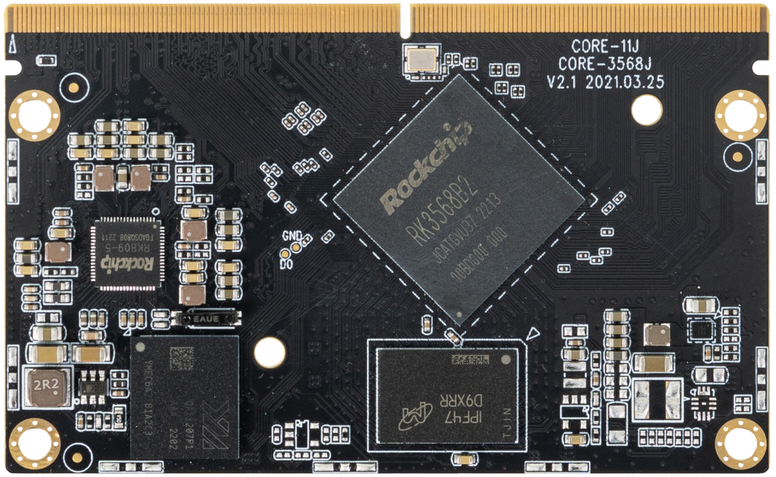
Core-3568J

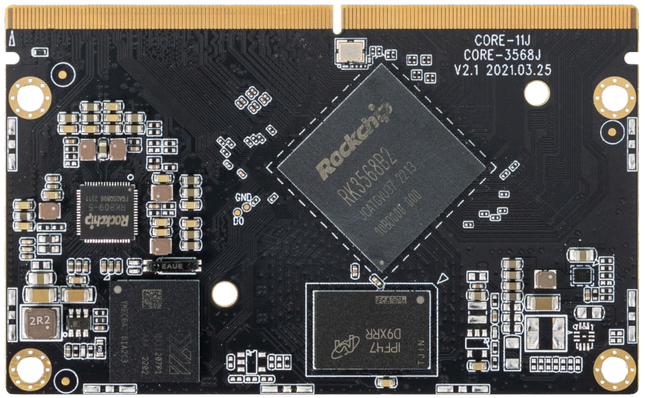
Quad-Core AI Core board



T-CHIP INTELLIGENCE TECHNOLOGY

V2.1

Product features



Quad-core 64-bit processor

Quad-core 64bit Cortex-A55
up to 2.0GHz
22nm lithography process

8GB large RAM

Up to 8GB RAM
meeting the requirements of run
ning large-memory products

4K H.265 Video Decoder

OpenGL ES3.2/2.0，Vulkan1.1
4K@60fps H.265/VP9 video decoding
1080P@100fps H.265 video encoding
1TOPS NPU

Multiple video output

With MIPI-CSI x2, MIPI-DSI x2,HD
MI2.0, EDP video interfaces, it ca
n support up to three screen outp
ut with different display.

Operating systems

Android、Ubuntu、Buildroot
It enables stable operation and cust
omization for industries

Wide range of applications

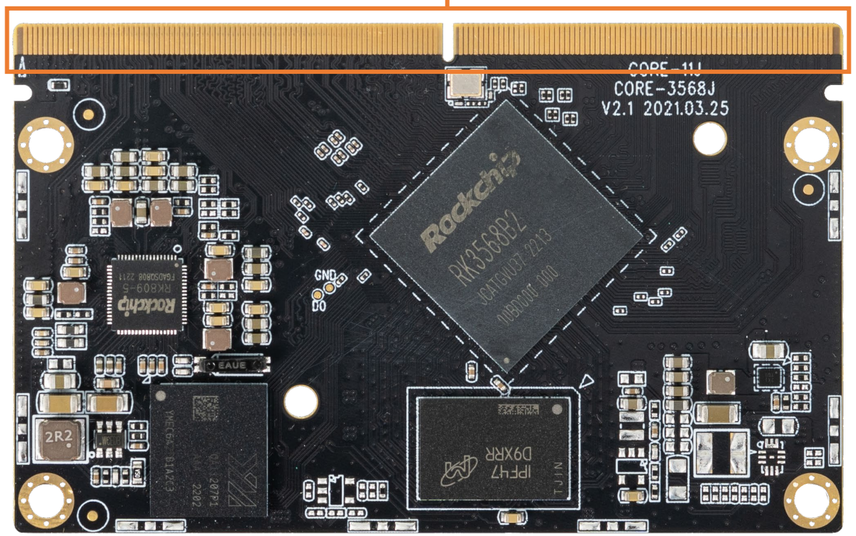
Smart NVRs, cloud terminals, IoT g
ateways, industrial control, edge c
omputing, face recognition gates,
NASs, vehicle center consoles, etc.

Specifications

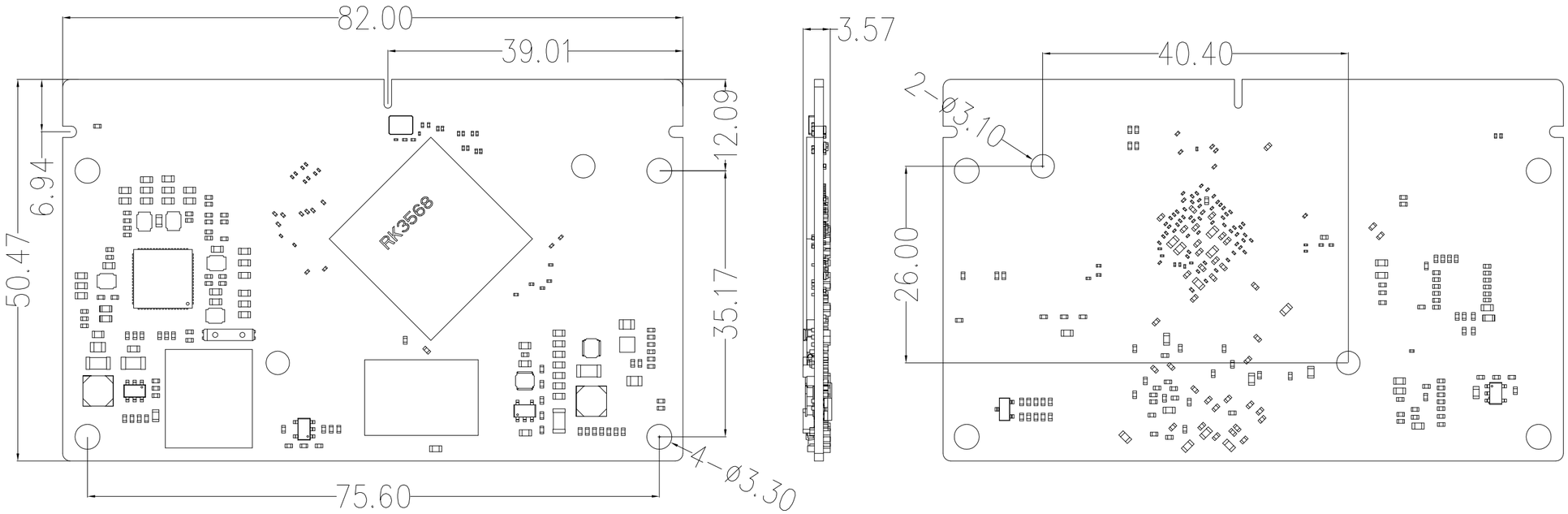
Specifications	
SOC	RK3568
CPU	Quad-core 64-bit Cortex-A55 processor, 22nm lithography process, frequency up to 2.0GHz
GPU	ARM G52 2EE，Support OpenGL ES 1.1/2.0/3.2, OpenCL 2.0 and Vulkan 1.1，Built-in high-performance 2D acceleration hardware
NPU	1Tops@INT8 RKNN NPU AI accelerator, Support one-click switching of Caffe/TensorFlow/TFLite/ONNX/PyTorch/Keras/Darknet
VPU	4K@60fps H.265/H.264/VP9 video decoding,1080P@60fps H.265/H.264 video encoding
RAM	2GB/4GB/8GB LPDDR4
Storage	16GB/32GB/64GB/128GB eMMC
Ethernet	Supports dual Gigabit Ethernet ports (1000 Mbps) Among them, LAN (PoE) port supports POE+ (802.3 AT, output power 30W) power supply
WiFi	Supports M.2 to connect 5G, Mini PCIe to connect 4G LTE Supports WiFi 6 (802.11 AX) Supports BT5.0
Video output	1 * HDMI2.0 (4K@60fps), 2 * MIPI DSI (1920*1080@60fps) or 1 * MIPI DSI (Dual channel 2560*1440@60fps), 1 * eDP1.3 (2560x1600@60fps) Support up to three-screen output with different displays
Audio	2*12S/PCM(2ch)/TDM(8ch)
Camera	1 * MIPI CSI (4 Lane) or 2 * MIPI CSI (2 Lane)
PCIe	1 * PCIe 3.0 (2Lane), 1 * PCIe 2.1 (1Lane)
SATA	3 * SATA3.0
USB	2 * USB3.0, 2 * USB2.0
Extended Interface	3 * SDMMC, 3 * SPI, 10 * UART, 6 * I2C, 2 * I2S/PCM(2ch)/TDM(8ch), 16 * PWM, 7 * ADC, 3 * CAN, 130 * GPIO
Power	Core board power supply: DC 5V (voltage tolerance ±5%)
OS	Android , Linux OS
Dimension	82 mm * 50.5 mm
Power Consumption	Idle: 0.015W (5V/3mA), Typical: 2.75W (5V/550mA), Max: 5.55W (5V/1110mA)
Environment	Operating Temperature: -20℃- 60℃, Storage Temperature: -20℃- 70℃, Storage humidity: 10% ~ 90%RH (non-condensing)

Interface description

314Pin MXM3.0 Standard Interface



Dimension


82.00
39.01
6.94
50.47
12.09
35.17
75.60
4-Ø3.30
RK3568
3.57
40.40
2-Ø3.10
26.00

Interface definition

① : Pad types: I = input, O = output, I/O = input/output (bidirectional) , G= Ground ,
P = power supply , DOWN = Internal pull down , UP = Internal pull UP
L = Lowe Level H = High level

PIN	CORE-RK3568J Core board pin definition	Pad type	IO Pull	Function for Mainboard (MB-JM3-RK3568)	Defual function description	IO Power domain	RK3568 Pin Number
1	VCC5V0_SYS	P		VCC_SYS	**Input Voltage 5.0V +/-5%** Normal:1.25W (5.0V/250mA) Max: 6W (5.0V/1200mA) Min: (not done deep sleep) power supply suggest: 5.0V/1.5A	5.0V	
3	VCC5V0_SYS	P		VCC_SYS		5.0V	
5	VCC5V0_SYS	P		VCC_SYS		5.0V	
7	GND	G		GND	GND	GND	
9	GND	G		GND		GND	
11	GND	G		GND		GND	
13	VCC_1V8	P		VCC_1V8	1.8V Output , Pin13/14 Total Max:500mA	1.8V	
15	VCC3V3_SD	P		VCC3V3_SD	3.3V Output TF Card Power , Pin15/16 Total Max:100mA	3.3V	
17	VCCIO_ACODEC	P		VCCIO_ACODEC	3.3V Output For codec, Pin17/18 Total Max:200mA	3.3V	
19	NC			NC		NC	
21	NC			NC		NC	
23	VCC_3V3	P		VCC_3V3	3.3V Output , Pin23/24 Total Max:800mA	3.3V	
25	VCCIO_WL (M board must input 1.8V or 3.3V)	P		VCCIO_WL	**WIFI/GMAC1 VCCIO Input to RK3568_VCCIO6**, 1.8V or 3.3V option(Pin25/26 same net) Defalt:1.8V Input	1.8V/3.3V	
27	GND	G		GND		GND	
29	I2C3_SDA_M0/UART3_RX_M0/CAN1_RX_M0/AUDIOPWM_LOUT_P/GPIO1_A0_U	I/O	UP	I2C3_SDA_M0	I2C3_SDA_M0 Core board Pull up resistance 2.2K to VCCIO_ACODEC	3.3V	D18
31	I2C3_SCL_M0/UART3_TX_M0/CAN1_TX_M0/AUDIOPWM_LOUT_N/GPIO1_A1_U	I/O	UP	I2C3_SCL_M0	I2C3_SCL_M0 Core board Pull up resistance 2.2K to VCCIO_ACODEC	3.3V	E18
33	EMMC_RSTN/FSPI_D2/FLASH_WPN/GPIO1_C7_D	I/O	DOWN	EMMC_RSTN/FSPI_D2/FLASH_WPN	FSPI_D2/FLASH_WPN	1.8V	F20
35	I2S1_SCLK_RX_M0/PDM_CLK1_M0_CON/SPDIF_TX_M0/GPIO1_A4_D	I/O	DOWN	EDP_BL_EN	EDP Backlight EN, Active H	3.3V	F18
37	I2S1_SDO2_M0/I2S1_SDI2_M0/PDM_SDI2_M0_CON/GPIO1_B1_D	I/O	DOWN	EDP_VCC_EN	EDP Power EN, Active H	3.3V	E20

39	I2S1_SDO1_M0/I2S1_SDI3_M0/PDM_SDI3_M0_CON/GPIO1_B0_D	I/O	DOWN	EAR_CTL	Headphone output control, Active H	3.3V	D20
41	I2S1_SDO3_M0/I2S1_SDI1_M0/PDM_SDI1_M0_CON/GPIO1_B2_D	I/O	DOWN	GPIO1_B2_D	MIPI DSI1 BL_EN,Active H	3.3V	A21
43	PWRON_KEY	I	DOWN	PWRON_KEY	PMIC PWRON_KEY Input, Active L Core board series resistance 100R	3.3V	
45	NC			NC			
47	EXT_EN	O		EXT_EN	PMIC POWER_EN Output, Active H	3.3V	
49	nPOR_u	I	UP	RESET_KEY	System reset input Reset key , Active L Core board Pull up resistance 10K ,series resistance 22R	3.3V	AH27
51	FSPI_CLK/FLASH_ALE/GPIO1_D0_D	I/O	DOWN	FSPI_CLK/FLASH_ALE	FSPI_CLK Core board series resistance 22R	1.8V	A22
53	FSPI_CS0N/FLASH_CS0N/GPIO1_D3_U	I/O	UP	FSPI_CS0N/FLASH_CS0N	FSPI_CS0N	1.8V	C23
55	FSPI_D1/FLASH_RDN/GPIO1_D2_U	I/O	UP	FSPI_D1/FLASH_RDN	FSPI_D1	1.8V	D23
57	FSPI_D0/FLASH_RDY/GPIO1_D1_u	I/O	UP	FSPI_D0/FLASH_RDY	FSPI_D0	1.8V	C24
59	GND	I/O					
61	SARADC_VIN2	I/O	UP	SARADC_VIN2	ADC2 Input; M board need add Pull up resistance	1.8V	D24
63	SARADC_VIN3	I/O	UP	SARADC_VIN3_EVB_HW_ID	ADC3 Input; M board need add Pull up resistance	1.8V	E23
65	GND	G		GND	GND		
67	SDMMC1_DET/I2C4_SCL_M1/UART8_CTSn_M0/CAN2_TX_M1/GPIO2_B2_u	I/O	UP	UART8_CTSN_M0	UART8_CTSN_M0 For BT	1.8V	E25
69	CLK32K_OUT1/UART8_RX_M0/SPI1_CS1_M0/GPIO2_C6_d	I/O	DOWN	UART8_RX_M0	UART8_RX_M0 For BT	1.8V	E26
71	SDMMC1_PWREN/I2C4_SDA_M1/UART8_RTSn_M0/CAN2_RX_M1/GPIO2_B1_d	I/O	DOWN	UART8_RTSN_M0	UART8_RTSN_M0 For BT	1.8V	D26
73	I2S2_SDI_M0/GMAC0_RXER/UART8_TX_M0/SPI2_CS1_M0/GPIO2_C5_d	I/O	DOWN	UART8_TX_M0	UART8_TX_M0 For BT	1.8V	F26
75	GND	G		GND	GND		
77	ETH0_REFCLK_25M/I2S2_MCLK_M0/UART7_RTSn_M0/SPI2_CLK_M0/GPIO2_C1_d	I/O	DOWN	ETH0_REFCLKO_25M	ETH0_REF CLOCK OUTPUT_25MHz, CPU to PHY, Default NC ;series resistance 22R	1.8V	G23
79	GND	G		GND	GND		
81	GMAC0_MCLKINOUT/I2S2_SCLK_TX_M0/UART7_CTSn_M0/SPI2_MISO_M0/GPIO2_C2_d	I/O	DOWN	GMAC0_MCLKINOUT	GMAC0_MCLK_IN/OUT PUT Default: Input--(PHY use external crystal)	1.8V	F25
83	GND	G		GND	GND		
85	GMAC0_RXDV_CRS/I2S2_LRCK_RX_M0/UART6_CTSn_M0/SPI1_CS0_M0/GPIO2_C0_d	I/O	DOWN	GMAC0_RXDV_CRS	GMAC RX data valid signal	1.8V	F24
87	GMAC0_MDIO/I2S2_SDO_M0/UART9_CTSn_M0/SPI2_CS0_M0/GPIO2_C4_d	I/O	DOWN	GMAC0_MDIO	GMAC management interface data	1.8V	H23
89	GMAC0_MDC/I2S2_LRCK_TX_M0/UART9_RTSn_M0/SPI2_MOSI_M0/GPIO2_C3_d	I/O	DOWN	GMAC0_MDC	GMAC management interface clock	1.8V	H24
91	GMAC0_RXD1/I2S2_SCLK_RX_M0/UART6_RTSn_M0/SPI1_MOSI_M0/GPIO2_B7_d	I/O	DOWN	GMAC0_RXD1	GMAC RX data	1.8V	H25

93	GND	G		GND	GND		
95	SDMMC0_D2/ARMJTAG_TCK/UART5_CTSn_M0/GPIO1_D7_u	I/O	UP	SDMMC0_D2	SDMMC0_D2 for TF Card	VCCIO_SD *Note2	H26
97	SDMMC0_D1/UART2_RX_M1/UART6_RX_M1/PWM9_M1/GPIO1_D6_u	I/O	UP	SDMMC0_D1	SDMMC0_D1 for TF Card		J24
99	SDMMC0_D0/UART2_TX_M1/UART6_TX_M1/PWM8_M1/GPIO1_D5_u	I/O	UP	SDMMC0_D0	SDMMC0_D0 for TF Card		J25
101	SDMMC0_D3/ARMJTAG_TMS/UART5_RTSn_M0/GPIO2_A0_u	I/O	UP	SDMMC0_D3	SDMMC0_D3 for TF Card		J23
103	SDMMC0_DET_L/SATA_CP_DET/PCIE30X1_CLKREQn_M0/GPIO0_A4_u	I/O	UP	SDMMC0_DET_L	SDMMC0_DET Input, Active L	3.3V	Y22
105	GND	G		GND	GND		
107	EDP_TX_AUXN	O		EDP_TX_AUXN	eDP CH-AUX negative differential output		M25
109	EDP_TX_AUXP	O		EDP_TX_AUXP	eDP CH-AUX positive differential output		L25
111	GND	G		GND	GND		
113	USB3_HOST1_DP	I/O		USB3_HOST1_DP	USB3_HOST1_DP		P24
115	USB3_HOST1_DM	I/O		USB3_HOST1_DM	USB3_HOST1_DM		P25
117	GND	G		GND	GND		
119	MULTI_PHY0_REFCLKP	O		NC	NC		R24
121	MULTI_PHY0_REFCLKN	O		NC	NC		R25
123	MULTI_PHY1_REFCLKN	O		NC	NC		U24
125	MULTI_PHY1_REFCLKP	O		NC	NC		U25
127	GND	G		GND	GND		
129	USB3_OTG0_ID	I		USB3_OTG0_ID	OTG0 DET,Active L Default NC	1.8V	L23
131	USB3_OTG0_VBUSDET	I		USB3_OTG0_VBUSDET	USB plug-in DET,Active H	3.3V	M24
133	EDP_HPDIN_M0/SPDIF_TX_M2/SATA2_ACT_LED/PCIE30X2_PERSTn_M2/I2S3_LRCK_M1/GPIO4_C4_d	I/O	DOWN	SATA2_ACT_LED	SATA2_ACT_LED EN,Active H	3.3V	AH7
135	LCDC_D4/VOP_BT656_D4_M0/SPI2_CS1_M1/PCIE30X2_CLKREQn_M1/I2S1_SDI1_M2/GPIO2_D4_d	I/O	DOWN	PCIE30X2_CLKREQN_M1	PCIE30X2_CLKREQN	3.3V	AF5
137	LCDC_D5/VOP_BT656_D5_M0/SPI2_CS0_M1/PCIE30X2_WAKEn_M1/I2S1_SDI2_M2/GPIO2_D5_d	I/O	DOWN	PCIE30X2_WAKEN_M1	PCIE30X2_WAKEN	3.3V	AF6
139	GND	G		GND	GND		
141	PCIE20_REFCLKP	O		PCIE20_REFCLKP	PCIE20_REF CLKP OUTPUT		V24
143	PCIE20_REFCLKN	O		PCIE20_REFCLKN	PCIE20_REF CLKN OUTPUT		V25
145	PCIE30_REFCLKP_IN	I		PCIE30_REFCLKP_IN	PCIE30_REF CLKP_INPUT		Y25
147	PCIE30_REFCLKN_IN	I		PCIE30_REFCLKN_IN	PCIE30_REF CLKN_INPUT		AA25

149	GND	G		GND	GND		
151	GPIO0_D4_d	I/O	DOWN	PCIE_PWREN_H_GPIO0_D4	PCIE Power enable ,Active H	1.8V	AB23
153	GPIO0_D6_d	I/O	DOWN	USB30_HOST_PWREN_H	USB30_HOST Power enable ,Active H	1.8V	AC24
155	I2C0_SDA (I2C for PMIC)	I/O	UP	NC	NC, Core board Pull up resistance 2.2K	3.3V	AB21
157	I2C0_SCL (I2C for PMIC)	I/O	UP	NC	NC, Core board Pull up resistance 2.2K	3.3V	AF24
159	I2C2_SDA_M0/SPI0_MOSI_M0/PCIE20_PERSTn_M0/PWM2_M1/GPIO0_B6_U	I/O	UP	TP_RST_L_GPIO0_B6	MIPI DSI0 TP_Reset ,Active L	3.3V	AA20
161	GPIO0_D5_d	I/O	DOWN	USB20_HOST0_PWREN	USB20_HOST0_PWR_EN ,Active H	1.8V	AD25
163	GPIO0_D3_d	I/O	DOWN	RTCIC_INT_L_GPIO0_D3	RTC IC_INT ,Active L	1.8V	AE26
165	GND	G		GND	GND		
167	GND	G		GND	GND		
169	USB_HOST_PWREN_H/GPU_PWREN/SATA_CP_POD/PCIE30X2_CLKREQn_M/GPIO0_A6_d	I/O	DOWN	WK2124_INT	WK2124 interrupt input ,Active L	3.3V	AE24
171	PWM4/VOP_PWM_M0/PCIE30X1_PERSTn_M0/MCU_JTAG_TRSTn/GPIO0_C3_d	I/O	DOWN	LCD0_BL_PWM4	PWM4 Output	3.3V	AE23
173	PWM2_M0/NPUAVS/UART0_TX/MCU_JTAG_TDI/GPIO0_C1_d	I/O	DOWN	LCD1_TP_INT_GPIO0_C1	MIPI DSI1 TP interrupt input ,Active L	3.3V	AF23
175	I2C2_SCL_M0/SPI0_CLK_M0/PCIE20_WAKEn_M0/PWM1_M1/GPIO0_B5_u	I/O	UP	TP_INT_L_GPIO0_B5	MIPI DSI0 TP interrupt input ,Active L	3.3V	AC22
177	PWM1_M0/GPUAVS/UART0_RX/GPIO0_C0_d	I/O	DOWN	WORK_LED	LED EN, active H	3.3V	AD22
179	I2C1_SDA/CAN0_RX_M0/PCIE20_BUTTONRSTn/MCU_JTAG_TCK/GPIO0_B4_u	I/O	UP	I2C1_SDA_TP	I2C1 SDA for TP Core board Pull up resistance 2.2K	3.3V	AB20
181	I2C1_SCL/CAN0_TX_M0/PCIE30X1_BUTTONRSTn/MCU_JTAG_TDO/GPIO0_B3_u	I/O	UP	I2C1_SCL_TP	I2C1 SCL for TP Core board Pull up resistance 2.2K	3.3V	AG24
183	PWM5/SPI0_CS1_M0/UART0_RTSn/GPIO0_C4_d	I/O	DOWN	LCD1_BL_PWM5	LCD1_BL_PWM5	3.3V	AD21
185	PWM7_IR/SPI0_CS0_M0/PCIE30X2_PERSTn_M0/GPIO0_C6_d	I/O	DOWN	PWM7_IR	PWM7_IR Input	3.3V	AD20
187	PWM6/SPI0_MISO_M0/PCIE30X2_WAKEn_M0/GPIO0_C5_d	I/O	DOWN	LCD0_RST_L_GPIO0_C5	MIPI DS0_Reset Active L	3.3V	AC21
189	HDMITX_SDA/I2C5_SDA_M1/GPIO4_D0_u	I/O	UP	HDMITX_SDA	I2C SDA for HDMI	3.3V	AG7
191	HDMITX_SCL/I2C5_SCL_M1/GPIO4_C7_u	I/O	UP	HDMITX_SCL	I2C SCL for HDMI	3.3V	AG8
193	HDMITX_CEC_M0/SPI3_CS1_M1/GPIO4_D1_u	I/O	UP	HDMITX_CEC_M0	HDMITX_CEC_M0	3.3V	AH6
195	HDMI_TX_HPDIN	I		HDMI_TX_HPDIN	HDMI Hot Plug Detection interrupt with 5V tolerance ,Active H	1.8V~5V	AB18
197	GND	G		GND	GND		
199	MIPI_DSI_TX1_D0N	O		MIPI_DSI_TX1_D0N	MIPI_DSI_TX1_D0N		AE18
201	MIPI_DSI_TX1_D0P	O		MIPI_DSI_TX1_D0P	MIPI_DSI_TX1_D0P		AD18

203	MIPI_DSI_TX1_D1N	O		MIPI_DSI_TX1_D1N	MIPI_DSI_TX1_D1N		AC17
205	MIPI_DSI_TX1_D1P	O		MIPI_DSI_TX1_D1P	MIPI_DSI_TX1_D1P		AD17
207	GND	G		GND	GND		
209	MIPI_DSI_TX1_CLKN	O		MIPI_DSI_TX1_CLKN	MIPI_DSI_TX1_CLKN		AE15
211	MIPI_DSI_TX1_CLKP	O		MIPI_DSI_TX1_CLKP	MIPI_DSI_TX1_CLKP		AD15
213	MIPI_DSI_TX1_D2N	O		MIPI_DSI_TX1_D2N	MIPI_DSI_TX1_D2N		AC14
215	MIPI_DSI_TX1_D2P	O		MIPI_DSI_TX1_D2P	MIPI_DSI_TX1_D2P		AD14
217	MIPI_DSI_TX1_D3N	O		MIPI_DSI_TX1_D3N	MIPI_DSI_TX1_D3N		AE12
219	MIPI_DSI_TX1_D3P	O		MIPI_DSI_TX1_D3P	MIPI_DSI_TX1_D3P		AD12
221	MIPI_CSI_RX_D2N	I		MIPI_CSI_RX_D2N	MIPI_CSI_RX_D2N		AD11
223	MIPI_CSI_RX_D2P	I		MIPI_CSI_RX_D2P	MIPI_CSI_RX_D2P		AE11
225	MIPI_CSI_RX_D3N	I		MIPI_CSI_RX_D3N	MIPI_CSI_RX_D3N		AE9
227	MIPI_CSI_RX_D3P	I		MIPI_CSI_RX_D3P	MIPI_CSI_RX_D3P		AD9
229	GND	G		GND	GND		
231	PWM12_M1/SPI3_MISO_M1/SATA1_ACT_LED/UART9_TX_M1/I2S3_SDO_M1/GPIO4_C5_d	I/O	DOWN	BL_EN0	MIPI DSI0 BL_EN, Active H	3.3V	AD8
233	PWM13_M1/SPI3_CS0_M1/SATA0_ACT_LED/UART9_RX_M1/I2S3_SDI_M1/GPIO4_C6_d	I/O	DOWN	LCD1_RST_L	MIPI DSI1 Reset, Active L	3.3V	AE8
235	PWM14_M1/SPI3_CLK_M1/CAN1_RX_M1/PCIE30X2_CLKREQn_M2/I2S3_MCLK_M1/GPIO4_C2_d	I/O	DOWN	CAN1_RX_M1	CAN1_RX_M1	3.3V	AF8
237	PWM15_IR_M1/SPI3_MOSI_M1/CAN1_TX_M1/PCIE30X2_WAKEn_M2/I2S3_SCLK_M1/GPIO4_C3_d	I/O	DOWN	CAN1_TX_M1	CAN1_TX_M1	3.3V	AA11
239	LCDC_D2/VOP_BT656_D2_M0/SPI0_CS0_M1/PCIE30X1_CLKREQn_M1/I2S1_LRCK_TX_M2/GPIO2_D2_d	I/O	DOWN	GMAC0_INT/PMEB_GPIO2_D2	GMAC0_INT/PMEB	3.3V	AC8
241	LCDC_D8/VOP_BT1120_D0/SPI1_CS0_M1/PCIE30X1_PERSTn_M1/SDMMC2_D0_M1/GPIO3_A1_d	I/O	DOWN	SPI1_CS0_M1	SPI1_CS0_M1	3.3V	AB8
243	LCDC_D1/VOP_BT656_D1_M0/SPI0_MOSI_M1/PCIE20_WAKEn_M1/I2S1_SCLK_TX_M2/GPIO2_D1_d	I/O	DOWN	GMAC1_RSTN_GPIO2_D1	GMAC1_Reset, Active L	3.3V	AD7
245	LCDC_D6/VOP_BT656_D6_M0/SPI2_MOSI_M1/PCIE30X2_PERSTn_M1/I2S1_SDI3_M2/GPIO2_D6_d	I/O	DOWN	PCIE30X2_PERSTN_M1	PCIE Reset, Active L	3.3V	AD6
247	LCDC_D9/VOP_BT1120_D1/GMAC1_TXD2_M0/I2S3_MCLK_M0/SDMMC2_D1_M1/GPIO3_A2_d	I/O	DOWN	HUB_USB1_PWREN_H	HOST_USB2.0 POWER Output EN, Active H	3.3V	AE5

249	LCDC_D22/PWM12_M0/GMAC1_TXEN_M0/UART3_TX_M1/PDM_SDI2_M2/GPIO3_B7_d	I/O	DOWN	UART3_TX_M1	UART3_TX_M1	3.3V	AD4
251	LCDC_D23/PWM13_M0/GMAC1_MCLKINOUT_M0/UART3_RX_M1/PDM_SDI3_M2/GPIO3_C0_d	I/O	DOWN	UART3_RX_M1	UART3_RX_M1	3.3V	AD2
253	LCDC_D11/VOP_BT1120_D3/GMAC1_RXD2_M0/I2S3_LRCK_M0/SDMMC2_D3_M1/GPIO3_A4_d	I/O	DOWN	I2S3_LRCK_M0	I2S3_LRCK_M0	3.3V	AF4
255	LCDC_D3/VOP_BT656_D3_M0/SPI0_CLK_M1/PCIE30X1_WAKEn_M1/I2S1_SDI0_M2/GPIO2_D3_d	I/O	DOWN	GMAC0_RSTN_GPIO2_D3	GMAC0_Reset, Active L	3.3V	AC7
257	LCDC_DEN/VOP_BT1120_D15/SPI1_CLK_M1/UART5_RX_M1/I2S1_SCLK_RX_M2/GPIO3_C3_d	I/O	DOWN	SPI1_CLK_M1	SPI1_CLK_M1 out	3.3V	AC4
259	PWM14_M0/VOP_PWM_M1/GMAC1_MDC_M0/UART7_TX_M1/PDM_CLK1_M2/GPIO3_C4_d	I/O	DOWN	EDP_BL_PWM14_M0	EDP_BL_PWM14_M0	3.3V	AC3
261	GPIO4_D2_d	I/O	DOWN	GSENSOR_INT_L_GPIO4_D2	GSENSOR_INT Input, Active L	3.3V	AB9
263	LCDC_VSYNC/VOP_BT1120_D14/SPI1_MISO_M1/UART5_TX_M1/I2S1_SDO3_M2/GPIO3_C2_d	I/O	DOWN	SPI1_MISO_M1	SPI1_MISO_M1	3.3V	AA7
265	I2C2_SDA_M1/EBC_GDSP/CAN2_RX_M0/ISP_FLASH_TRIGIN/VOP_BT656_CLK_M1/GPIO4_B4_d	I/O	DOWN	CAN2_RX_M0	CAN2_RX_M0	VCCIO_WL *Note1	V6
267	I2C2_SCL_M1/EBC_SDSHR/CAN2_TX_M0/I2S1_SDO3_M1/GPIO4_B5_d	I/O	DOWN	CAN2_TX_M0	CAN2_TX_M0		V5
269	LCDC_D20/VOP_BT1120_D11/GMAC1_TXD0_M0/I2C3_SCL_M1/PWM10_M0/GPIO3_B5_d	I/O	DOWN	HOST_WAKE_BT_H_GPIO3_B5	HOST WAKE BT, Active H	3.3V	AE2
271	GND	G		GND	GND		
273	CLK32K_IN/CLK32K_OUT/GPIO0_B0_u	I/O	UP	4G_PWR_EN	4G/5G Power_EN , Active H	3.3V	AD23
275	RK809_32KOUT_WIFI	O		RK809_32KOUT_WIFI	PMIC RK809 32.768KHz clock output for WIFI Core board Pull up resistance 10K	VCCIO_WL *Note1	
277	GND	G		GND	GND		
279	CIF_D0/EBC_SDDO0/SDMMC2_D0_M0/I2S1_MCLK_M1/VOP_BT656_D0_M1/GPIO3_C6_d	I/O	DOWN	SDMMC2_D0_M0	SDMMC2_D0_M0 To WIFI	VCCIO_WL *Note1	AC5
281	CIF_D1/EBC_SDDO1/SDMMC2_D1_M0/I2S1_SCLK_TX_M1/VOP_BT656_D1_M1/GPIO3_C7_d	I/O	DOWN	SDMMC2_D1_M0	SDMMC2_D1_M0 To WIFI		AA6
283	CIF_D4/EBC_SDDO4/SDMMC2_CMD_M0/I2S1_SDI0_M1/VOP_BT656_D4_M1/GPIO3_D2_d	I/O	DOWN	SDMMC2_CMD_M0	SDMMC2_CMD_M To WIFI		Y7
285	CIF_D7/EBC_SDDO7/SDMMC2_PWREN_M0/I2S1_SDI3_M1/VOP_BT656_D7_M1/GPIO3_	I/O	DOWN	WIFI_REG_ON_H	WIFI EN , Active H		AA5
287	GND	G		GND	GND		

289	CIF_D10/EBC_SDDO10/GMAC1_TXCLK_M1/PDM_CLK1_M1/GPIO4_A0_d	I/O	DOWN	GMAC1_TXCLK_M1	GMAC1_TXCLK_M1, core board series resistance 22R	VCCIO_WL *Note1	AA3
291	CIF_D13/EBC_SDDO13/GMAC1_RXCLK_M1/UART7_RX_M2/PDM_SDI3_M1/GPIO4_A3_d	I/O	DOWN	GMAC1_RXCLK_M1	GMAC1_RXCLK_M1		Y3
293	CIF_D12/EBC_SDDO12/GMAC1_RXD3_M1/UART7_TX_M2/PDM_SDI2_M1/GPIO4_A2_d	I/O	DOWN	GMAC1_RXD3_M1	GMAC1_RXD3_M1		Y4
295	CIF_D9/EBC_SDDO9/GMAC1_TXD3_M1/UART1_RX_M1/PDM_SDI0_M1/GPIO3_D7_d	I/O	DOWN	GMAC1_TXD3_M1	GMAC1_TXD3_M1, core board series resistance 22R		Y5
297	CIF_D8/EBC_SDDO8/GMAC1_TXD2_M1/UART1_TX_M1/PDM_CLK0_M1/GPIO3_D6_d	I/O	DOWN	GMAC1_TXD2_M1	GMAC1_TXD2_M1, core board series resistance 22R		Y6
299	CAM_CLKOUT1/EBC_SDCE2/GMAC1_RXD1_M1/SPI3_MISO_M0/I2S1_SDO1_M1/GPIO4_B0_d	I/O	DOWN	GMAC1_RXD1_M1	GMAC1_RXD1_M1		V7
301	GND	G		GND	GND		
303	CIF_CLKOUT/EBC_GDCLK/PWM11_IR_M1/GPIO4_C0_d	I/O	DOWN	CIF_CLKOUT	CIF_CLK OUT For MIPI Camera	VCCIO_WL *Note1	U3
305	GND	G		GND	GND		
307	CIF_VSYNC/EBC_SDOE/GMAC1_MDIO_M1/I2S2_SCLK_TX_M1/GPIO4_B7_d	I/O	DOWN	GMAC1_MDIO_M1	GMAC1_MDIO_M1	VCCIO_WL *Note1	U4
309	CIF_HREF/EBC_SDLE/GMAC1_MDC_M1/UART1_RTSn_M1/I2S2_MCLK_M1/GPIO4_B6_d	I/O	DOWN	GMAC1_MDC_M1	GMAC1_MDC_M1		U5
311	GND	G		GND	GND		
313	I2C4_SCL_M0/EBC_GDOE/ETH1_REFCLKO_25M_M1/SPI3_CLK_M0/I2S2_SDO_M1/GPIO4_B3_d	I/O	DOWN	I2C4_SCL_M0	I2C4_SCL_M0 core board series resistance 22R Core board Pull up resistance 2.2K to VCCIO_WL	VCCIO_WL *Note1	V1
314	I2C4_SDA_M0/EBC_VCOM/GMAC1_RXER_M1/SPI3_MOSI_M0/I2S2_SDI_M1/GPIO4_B2_d	I/O	DOWN	I2C4_SDA_M0	I2C4_SDA_M0 Core board Pull up resistance 2.2K to VCCIO_WL		V4

Note1: VCCIO_WL =1.8V or 3.3V INPUT Option (Default: 1.8V), Note: If changed to 3.3V, the software needs to modify the voltage configuration of the power domain, otherwise there is a risk of burning the IO port

PIN	CORE-RK3568J Core board pin definition	Pad type	IO Pull	Function for Mainboard (MB-JM3-RK3568)	Defual function description	IO Power domain	RK3568 Pin Number
2	VCC5V0_SYS	P		VCC_SYS	**Input Voltage 5.0V +/-5%,** Normal:1.25W (5.0V/250mA), Max: 6W (5.0V/1200mA) , Min: (not done deep sleep) power supply suggest: 5.0V/1.5A	5.0V	
4	VCC5V0_SYS	P		VCC_SYS		5.0V	
6	VCC5V0_SYS	P		VCC_SYS		5.0V	
8	GND	G		GND	GND		
10	GND	G		GND			

12	GND	G		GND			
14	VCC_1V8	P		VCC_1V8	1.8V Output , Pin13/14 Total Max:500mA	1.8V	
16	VCC3V3_SD	P		VCC3V3_SD	3.3V Output TF Card Power , Pin15/16 Total Max:100mA	3.3V	
18	VCCIO_ACODEC	P		VCCIO_ACODEC	3.3V Output For codec, Pin17/18 Total Max:200mA	3.3V	
20	NC			NC			
22	NC			NC			
24	VCC_3V3	P		VCC_3V3	3.3V Output , Pin23/24 Total Max:800mA	3.3V	
26	VCCIO_WL	P		VCCIO_WL	**WIFI/GMAC1 VCCIO Input,** **1.8V or 3.3V option(Pin25/26 same net)** **Defalt:1.8V Input**	1.8V/3.3V	
28	VCCA_1V8	P		VCCA_1V8	Output: 1.8V , Max:200mA	1.8V	
30	GND	G		GND	GND		
32	SPKP_OUT	O		SPKP_OUT	PMIC RK809 Speaker Out+ (1.3W @ 8Ω，BTL)	5.0V	
34	SPKN_OUT	O		SPKN_OUT	PMIC RK809 Speaker Out- (1.3W @ 8Ω，BTL)	5.0V	
36	GND	G		GND	GND		
38	MIC1_INN	I		MIC1_INN	(RK809)MIC1_INPUT- core board series capacitance 0.1uF	3.3V	
40	MIC1_INP	I		MIC1_INP	(RK809)MIC1_INPUT+ core board series capacitance 0.1uF	3.3V	
42	GND	G		GND	GND		
44	HPL_OUT	O		HPL_OUT	(RK809)HeadPhone_OUT L (0.5Vrms/32Ω；0.8Vrms/300Ω)	3.3V	
46	HP_SNS	G		HP_SNS	(RK809)HeadPhone_GND		

48	HPR_OUT	O		HPR_OUT	(RK809)HeadPhone_OUT R (0.5Vrms/32Ω； 0.8Vrms/300Ω)	3.3V	
50	GND	G		GND	GND		
52	FSPI_D3/FLASH_CS1N/GPIO1_D4_u	I/O	UP	FSPI_D3/FLASH_CS1N	FSPI_D3/FLASH_CS1N	1.8V	A27
54	SARADC_VIN6	I		SARADC_VIN6	ADC6 Input; M board need add Pull up resistance	1.8V	G20
56	SARADC_VIN7	I		SARADC_VIN7	ADC7 Input; M board need add Pull up resistance	1.8V	F21
58	SARADC_VIN4	I		SARADC_VIN4	ADC4 Input; M board need add Pull up resistance	1.8V	G21
60	SARADC_VIN5	I		SARADC_VIN5	ADC5 Input; M board need add Pull up resistance	1.8V	F22
62	SARADC_VIN0	I		SARADC_VIN0_KEY/RECOVERY	ADC0_RECOVERY Input (M Board must pullup to 1.8V)	1.8V	B27
64	GND	G		GND	GND		
66	GMAC0_RXCLK/SDMMC1_D2/UART7_RX_M0/GPIO2_A5_u	I/O	UP	GMAC0_RXCLK	GMAC0_RXCLK	1.8V	B28
68	GMAC0_TXD2/SDMMC1_D3/UART7_TX_M0/GPIO2_A6_u	I/O	UP	GMAC0_TXD2	GMAC0_TXD2 core board series resistance 22R	1.8V	C27
70	GMAC0_TXD3/SDMMC1_CMD/UART9_RX_M0/GPIO2_A7_u	I/O	UP	GMAC0_TXD3	GMAC0_TXD3 core board series resistance 22R	1.8V	C28
72	GMAC0_TXCLK/SDMMC1_CLK/UART9_TX_M0/GPIO2_B0_d	I/O	DOWN	GMAC0_TXCLK	GMAC0_TXCLK core board series resistance 22R	1.8V	D27
74	GND	G		GND	GND		
76	GMAC0_RXD2/SDMMC1_D0/UART6_RX_M0/GPIO2_A3_u	I/O	UP	GMAC0_RXD2	GMAC0_RXD2	1.8V	E27
78	GMAC0_RXD3/SDMMC1_D1/UART6_TX_M0/GPIO2_A4_u	I/O	UP	GMAC0_RXD3	GMAC0_RXD3	1.8V	E28
80	GMAC0_RXD0/UART1_CTSn_M0/SPI1_MISO_M0/GPIO2_B6_u	I/O	UP	GMAC0_RXD0	GMAC0_RXD0	1.8V	F27
82	GMAC0_TXD0/UART1_RX_M0/GPIO2_B3_u	I/O	UP	GMAC0_TXD0	GMAC0_TXD0 core board series resistance 22R	1.8V	F28
84	GMAC0_TXD1/UART1_TX_M0/GPIO2_B4_u	I/O	UP	GMAC0_TXD1	GMAC0_TXD1 core board series resistance 22R	1.8V	G27
86	GMAC0_TXEN/UART1_RTSn_M0/SPI1_CLK_M0/GPIO2_B5_u	I/O	UP	GMAC0_TXEN	GMAC0_TXEN core board series resistance 22R	1.8V	G28
88	GND	G		GND	GND		

90	SDMMC0_CMD/PWM10_M1/UART5_RX_M0/CAN0_TX_M1/GPIO2_A1_u	I/O	UP	SDMMC0_CMD	SDMMC0_CMD to TF Card	VCCIO_SD *Note2	H27
92	SDMMC0_CLK/TEST_CLKOUT/UART5_TX_M0/CAN0_RX_M1/GPIO2_A2_d	I/O	DOWN	SDMMC0_CLK	SDMMC0_CLK to TF Card core board series resistance 22R		H28
94	GND	G		GND	GND		
Note 2: VCCIO_SD=1.8V(SDIO 3.0) or 3.3V(SDIO 2.0) ;Default: 3.3V							
96	EDP_TX_D0P	O		EDP_TX_D0P	EDP_TX_D0+ core board series capacitance 0.1uF		J28
98	EDP_TX_D0N	O		EDP_TX_D0N	EDP_TX_D0- core board series capacitance 0.1uF		K27
100	EDP_TX_D1P	O		EDP_TX_D1P	EDP_TX_D1+ core board series capacitance 0.1uF		K28
102	EDP_TX_D1N	O		EDP_TX_D1N	EDP_TX_D1- core board series capacitance 0.1uF		L27
104	EDP_TX_D2P	O		EDP_TX_D2P	EDP_TX_D2+ core board series capacitance 0.1uF		L28
106	EDP_TX_D2N	O		EDP_TX_D2N	EDP_TX_D2- core board series capacitance 0.1uF		M27
108	EDP_TX_D3P	O		EDP_TX_D3P	EDP_TX_D3+ core board series capacitance 0.1uF		M28
110	EDP_TX_D3N	O		EDP_TX_D3N	EDP_TX_D3- core board series capacitance 0.1uF		N27
112	GND	G		GND	GND		
114	USB3_OTG0_DP	I/O		USB3_OTG0_DP	USB3_OTG0_DP		P27
116	USB3_OTG0_DM	I/O		USB3_OTG0_DM	USB3_OTG0_DM		P28
118	GND	G		GND	GND		
120	USB3_OTG0_SSRXN/SATA0_RXN	I/O		USB3_OTG0_SSRXN	USB3_OTG0_SSRXN		R27
122	USB3_OTG0_SSRXP/SATA0_RXP	I/O		USB3_OTG0_SSRXP	USB3_OTG0_SSRXP		R28
124	USB3_OTG0_SSTXN/SATA0_TXN	I/O		USB3_OTG0_SSTXN	USB3_OTG0_SSTXN		T27
126	USB3_OTG0_SSTXP/SATA0_TXP	I/O		USB3_OTG0_SSTXP	USB3_OTG0_SSTXP		T28
128	GND	G		GND	GND		
130	USB3_HOST1_SSRXN/SATA1_RXN/QSGMII_RXN_M0	I/O		USB3_HOST1_SSRXN	USB3_HOST1_SSRXN		U27
132	USB3_HOST1_SSRXP/SATA1_RXP/QSGMII_RXP_M0	I/O		USB3_HOST1_SSRXP	USB3_HOST1_SSRXP		U28

134	USB3_HOST1_SSTXN/SATA1_TXN/QSGMII_TXN_M0	I/O		USB3_HOST1_SSTXN	USB3_HOST1_SSTXN		V27
136	USB3_HOST1_SSTXP/SATA1_TXP/QSGMII_TXP_M0	I/O		USB3_HOST1_SSTXP	USB3_HOST1_SSTXP		V28
138	GND	G		GND	GND		
140	PCIE20_TXP/SATA2_TXP/QSGMII_TXP_M1	O		SATA2_TXP	SATA2_TXP		W27
142	PCIE20_TXN/SATA2_TXN/QSGMII_TXN_M1	O		SATA2_TXN	SATA2_TXN		W28
144	PCIE20_RXP/SATA2_RXP/QSGMII_RXP_M1	I		SATA2_RXP	SATA2_RXP		Y27
146	PCIE20_RXN/SATA2_RXN/QSGMII_RXN_M1	I		SATA2_RXN	SATA2_RXN		Y28
148	GND	G		GND	GND		
150	PCIE30_TX0P	O		PCIE30_TX0P	PCIE30_TX0P		AA28
152	PCIE30_TX0N	O		PCIE30_TX0N	PCIE30_TX0N		AA27
154	PCIE30_TX1P	O		PCIE30_TX1P	PCIE30_TX1P		AB28
156	PCIE30_TX1N	O		PCIE30_TX1N	PCIE30_TX1N		AB27
158	PCIE30_RX0P	I		PCIE30_RX0P	PCIE30_RX0P		AC28
160	PCIE30_RX0N	I		PCIE30_RX0N	PCIE30_RX0N		AC27
162	PCIE30_RX1P	I		PCIE30_RX1P	PCIE30_RX1P		AD28
164	PCIE30_RX1N	I		PCIE30_RX1N	PCIE30_RX1N		AD27
166	GND	G		GND	GND		
168	GND	G		GND	GND		
170	REFCLK_OUT_CAM/GPIO0_A0_d	I/O	DOWN	REFCLK_OUT_CAM	Clock output for camera core board series resistance 22R	3.3V	AG27
172	GND	G		GND	GND		
174	SDMMC0_PWREN/SATA_MP_SWITCH/PCIE20_CLKREQn_M0/GPIO0_A5_d	I/O	DOWN	USB_OTG_PWREN_H	USB_OTG Power EN ,Active H	3.3V	AF25
176	PWM0_M0/CPUAVS/GPIO0_B7_d	I/O	DOWN	NC	NC	3.3V	AH26
178	HDMITX_CEC_M1/PWM0_M1/UART0_CTSn/GPIO0_C7_d	I/O	DOWN	LCD0_PWR_EN	MIPI DSI0 Power EN ,Active H	3.3V	AH25
180	UART2_TX_M0/GPIO0_D1_u	I/O	UP	UART2_TX_M0_DEBUG	UART2_TX_M0 for DEBUG	3.3V	AH24
182	UART2_RX_M0/GPIO0_D0_u	I/O	UP	UART2_RX_M0_DEBUG	UART2_RX_M0 for DEBUG	3.3V	AC20
184	PWM3_IR/EDP_HPDIN_M1/PCIE30X1_WAKEn_M0/MCU_JTAG_TMS/GPIO0_C2_d	I	DOWN	EDP_HPD	EDP_HPD det Input,Active H	3.3V	AG23
186	GND	G		GND	GND		
188	HDMI_TX2P	O		HDMI_TX2P_PORT	HDMI_TX2P_Output, core board series resistance 2.2R		AG22

190	HDMI_TX2N	O		HDMI_TX2N_PORT	HDMI_TX2N_Output, core board series resistance 2.2R		AH22
192	HDMI_TX1P	O		HDMI_TX1P_PORT	HDMI_TX1P_Output,core board series resistance 2.2R		AG21
194	HDMI_TX1N	O		HDMI_TX1N_PORT	HDMI_TX1N_Output, core board series resistance 2.2R		AH21
196	HDMI_TX0P	O		HDMI_TX0P_PORT	HDMI_TX0P_Output, core board series resistance 2.2R		AG20
198	HDMI_TX0N	O		HDMI_TX0N_PORT	HDMI_TX0N_Output, core board series resistance 2.2R		AH20
200	HDMI_TXCLKP	O		HDMI_TXCLKP_PORT	HDMI_TXCLKP_Output, core board series resistance 2.2R		AH19
202	HDMI_TXCLKN	O		HDMI_TXCLKN_PORT	HDMI_TXCLKN_Output, core board series resistance 2.2R		AG19
204	GND	G		GND	GND		
206	MIPI_DSI_TX0_D0N/LVDS_TX0_D0N	O		MIPI_DSI_TX0_D0N/LVDS_TX0_D0N	MIPI_DSI_TX0_D0N/LVDS_TX0_D0N_Output		AG17
208	MIPI_DSI_TX0_D0P/LVDS_TX0_D0P	O		MIPI_DSI_TX0_D0P/LVDS_TX0_D0P	MIPI_DSI_TX0_D0P/LVDS_TX0_D0P_Output		AH17
210	MIPI_DSI_TX0_D1N/LVDS_TX0_D1N	O		MIPI_DSI_TX0_D1N/LVDS_TX0_D1N	MIPI_DSI_TX0_D1N/LVDS_TX0_D1N_Output		AG16
212	MIPI_DSI_TX0_D1P/LVDS_TX0_D1P	O		MIPI_DSI_TX0_D1P/LVDS_TX0_D1P	MIPI_DSI_TX0_D1P/LVDS_TX0_D1P_Output		AH16
214	GND	G		GND	GND		
216	MIPI_DSI_TX0_CLKN/LVDS_TX0_CLKN	O		MIPI_DSI_TX0_CLKN/LVDS_TX0_CLKN	MIPI_DSI_TX0_CLKN/LVDS_TX0_CLKN_Output		AG15
218	MIPI_DSI_TX0_CLKP/LVDS_TX0_CLKP	O		MIPI_DSI_TX0_CLKP/LVDS_TX0_CLKP	MIPI_DSI_TX0_CLKP/LVDS_TX0_CLKP_Output		AH15
220	MIPI_DSI_TX0_D2N/LVDS_TX0_D2N	O		MIPI_DSI_TX0_D2N/LVDS_TX0_D2N	MIPI_DSI_TX0_D2N/LVDS_TX0_D2N_Output		AG14
222	MIPI_DSI_TX0_D2P/LVDS_TX0_D2P	O		MIPI_DSI_TX0_D2P/LVDS_TX0_D2P	MIPI_DSI_TX0_D2P/LVDS_TX0_D2P_Output		AH14
224	MIPI_DSI_TX0_D3N/LVDS_TX0_D3N	O		MIPI_DSI_TX0_D3N/LVDS_TX0_D3N	MIPI_DSI_TX0_D3N/LVDS_TX0_D3N_Output		AG13

226	MIPI_DSI_TX0_D3P/LVDS_TX0_D3P	O		MIPI_DSI_TX0_D3P/LVDS_TX0_D3P	MIPI_DSI_TX0_D3P/LVDS_TX0_D3P_Output		AH13
228	MIPI_CSI_RX_D0N	I		MIPI_CSI_RX_D0N	MIPI_CSI_RX_D0N_Intput		AH12
230	MIPI_CSI_RX_D0P	I		MIPI_CSI_RX_D0P	MIPI_CSI_RX_D0P_Intput		AG12
232	MIPI_CSI_RX_D1N	I		MIPI_CSI_RX_D1N	MIPI_CSI_RX_D1N_Intput		AH11
234	MIPI_CSI_RX_D1P	I		MIPI_CSI_RX_D1P	MIPI_CSI_RX_D1P_Intput		AG11
236	MIPI_CSI_RX_CLK0N	I		MIPI_CSI_RX_CLK0N	MIPI_CSI_RX_CLK0N_Intput		AH10
238	MIPI_CSI_RX_CLK0P	I		MIPI_CSI_RX_CLK0P	MIPI_CSI_RX_CLK0P_Intput		AG10
240	MIPI_CSI_RX_CLK1N	I		MIPI_CSI_RX_CLK1N	MIPI_CSI_RX_CLK1N_Intput		AH9
242	MIPI_CSI_RX_CLK1P	I		MIPI_CSI_RX_CLK1P	MIPI_CSI_RX_CLK1P_Intput		AG9
244	GND	G		GND	GND		
246	LCDC_D0/VOP_BT656_D0_M0/SPI0_MISO_M1/PCIE20_CLKREQn_M1/I2S1_MCLK_M2/GPIO2_D0_d	I/O	DOWN	GMAC1_INT/PMEB	GMAC1_INT/PMEB	3.3V	AG6
248	LCDC_D7/VOP_BT656_D7_M0/SPI2_MISO_M1/UART8_TX_M1/I2S1_SDO0_M2/GPIO2_D7_d	I/O	DOWN	BT_WAKE_HOST_H	BT_WAKE_HOST,Active H	3.3V	AH5
250	LCDC_CLK/VOP_BT656_CLK_M0/SPI2_CLK_M1/UART8_RX_M1/I2S1_SDO1_M2/GPIO3_A0_d	I/O	DOWN	BT_REG_ON_H	BT_EN ,Active H	3.3V	AH4
252	LCDC_D10/VOP_BT1120_D2/GMAC1_TXD3_M0/I2S3_SCLK_M0/SDMMC2_D2_M1/GPIO3_A3_d	I/O	DOWN	I2S3_SCLK_M0	I2S3_SCLK_M0	3.3V	AG4
254	LCDC_D12/VOP_BT1120_D4/GMAC1_RXD3_M0/I2S3_SDO_M0/SDMMC2_CMD_M1/GPIO3_A5_d	I/O	DOWN	I2S3_SDO_M0	I2S3_SDO_M0	3.3V	AH3
256	LCDC_D13/VOP_BT1120_CLK/GMAC1_TXCLK_M0/I2S3_SDI_M0/SDMMC2_CLK_M1/GPIO3_A6_d	I/O	DOWN	I2S3_SDI_M0	I2S3_SDI_M0	3.3V	AG3
258	LCDC_D14/VOP_BT1120_D5/GMAC1_RXCLK_M0/SDMMC2_DET_M1/GPIO3_A7_d	I/O	DOWN	PCIECLKIC_OE_H	PCIE CLOCK IC_EN ,Active H	3.3V	AH2
260	GND	G		GND	GND		
262	LCDC_D15/VOP_BT1120_D6/ETH1_REFCLKO_25M_M0/SDMMC2_PWREN_M1/GPIO3_B0_d	I/O	DOWN	ETH1_REFCLKO_25M_M0	ETH1_REF CLOCK OUTPUT_25MHz (CPU to PHY,Default NC)	3.3V	AG2
264	LCDC_D17/VOP_BT1120_D8/GMAC1_RXD1_M0/UART4_TX_M1/PWM9_M0/GPIO3_B2_d	I/O	DOWN	UART4_TX_M1	UART4_TX_M1	3.3V	AF2
266	LCDC_D16/VOP_BT1120_D7/GMAC1_RXD0_M0/UART4_RX_M1/PWM8_M0/GPIO3_B1_d	I/O	DOWN	UART4_RX_M1	UART4_RX_M1	3.3V	AG1

268	LCDC_D21/VOP_BT1120_D12/GMAC1_TXD1_M0/I2C3_SDA_M1/PWM11_IR_M0/GPIO3_B6_d	I/O	DOWN	BAT_ALRT	BAT_ALRT, Default NC	3.3V	AE3
270	LCDC_D18/VOP_BT1120_D9/GMAC1_RXDV_CRS_M0/I2C5_SCL_M0/PDM_SDI0_M2/GPIO3_B3_d	I/O	DOWN	I2C5_SCL_M0	I2C5_SCL_M0 Core board Pull up resistance 2.2K	3.3V	AF1
272	LCDC_D19/VOP_BT1120_D10/GMAC1_RXER_M0/I2C5_SDA_M0/PDM_SDI1_M2/GPIO3_B4_d	I/O	DOWN	I2C5_SDA_M0	I2C5_SDA_M0 Core board Pull up resistance 2.2K	3.3V	AE1
274	LCDC_HSYNC/VOP_BT1120_D13/SPI1_MOSI_M1/PCIE20_PERSTn_M1/I2S1_SDO2_M2/GPIO3_C1_d	I/O	DOWN	SPI1_MOSI_M1	SPI1_MOSI_M1	3.3V	AD1
276	PWM15_IR_M0/SPDIF_TX_M1/GMAC1_MDIO_M0/UART7_RX_M1/I2S1_LRCK_RX_M2/GPIO3_C5_d	I/O	DOWN	SPK_CTL_H	SPK_EN ,Active H	3.3V	AC2
278	GND	G		GND	GND		
280	CIF_D5/EBC_SDDO5/SDMMC2_CLK_M0/I2S1_SDI1_M1/VOP_BT656_D5_M1/GPIO3_D3_d	I/O	DOWN	SDMMC2_CLK_M0	SDMMC2_CLK_M0 To WIFI core board series resistance 22R	VCCIO_WL *Note1	AC1
282	CIF_D2/EBC_SDDO2/SDMMC2_D2_M0/I2S1_LRCK_TX_M1/VOP_BT656_D2_M1/GPIO3_D0_d	I/O	DOWN	SDMMC2_D2_M0	SDMMC2_D2_M0 To WIFI		AB5
284	CIF_D3/EBC_SDDO3/SDMMC2_D3_M0/I2S1_SDO0_M1/VOP_BT656_D3_M1/GPIO3_D1_d	I/O	DOWN	SDMMC2_D3_M0	SDMMC2_D3_M0 To WIFI		AB1
286	GND	G		GND	GND		
288	CIF_D11/EBC_SDDO11/GMAC1_RXD2_M1/PDM_SDI1_M1/GPIO4_A1_d	I/O	DOWN	GMAC1_RXD2_M1	GMAC1_RXD2_M1	VCCIO_WL *Note1	AA2
290	CIF_D6/EBC_SDDO6/SDMMC2_DET_M0/I2S1_SDI2_M1/VOP_BT656_D6_M1/GPIO3_D4_d	I/O	DOWN	WIFI_WAKE_HOST_H_GPIO3_D4	WIFI_WAKE_HOST Active H		AA1
292	CIF_D14/EBC_SDDO14/GMAC1_TXD0_M1/UART9_TX_M2/I2S2_LRCK_TX_M1/GPIO4_A4_d	I/O	DOWN	GMAC1_TXD0_M1	GMAC1_TXD0_M1 core board series resistance 22R		Y2
294	CIF_D15/EBC_SDDO15/GMAC1_TXD1_M1/UART9_RX_M2/I2S2_LRCK_RX_M1/GPIO4_A5_d	I/O	DOWN	GMAC1_TXD1_M1	GMAC1_TXD1_M1 core board series resistance 22R		Y1
296	ISP_FLASHTRIGOUT/EBC_SDCE0/GMAC1_TXEN_M1/SPI3_CS0_M0/I2S1_SCLK_RX_M1/GPIO4_A6_d	I/O	DOWN	GMAC1_TXEN_M1	GMAC1_TXEN_M1 core board series resistance 22R		W2
298	CAM_CLKOUT0/EBC_SDCE1/GMAC1_RXD0_M1/SPI3_CS1_M0/I2S1_LRCK_RX_M1/GPIO4_A7_d	I/O	DOWN	GMAC1_RXD0_M1	GMAC1_RXD0_M1		W1
300	ISP_PRELIGHT_TRIG/EBC_SDCE3/GMAC1_RXDV_CRS_M1/I2S1_SDO2_M1/GPIO4_B1_d	I/O	DOWN	GMAC1_RXDV_CRS_M1	GMAC1_RXDV_CRS_M1		V2
302	CIF_CLKIN/EBC_SDCLK/GMAC1_MCLKINOUT_M1/UART1_CTSn_M1/I2S2_SCLK_RX_M1/GPIO4_C1_d	I/O	DOWN	GMAC1_MCLKINOUT_M1	GMAC1_MCLK_IN/OUT PUT default:not use MCLK---Internal Clock Mode		U2

304	GND	G		GND	GND		
306	USB2_HOST3_DP	I/O		USB2_HOST3_DP	USB2_HOST3_DP		T2
308	USB2_HOST3_DM	I/O		USB2_HOST3_DM	USB2_HOST3_DM		T1
310	USB2_HOST2_DM	I/O		USB2_HOST2_DM	USB2_HOST2_DM		R2
312	USB2_HOST2_DM	I/O		USB2_HOST2_DM	USB2_HOST2_DM		R1

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