D1/UART2_RX_M0
	41	GPIO1_D2/SDMMC0_D0/UART2_TX_M0_U_3.3V	I/O	UP	SDMMC0_D0	SDMMC0 data0	3.3V	AA17	GPIO1_D2/SDMMC0_D0/UART2_TX_M0
	43	SDMMC0_CLKO/UART4_CTS/TEST_CLKO/GPIO1_D6_D_3.3V	I/O	DOWN	SDMMC0_CLK	SDMMC0 clock output	3.3V	Y17	GPIO1_D6/SDMMC0_CLKO/UART4_CTS/TEST_CLKO

45	SDMMC0_CMD/UART4_RTS/GPIO1_D7_U_3.3V	I/O	UP	SDMMC0_CMD	SDMMC0 command output	3.3V	Y16	GPIO1_D7/SDMMC0_CMD/UART4_RTS
47	SDMMC0_D3/UART4_TX/JTAG_TMS/GPIO1_D5_U_3.3V	I/O	UP	SDMMC0_D3/JTAG_TMS	SDMMC0 data3	3.3V	AA16	GPIO1_D5/SDMMC0_D3/UART4_TX/JTAG_TMS
49	SDMMC0_D2/UART4_RX/JTAG_TCK/GPIO1_D4_U_3.3V	I/O	UP	SDMMC0_D2/JTAG_TCK	SDMMC0 data2	3.3V	AA19	GPIO1_D4/SDMMC0_D2/UART4_RX/JTAG_TCK
51	GND_14	G		GND	GND			
53	GND_15	G		GND	GND			
55	GND_16	G		GND	GND			
57	GND_17	G		GND	GND			
59	GND_18	G		GND	GND			
61	NC_1							
63	GND_19	G		GND	GND			
65	GND_20	G		GND	GND			
67	I2C1_SCL/UART3_CTS_M0/GPIO0_C2_D_3.0V	I/O	DOWN	I2C1_SCL	I2C serial port 1 , Core board interiorl pull up Resistor 2.2K	3.0V	T20	GPIO0_C2/I2C1_SCL/UART3_CTS_M0
69	I2C1_SDA/UART3_RTS_M0/GPIO0_C3_D_3.0V	I/O	DOWN	I2C1_SDA	I2C serial port 1 , Core board interiorl pull up Resistor 2.2K	3.0V	R20	GPIO0_C3/I2C1_SDA/UART3_RTS_M0
71	NC_2							
73	GPIO0_B3/CIF_PDN0_D_3.0V	I/O	DOWN	GPIO0_B3/CIF_PDN0	MIPI Camera power	3.0V	P18	GPIO0_B3/UART0_RX
75	NC_3							
77	GND_21	G		GND	GND			
79	NC_4							
81	NC_5							
83	NC_6							
85	NC_7							
87	CIF_D11_M0/I2C2_SDA/GPIO2_C0_U_3.0V	I/O	UP	I2C2_SDA	Camera data port，I2C serial port 1 , Core board interiorl pull up Resistor 2.2K	3.0V	V6	GPIO2_C0/CIF_D11_M0/I2C2_SDA
89	CIF_D10_M0/I2C2_SCL/GPIO2_B7_U_3.0V	I/O	UP	I2C2_SCL	Camera data port，I2C serial port 1 , Core board interiorl pull up Resistor 2.2K	3.0V	U7	GPIO2_B7/CIF_D10_M0/I2C2_SCL
91	NC_8							
93	NC_9							

95	UART0_RTS/TEST_CLK1/GPIO0_B5_U_3.0V	I/O	UP	BL_EN/GPIO0_B5	LCD panel backlight power enable	3.0V	N19	GPIO0_B5/UART0_RTS/TEST_CLK1
97	PWM0/OTG_DRV/GPIO0_B7_D_3.0V	I/O	DOWN	PWM0/GPIO0_B7	PWM0 output	3.0V	M19	GPIO0_B7/PWM0/OTG_DRV
99	NC_10							
101	GND_22	G		GND	GND			
103	GPIO3_B6/LCDC_D10_M0/CIF_D8_M1/I2S0_8CH_SDO3/SPI1_MISO_D_3.0V	I/O	DOWN	LCDC_D10_M0/I2S0_8CH_SDO3/SPI1_RXD/GPIO3_B6	LCDC data10	3.0V	G18	GPIO3_B6/LCDC_D10_M0/CIF_D8_M1/I2S0_8CH_SDO3/SPI1_MISO
105	GPIO3_B4/LCDC_D8_M0/CIF_D7_M1/I2S0_8CH_SCLKRX/SPI1_MOSI_D_3.0V	I/O	DOWN	LCDC_D8_M0/I2S0_8CH_SCLKRX/SPI1_TXD/GPIO3_B4	LCDC data8	3.0V	F18	GPIO3_B4/LCDC_D8_M0/CIF_D7_M1/I2S0_8CH_SCLKRX/SPI1_MOSI
107	GPIO3_B7/LCDC_D11_M0/CIF_D9_M1/I2S0_8CH_SDO2/SPI1_D_3.0V	I/O	DOWN	LCDC_D11_M0/I2S0_8CH_SDO2/SPI1_CLK/GPIO3_B7	LCDC data11	3.0V	G17	GPIO3_B7/LCDC_D11_M0/CIF_D9_M1/I2S0_8CH_SDO2/SPI1_CLK
109	GPIO3_B1/LCDC_D5_M0/CIF_D6_M1/I2S0_8CH_SDI2/SPI1_C_D_3.0V	I/O	DOWN	LCDC_D5_M0/I2S0_8CH_SDI2/SPI1_CSN/GPIO3_B1	LCDC data5	3.0V	F17	GPIO3_B1/LCDC_D5_M0/CIF_D6_M1/I2S0_8CH_SDI2/SPI1_CSN0
111	GPIO3_B2/LCDC_D6/SPI1_CSN1_D_3.0V	I/O	DOWN	LCDC_D6/SPI1_CSN1/GPIO3_B2	LCDC data6	3.0V	B18	GPIO3_B2/LCDC_D6/SPI1_CSN1
113	GPIO3_C2/LCDC_D14/PWM4/I2S0_8CH_LRCKTX/TDM_FSYNC_D_3.0V	I/O	DOWN	LCDC_D14/I2S0_8CH_LRCKTX/PWM4/GPIO3_C2	LCDC data14	3.0V	C19	GPIO3_C2/LCDC_D14/PWM4/I2S0_8CH_LRCKTX/TDM_FSYNC
115	GPIO3_C3/LCDC_D15/PWM5/I2S0_8CH_SCLKTX/TDM_SCLK_D_3.0V	I/O	DOWN	LCDC_D15/I2S0_8CH_SCLKTX/PWM5/GPIO3_C3	LCDC data15	3.0V	B19	GPIO3_C3/LCDC_D15/PWM5/I2S0_8CH_SCLKTX/TDM_SCLK
117	GPIO3_C4/LCDC_D16/PWM6/I2S0_8CH_SDO0/TDM_SDO_D_3.0V	I/O	DOWN	LCDC_D16/I2S0_8CH_SDO0/PWM6/GPIO3_C4	LCDC data16	3.0V	C18	GPIO3_C4/LCDC_D16/PWM6/I2S0_8CH_SDO0/TDM_SDO
119	GPIO3_C5/LCDC_D17/PWM7/I2S0_8CH_SDI0/TDM_SDI_D_3.0V	I/O	DOWN	LCDC_D17/I2S0_8CH_SDI0/PWM7/GPIO3_C5	LCDC data17	3.0V	A18	GPIO3_C5/LCDC_D17/PWM7/I2S0_8CH_SDI0/TDM_SDI
121	NC_11							
123	GND_23	G		GND	GND			
125	NC_12							
127	NC_13							
129	NC_14							
131	NC_15							
133	USB_OTG_DP	A		OTG_DP	USB 2.0 Data signal DP(For System Update)		Y10	USB_OTG_DP
135	USB_OTG_DM	A		OTG_DM	USB 2.0 Data signal DM(For System Update)		AA10	USB_OTG_DM
137	NC_16							
139	NC_17							
141	NC_18							
143	GND_24	G		GND	GND			

145	USB_VBUS	A		OTG_DET	Vbus power detect		Y13	USB_VBUS
147	NC_19							
149	NC_20							
151	NC_21							
153	NC_22							
155	GND_25	G		GND	GND			
157	NC_23							
159	NC_24							
161	NC_25							
163	NC_26							
165	NC_27							
167	NC_28							
169	NC_29							
171	NC_30							
173	GND_26	G		GND	GND			
175	GND_27	G		GND	GND			
177	GND_28	G		GND	GND			
179	HP_SNS	G		HP_SNS	Reference ground for the headphone			
181	HPL	O		AOL	Left channel output of the headphone			
183	HPR	O		AOR	Right channel output of the headphone			
185	NC_31							
187	NC_32							
189	NC_33							
191	NC_34							
193	GND_29	G		GND	GND			
195	GND_30	G		GND	GND			
197	SPKN_OUT	O		SPKN_OUT	(RK809-1)speaker output-			
199	SPKP_OUT	O		SPKP_OUT	(RK809-1)speaker output+			
201	MIC1_IN	I		MIC1_IN	(RK809-1)Microphone input+(or MIC_IN1)			
203	MIC2_IN	I		MIC2_IN	(RK809-1)Microphone input-(or MIC_IN2)			

205	GND_31	G		GND	GND			
207	FLASH_RDN/UART3_RX_M1/SPI0_CLK/GPIO1_B7_U_1.8V	I/O	UP	GPIO1_B7/FLASH_RDN	GPIO1_B7	1.8V	H21	GPIO1_B7/FLASH_RDN/UART3_RX_M1/SPI0_CLK
209	FLASH_CS1/UART3_TX_M1/SPI0_CSN/GPIO1_B6_U_1.8V	I/O	UP	GPIO1_B6/FLASH_CS1	GPIO1_B6	1.8V	G20	GPIO1_B6/FLASH_CS1/UART3_TX_M1/SPI0_CSN
211	NC_35							
213	NC_36							
215	NC_37							
217	NC_38							
219	GND_32	G		GND	GND			
221	PWRON			POWER_ON	Power on Signal Input, External connection Power key , active low	To POWER_KEY		
223	PMIC_VDC	P		VCC_5V_S	PMIC_EN: Input Voltage 3V-5.5V , Rated input current 50mA	5V		
225	VDDIO_WL_1	P		VDDIO_WL	(SDMMC1,UART1 Power_Input)1.8V or 3.3V	3.0V		
227	VCC_3V0	P		VCC_3V0	3.0V Output, Rated output current 150mA	3.0V		
229	VCC_1V8	P		VCC_18	1.8V Output, Rated output current 200mA	1.8V		
231	NC_39							
233	VCC_5V_S	P		VCC_5V_S	RTC Power_Input : 3V-5.5V	5V		
235	VCC3V3_LCD_1	P		VCC3V3_LCD	3.3V Output, Rated output current 400mA	3.3V		
237	VCC3V3_SYS_1	P		VCC3V3_SYS	3.3V Output, Rated output current 1A	3.3V		
239	VCC3V3_SYS_2	P		VCC3V3_SYS		3.3V		
241	GND_33	G		GND	Power ground			
243	GND_34	G		GND				
245	GND_35	G		GND				
247	GND_36	G		GND				
249	GND_37	G		GND				
251	VCC5V0_SYS_1	P		VCC5V0_SYS	System Power supply Input Voltag : Min 4.8V,Typ 5.0V, Max 5.2V Input current: Typ 650mA ;Max 1300mA	5V		
253	VCC5V0_SYS_3	P		VCC5V0_SYS				
255	VCC5V0_SYS_5	P		VCC5V0_SYS				
257	VCC5V0_SYS_7	P		VCC5V0_SYS				
259	VCC5V0_SYS_9	P		VCC5V0_SYS				

Part B	PIN	Core board pin definition	Pad type	IO Pull	Function for Floor(MB-PX30-JD4)	Defual function description	IO Power domain	PX30 Pin Number	PX30 Pin Name
	2	GND_38	G		GND	GND			
	4	NC_40							
	6	NC_41							
	8	NC_42							
	10	NC_43							
	12	NC_44							
	14	NC_45							
	16	NC_46							
	18	NC_47							
	20	NC_48							
	22	I2C0_SDA/GPIO0_B1_U_3.0V	I/O	UP	I2C0_SDA_PMIC	I2C serial port 0 ,for PMIC , Core board interiorl pull up Resistor 2.2K	3.0V	P21	GPIO0_B1/I2C0_SDA
	24	I2C0_SCL/GPIO0_B0_U_3.0V	I/O	UP	I2C0_SCL_PMIC	I2C serial port 0 ,for PMIC , Core board interiorl pull up Resistor 2.2K	3.0V	R21	GPIO0_B0/I2C0_SCL
	26	GND_39	G		GND	GND			
	28	REF_CLKO/GPIO_A0_D_3.0V	I/O	DOWN	SPK_MUTE	Speaker control	3.0V	Y21	GPIO0_A0/REF_CLKO
	30	GND_40	G		GND	GND			
	32	GPIO2_B3/CIF_CLKO_M0/CLK_OUT_ETHERNET_D_3.0V	I/O	DOWN	GPIO2_B3/MIPI_CLKO	Mipi Camera clock output	3.0V	Y5	GPIO2_B3/CIF_CLKO_M0/CLK_OUT_ETHERNET
	34	GPIO0_B4/UART0_CTS_U_3.0V	I/O	UP	GPIO0_B4/TP_RST	Touch pannel reset output	3.0V	R18	GPIO0_B4/UART0_CTS
	36	GPIO0_A5_U_3.0V	I/O	UP	GPIO0_A5/TP_INT	Touch pannel interrupt input	3.0V	T21	GPIO0_A5
	38	PX30_ID			PX30_ID	Internal core board distinction (no used)	3.3V		
	40	GND_41	G		GND	GND			
	42	GPIO0_A2_D_3.0V	I/O	DOWN	WIFI_REG_ON_H	WIFI module power enable	3.0V	V21	GPIO0_A2
	44	GPIO0_B2/UART0_TX_D_3.0V	I/O	DOWN	WIFI_WAKE_HOST	WIFI module wake up AP	3.0V	N20	GPIO0_B2/UART0_TX
	46	GPIO1_D0/SDMMC1_D2_U_3.3V	I/O	UP	SDIO0_D2	SDIO0 data port , for WIFI module	3.3V	M21	GPIO1_D0/SDMMC1_D2
	48	GPIO1_D1/SDMMC1_D31_U_3.3V	I/O	UP	SDIO0_D3	SDIO0 data port , for WIFI module	3.3V	J19	GPIO1_D1/SDMMC1_D3
	50	GPIO1_C4/SDMMC1_CMD_U_3.3V	I/O	UP	SDIO0_CMD	SDIO0 command output , for WIFI module	3.3V	H19	GPIO1_C4/SDMMC1_CMD
	52	GPIO1_C5/SDMMC1_CLK_D_3.3V	I/O	DOWN	SDIO0_CLK	SDIO0 clock output, for WIFI module	3.3V	M20	GPIO1_C5/SDMMC1_CLK
	54	GPIO1_C6/SDMMC1_D0_U_3.3V	I/O	UP	SDIO0_D0	SDIO0 data port , for WIFI module	3.3V	L20	GPIO1_C6/SDMMC1_D0

56	GPIO1_C7/SDMMC1_D1_U_3.3V	I/O	UP	SDIO0_D1	SDIO0 data port , for WIFI module	3.3V	L19	GPIO1_C7/SDMMC1_D1
58	GND_42	G		GND	GND			
60	GPIO0_C4/CLKIO_32K_Z_3.0V	I/O	Z	RK805_32KOUT	Output 32.768K CLK , Core board interiorl pull up Resistor 10K	3.0V	P20	GPIO0_C4/CLKIO_32K
62	GPIO2_B0/CIF_VSYNC_M0_D_3.0V	I/O	DOWN	BT_REG_ON_H	BT module power enable	3.0V	Y4	GPIO2_B0/CIF_VSYNC_M0
64	GPIO1_C0/UART1_RX_U_3.3V	I/O	UP	UART0_RXD	UART0 serial port, for BT module	3.3V	J20	GPIO1_C0/UART1_RX
66	GPIO1_C1/UART1_TX_U_3.3V	I/O	UP	UART0_TXD	UART1 serial port, for BT module	3.3V	K20	GPIO1_C1/UART1_TX
68	GPIO1_C2/UART1_CTS_U_3.3V	I/O	UP	UART0_CTS	UART2 serial port, for BT module	3.3V	K21	GPIO1_C2/UART1_CTS
70	GPIO1_C3/UART1_RTS_U_3.3V	I/O	UP	UART0_RTS	UART3 serial port, for BT module	3.3V	L21	GPIO1_C3/UART1_RTS
72	NC_49							
74	GPIO0_A1_D_1.8V	I/O	DOWN	BT_WAKE_HOST	BT module wake up AP	1.8V	Y20	GPIO0_A1
76	NC_50							
78	MIPI_CSI_DP3	A		MIPI_CSI_D3P	MIPI-DSI0 differential lane 3 positive		V9	MIPI_CSI_D3P
80	MIPI_CSI_DN3	A		MIPI_CSI_D3N	MIPI-DSI0 differential lane 3 negative		W8	MIPI_CSI_D3N
82	MIPI_CSI_D2P	A		MIPI_CSI_D2P	MIPI-DSI0 differential lane 2 positive		U9	MIPI_CSI_D2P
84	MIPI_CSI_D2N	A		MIPI_CSI_D2N	MIPI-DSI0 differential lane 2 negative		V8	MIPI_CSI_D2N
86	MIPI_CSI_CLKP	A		MIPI_CSI_CLKP	MIPI-DSI0 differential clock lane positive		V10	MIPI_CSI_CLKP
88	MIPI_CSI_CLKN	A		MIPI_CSI_CLKN	MIPI-DSI0 differential clock lane negative		U10	MIPI_CSI_CLKN
90	MIPI_CSI_D1P	A		MIPI_CSI_D1P	MIPI-DSI0 differential lane 1 positive		Y9	MIPI_CSI_D1P
92	MIPI_CSI_D1N	A		MIPI_CSI_D1N	MIPI-DSI0 differential lane 1 negativ		W9	MIPI_CSI_D1N
94	MIPI_CSI_D0P	A		MIPI_CSI_D0P	MIPI-DSI0 differential lane 0 positive		W10	MIPI_CSI_D0P
96	MIPI_CSI_D0N	A		MIPI_CSI_D0N	MIPI-DSI0 differential lane 0 negativ		V11	MIPI_CSI_D0N
98	GPIO1_B0/FLASH_CS0_U_1.8V	I/O	UP	HP_DET	Headphone detection , Core board internal series resistance 0R	1.8V	F19	GPIO1_B0/FLASH_CS0
100	GPIO2_B6/CIF_D1_M0/UART2_RX_M1_D_3.0V	I/O	DOWN	UART2_RX_M1	Uart2 serial port data input, for AP debug	3.0V	W6	GPIO2_B6/CIF_D1_M0/UART2_RX_M1
102	GPIO2_B4/CIF_D0_M0/UART2_TX_M1_D_3.0V	I/O	DOWN	UART2_TX_M1	Uart2 serial port data output ,for AP debug	3.0V	V12	GPIO2_B4/CIF_D0_M0/UART2_TX_M1
104	GPIO0_C0/UART3_TX_M0/PWM1_D_3.0V	I/O	DOWN	LCDC_BL_PWM/UART3_TX/GPIO0_C0	GPIO	3.0V	N21	GPIO0_C0/UART3_TX_M0/PWM1
106	GPIO0_C1/UART3_RX_M0/PWM3_D_3.0V	I/O	DOWN	IR_IN/UART3_RX/GPIO0_C1	IR receiver input	3.0V	P19	GPIO0_C1/UART3_RX_M0/PWM3
108	NC_51							
110	GPIO3_A0/LCDC_CLK_D_3.0V	I/O	DOWN	LCDC_CLK/GPIO3_A0	LCDC data port (no used)	3.0V	D19	GPIO3_A0/LCDC_CLK
112	GND_43	G		GND	GND			
114	GPIO3_B0/LCDC_D4_M0/CIF_D5_M1/I2S0_8CH_SDI3_D_3.0V	I/O	DOWN	LCDC_D4_M0/I2S0_8CH_SDI3/GPIO3_B0	LCDC data port (no used)	3.0V	E17	GPIO3_B0/LCDC_D4_M0/CIF_D5_M1/I2S0_8CH_SDI3

116	GPIO3_C1/LCDC_D13/I2S0_8CH_MCLK_D_3.0V	I/O	DOWN	LCDC_D13/I2S0_8CH_MCLK/GPIO3_C1	LCDC data port (no used)	3.0V	B20	GPIO3_C1/LCDC_D13/I2S0_8CH_MCLK
118	GPIO3_B5/LCDC_D9_M0/I2S0_8CH_LRCKRX_D_3.0V	I/O	DOWN	LCDC_D9_M0/I2S0_8CH_LRCKRX/GPIO3_B5	I2S0 for receiving serial data , External (no used)	3.0V	C16	GPIO3_B5/LCDC_D9_M0/I2S0_8CH_LRCKRX
120	GPIO3_B3/LCDC_D7/I2S0_8CH_SDI1_D_3.0V	I/O	DOWN	LCDC_D7/I2S0_8CH_SDI1/GPIO3_B3	LCDC data port (no used)	3.0V	C17	GPIO3_B3/LCDC_D7/I2S0_8CH_SDI1
122	NC_52							
124	GPIO3_C0/LCDC_D12/I2S0_8CH_SDO1_D_3.0V	I/O	DOWN	LCDC_D12/I2S0_8CH_SDO1/GPIO3_C0	LCDC data port (no used)	3.0V	A20	GPIO3_C0/LCDC_D12/I2S0_8CH_SDO1
126	GPIO3_A5/LCDC_D1_M0/CIF_D3_M1/I2S2_2CH_SDI/UART5_RTS_D_3.0V	I/O	DOWN	LCDC_D1_M0/I2S2_2CH_SDI/GPIO3_A5	LCDC data port (no used)	3.0V	E15	GPIO3_A5/LCDC_D1_M0/CIF_D3_M1/I2S2_2CH_SDI/UART5_RTS
128	GPIO3_A2/LCDC_VSYNC_M0/CIF_D1_M1/I2S2_2CH_SCLK/UART5_TX_D_3.0V	I/O	DOWN	LCDC_VSYNC_M0/I2S2_2CH_SCLK/GPIO3_A2	LCDC data port (no used)	3.0V	F13	GPIO3_A2/LCDC_VSYNC_M0/CIF_D1_M1/I2S2_2CH_SCLK/UART5_TX
130	GPIO3_A3/LCDC_DEN_M0/CIF_D2_M1/I2S2_2CH_LRCK_TXRX/UART5_CTS_D_3.0V	I/O	DOWN	LCDC_DEN_M0/I2S2_2CH_LRCK/GPIO3_A3	LCDC data port (no used)	3.0V	E14	GPIO3_A3/LCDC_DEN_M0/CIF_D2_M1/I2S2_2CH_LRCK_TXRX/UART5_CTS
132	GND_44	G		GND	GND			
134	GPIO3_A7/LCDC_D3_M0/CIF_D4_M1/I2S2_2CH_SDO_D_3.0V	I/O	DOWN	LCDC_D3_M0/I2S2_2CH_SDO/GPIO3_A7	LCDC data port (no used)	3.0V	E16	GPIO3_A7/LCDC_D3_M0/CIF_D4_M1/I2S2_2CH_SDO
136	GPIO3_A1/LCDC_HSYNC_M0/CIF_D0_M1/I2S2_2CH_MCLK/UART5_RX_D_3.0V	I/O	DOWN	LCDC_HSYNC_M0/I2S2_2CH_MCLK/GPIO3_A1	LCDC data port (no used)	3.0V	E13	GPIO3_A1/LCDC_HSYNC_M0/CIF_D0_M1/I2S2_2CH_MCLK/UART5_RX
138	GPIO3_C7/LCDC_D19/CIF_D11_M1/PDM_CLK1_D_3.0V	I/O	DOWN	LCDC_D19/PDM_CLK1/CIF_D11_M1/GPIO3_C7	I2S0 serial clock , External (no used)	3.0V	D14	GPIO3_C7/LCDC_D19/CIF_D11_M1/PDM_CLK1
140	GPIO3_C6/LCDC_D18/CIF_D10_M1/PDM_CLK0_M0_D_3.0V	I/O	DOWN	LCDC_D18/PDM_CLK0_M0/CIF_D10_M1/GPIO3_C6	I2S serial clock , External (no used)	3.0V	D13	GPIO3_C6/LCDC_D18/CIF_D10_M1/PDM_CLK0_M0
142	GPIO3_D0/LCDC_D20/CIF_CLKOUT_M1/PDM_SDI1_D_3.0V	I/O	DOWN	LCDC_D20/PDM_SDI1/CIF_CLKOUT_M1/GPIO3_D0	I2S0 SDO1 serial data output , External (no used)	3.0V	D15	GPIO3_D0/LCDC_D20/CIF_CLKOUT_M1/PDM_SDI1
144	GPIO3_D1/LCDC_D21/CIF_VSYNC_M1/PDM_SDI2/ISP_PRELIGHT_TRIG_D_3.0V	I/O	DOWN	LCDC_D21/PDM_SDI2	I2S0 SDO2 serial data output , External (no used)	3.0V	D16	GPIO3_D1/LCDC_D21/CIF_VSYNC_M1/PDM_SDI2/ISP_PRELIGHT_TRIG
146	GPIO3_D2/LCDC_D22/CIF_HREF_M1/PDM_SDI3/ISP_FLASH_TRIGOUT_D_3.0V	I/O	DOWN	LCDC_D22/PDM_SDI3/CIF_HREF_M1/GPIO3_D2	I2S0 SDO3 serial data output , External (no used)	3.0V	D17	GPIO3_D2/LCDC_D22/CIF_HREF_M1/PDM_SDI3/ISP_FLASH_TRIGOUT
148	GPIO3_D3/LCDC_D23/CIF_CLKIN_M1/PDM_SDI0_M0/ISP_FLASH_TRIGIN_D_3.0V	I/O	DOWN	LCDC_D23/PDM_SDI0_M0	I2S0 SDO0 serial data output , External (no used)	3.0V	D18	GPIO3_D3/LCDC_D23/CIF_CLKIN_M1/PDM_SDI0_M0/ISP_FLASH_TRIGIN
150	ADC_IN1	A		SARADC_IN1	ADC input		W14	ADC_IN1
152	ADC_IN2	A		RECOVER	ADC keyboard input, Core board interiorl pull up Resistor 10K		V15	ADC_IN2
154	ADC_IN0	A		ADC0_HW_ID	Hardware version ADC		V14	ADC_IN0
156	GPIO3_A4/LCDC_D0_D_3.0V	I/O	DOWN	LCDC_D0/GPIO3_A4	LCDC data port (no used)		C15	GPIO3_A4/LCDC_D0
158	GPIO3_A6/LCDC_D2_D_3.0V	I/O	DOWN	LCDC_D2/GPIO3_A6	LCDC data port (no used)		C14	GPIO3_A6/LCDC_D2

160	LVDS_TX0N/MIPI_TX_D0N/LCDC_D11_M1	A		LCDC_D11_M1/LVDS_TX0N/MIPI_TX_D0N	LVDS differential lane 0 negative		B16	LVDS_TX0N/MIPI_TX_D0N/LCDC_D11_M1
162	LVDS_TX0P/MIPI_TX_D0P/LCDC_D8_M1	A		LCDC_D8_M1/LVDS_TX0P/MIPI_TX_D0P	LVDS differential lane 0 positive		B17	LVDS_TX0P/MIPI_TX_D0P/LCDC_D8_M1

164	LVDS_TX1N/MIPI_TX_D1N/LCDC_D1_M1	A		LCDC_D1_M1/LVDS_TX1N/MIPI_TX_D1N	LVDS differential lane 1 negative		B15	LVDS_TX1N/MIPI_TX_D1N/LCDC_D1_M1
166	LVDS_TX1P/MIPI_TX_D1P/LCDC_D10_M1	A		LCDC_D10_M1/LVDS_TX1P/MIPI_TX_D1P	LVDS differential lane 1 positive		A16	LVDS_TX1P/MIPI_TX_D1P/LCDC_D10_M1
168	LVDS_CLKN/MIPI_TX_CLKN/LCDC_D4_M1	A		LCDC_D4_M1/LVDS_CLKN/MIPI_TX_CLKN	LVDS differential clock lane negative		B14	LVDS_CLKN/MIPI_TX_CLKN/LCDC_D4_M1
170	LVDS_CLKP/MIPI_TX_CLKP/LCDC_D3_M1	A		LCDC_D3_M1/LVDS_CLKP/MIPI_TX_CLKP	LVDS differential clock lane positive		A14	LVDS_CLKP/MIPI_TX_CLKP/LCDC_D3_M1
172	LVDS_TX2N/MIPI_TX_D2N/LCDC_VSYNC_M1	A		LCDC_VSYNC_M1/LVDS_TX2N/MIPI_TX_D2N	LVDS differential lane 2 negative		C13	LVDS_TX2N/MIPI_TX_D2N/LCDC_VSYNC_M1
174	LVDS_TX2P/MIPI_TX_D2P/LCDC_D5_M1	A		LCDC_D5_M1/LVDS_TX2P/MIPI_TX_D2P	LVDS differential lane 2 positive		B13	LVDS_TX2P/MIPI_TX_D2P/LCDC_D5_M1
176	LVDS_TX3N/MIPI_TX_D3N/LCDC_HSYNC_M1	A		LCDC_HSYNC_M1/LVDS_TX3N/MIPI_TX_D3N	LVDS differential lane 3 negative		B12	LVDS_TX3N/MIPI_TX_D3N/LCDC_HSYNC_M1
178	LVDS_TX3P/MIPI_TX_D3P/LCDC_DEN_M1	A		LCDC_DEN_M1/LVDS_TX3P/MIPI_TX_D3P	LVDS differential lane 3 positive		A12	LVDS_TX3P/MIPI_TX_D3P/LCDC_DEN_M1
180	GND_45	G		GND	GND			
182	GPIO2_A7/CIF_D9_M0/RMII_MDIO_D_3.0V	I/O	DOWN	RMII_MDIO	MAC management interface data	3.0V	W7	GPIO2_A7/CIF_D9_M0/RMII_MDIO
184	GPIO2_B1/CIF_HREF_M0/RMII_MDC_D_3.0V	I/O	DOWN	MDC_MAC	MAC management interface clock , Core board internal series resistance 22R	3.0V	AA4	GPIO2_B1/CIF_HREF_M0/RMII_MDC
186	NC_53							
188	GPIO2_A5/CIF_D7_M0/RMII_RXER_D_3.0V	I/O	DOWN	RMII_RXER	MAC RX error signal	3.0V	Y7	GPIO2_A5/CIF_D7_M0/RMII_RXER
190	GND_46	G		GND	GND			
192	GPIO2_B2/CIF_CLKI_M0/RMII_CLK_D_3.0V	I/O	DOWN	RMII_CLK	MAC REC_CLK output or external clock input, Core board internal series resistance 22R	3.0V	AA6	GPIO2_B2/CIF_CLKI_M0/RMII_CLK
194	GPIO2_A4/CIF_D6_M0/RMII_RXD1_D_3.0V	I/O	DOWN	RMII_RXD1	MAC RX data 1	3.0V	Y8	GPIO2_A4/CIF_D6_M0/RMII_RXD1
196	NC_54							
198	GPIO2_A3/CIF_D5_M0/RMII_RXD0_D_3.0V	I/O	DOWN	RMII_RXD0	MAC RX data 0	3.0V	Y6	GPIO2_A3/CIF_D5_M0/RMII_RXD0
200	NC_55							
202	GPIO2_A6/CIF_D8_M0/RMII_RXDV_D_3.0V	I/O	DOWN	RMII_RXDV	MAC RX enable	3.0V	W5	GPIO2_A6/CIF_D8_M0/RMII_RXDV
204	GPIO2_A2/CIF_D4_M0/RMII_TXD0_D_3.0V	I/O	DOWN	RMII_TXD0	MAC TX data , Core board internal series resistance 22R	3.0V	AA7	GPIO2_A2/CIF_D4_M0/RMII_TXD0
206	NC_56							
208	NC_57							

210	GPIO2_A1/CIF_D3_M0/RMII_TXD1_D_3.0V	I/O	DOWN	RMII_TXD1	MAC TX data , Core board internal series resistance 22R	3.0V	AA8	GPIO2_A1/CIF_D3_M0/RMII_TXD1
212	GPIO2_A0/CIF_D2_M0/RMII_TXEN_D_3.0V	I/O	DOWN	RMII_TXEN	MAC TX data enable , Core board internal series resistance 22R	3.0V	AA5	GPIO2_A0/CIF_D2_M0/RMII_TXEN
214	NC_58							
216	GPIO2_B5/PWM2_D_3.0V	I/O	DOWN	RMII_RST	MAC reset	3.0V	V7	GPIO2_B5/PWM2
218	NPOR_1.8V	I	UP	RESET_KEY	system reset signal Input,External connection Reset key,active low	1.8V	W19	NPOR
220	EXT_EN			EXT_EN	External Power enable output,Voltage 5V	5V		
222	NC_59							
224	GND_47	G		GND	GND			
226	VDDIO_WL_2	P		VDDIO_WL	(SDMMC1,UART1 Power_Input)1.8V or 3.3V	1.8V/3.3V IN		
228	VCC1V8_DVP	P		VCC_18	Output Voltage 1.8V , Rated output current 200mA	1.8V OUT		
230	GND_48	G		GND	GND			
232	VCC_RTC	P		VCC_RTC	Input Voltage 3.3V-5.5V， Rated input current 50mA	3.3V/5.0V In		
234	VCC3V3_LCD_2	P		VCC3V3_LCD	Output Voltage 3.3V , Rated output current 400mA	3.3V OUT		
236	NC_60							
238	VCC3V3_SYS_3	P		VCC3V3_SYS	Output Voltage 3.3V , Rated output current 1A	3.3V OUT		
240	GND_49	G		GND	Power ground			
242	GND_50	G		GND				
244	GND_51	G		GND				
246	GND_52	G		GND				
248	GND_53	G		GND				
250	GND_54	G		GND				
252	VCC5V0_SYS_2	P		VCC5V0_SYS	System Power supply Input Voltag : Min 4.8V,Typ 5.0V, Max 5.2V Input current: Typ 650mA ;Max 1300mA	5.0V		
254	VCC5V0_SYS_4	P		VCC5V0_SYS				
256	VCC5V0_SYS_6	P		VCC5V0_SYS				
258	VCC5V0_SYS_8	P		VCC5V0_SYS				
260	VCC5V0_SYS_10	P		VCC5V0_SYS				
261	GND_55	G		GND				

	262	GND_56	G		GND	Power ground			
	263	GND_57	G		GND				
	264	GND_58	G		GND				
	265	GND_59	G		GND				
	266	GND_60	G		GND				
	267	GND_61	G		GND				
	268	GND_62	G		GND				

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