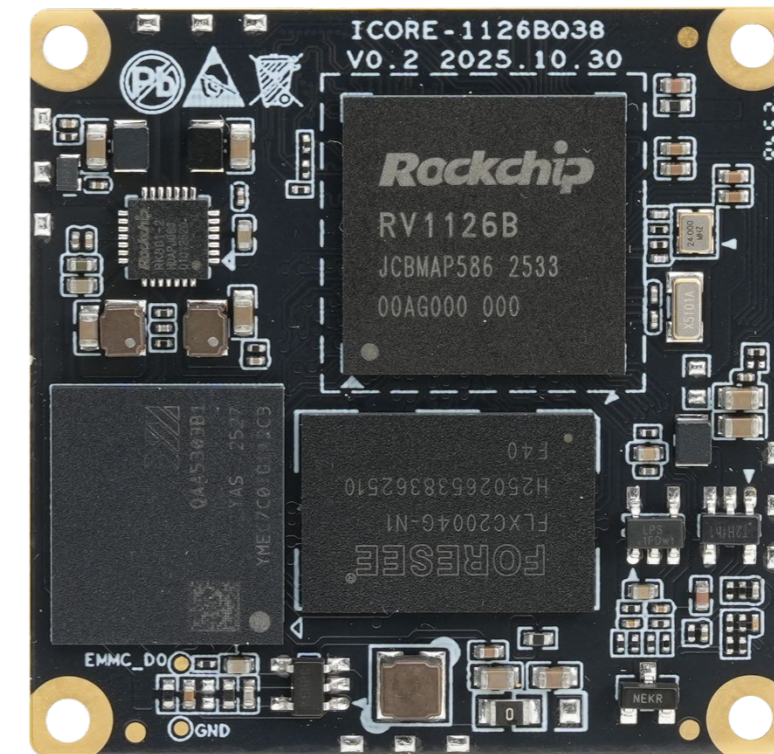




Mini AI Core Board

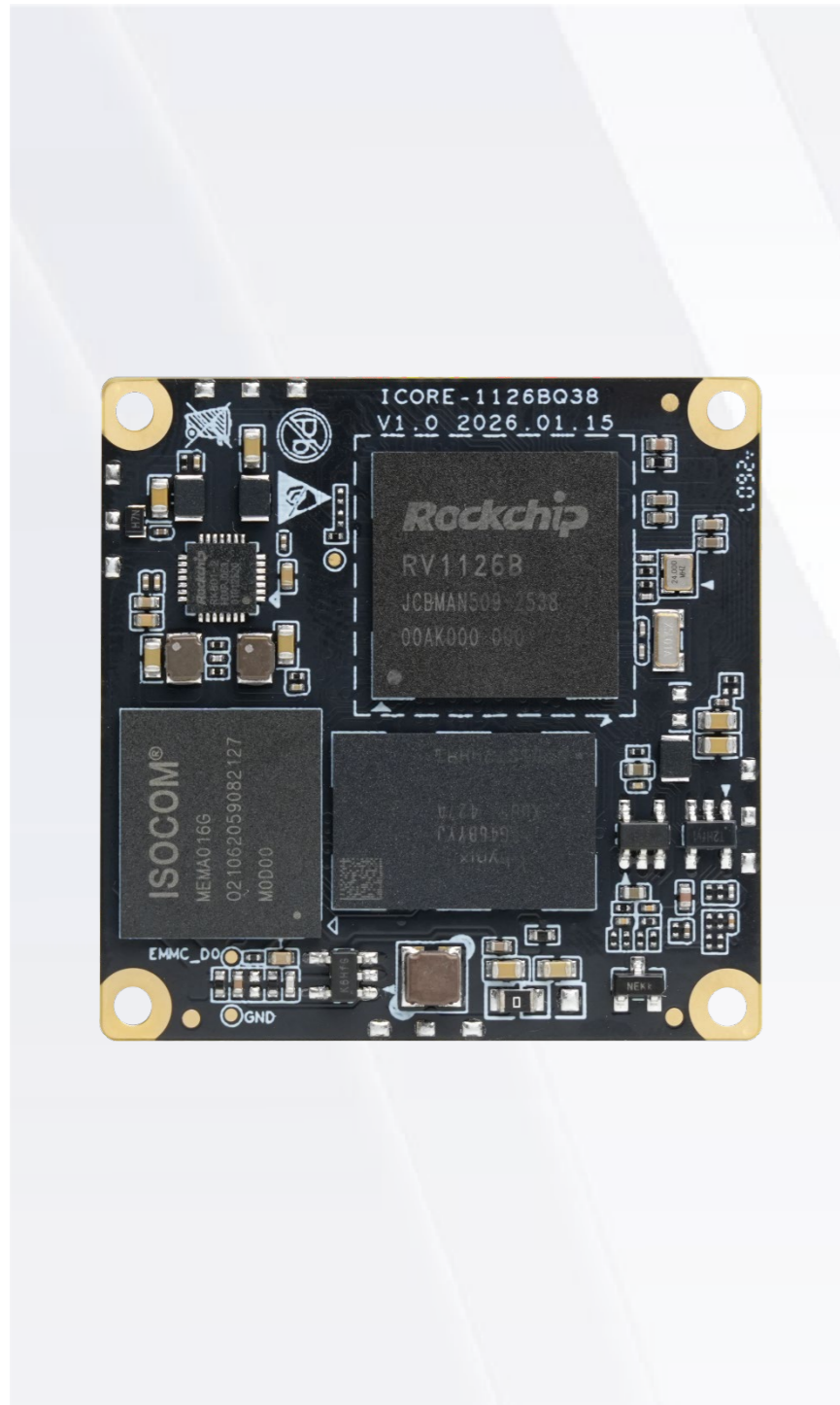
- | ICORE-1126BQ38 (Commercial)
- | ICORE-1126BJQ38 (Industrial)



V1.0 2026-3-19

FIREFLY TECHNOLOGY

Product features



High-performance AI vision processor RV1126B

Equipped with the quad-core 64-bit high-performance AI vision processor RV1126B, based on the ARM Cortex-A53 core, integrated with NEON advanced SIMD and FPU (Floating Point Unit), with a main frequency up to 1.6GHz and performance more than twice that of same-class chips, providing powerful support for high-performance computing and multi-tasking.



8MP AI-ISP + AOV3.0

Integrated dedicated 8M AI-ISP + AI Remosaic for day-night dual-mode adaptation, delivering ultra HD daytime imaging and clear night vision in ultra-low illumination; with AOV3.0 low-power wake-up, 6-DOF digital anti-shake and binocular dynamic stitching, it eliminates high-frequency jitter and enables tear-free ultra-wide panoramic output, ideal for security and in-vehicle scenarios.



3T NPU for smooth operation of large models

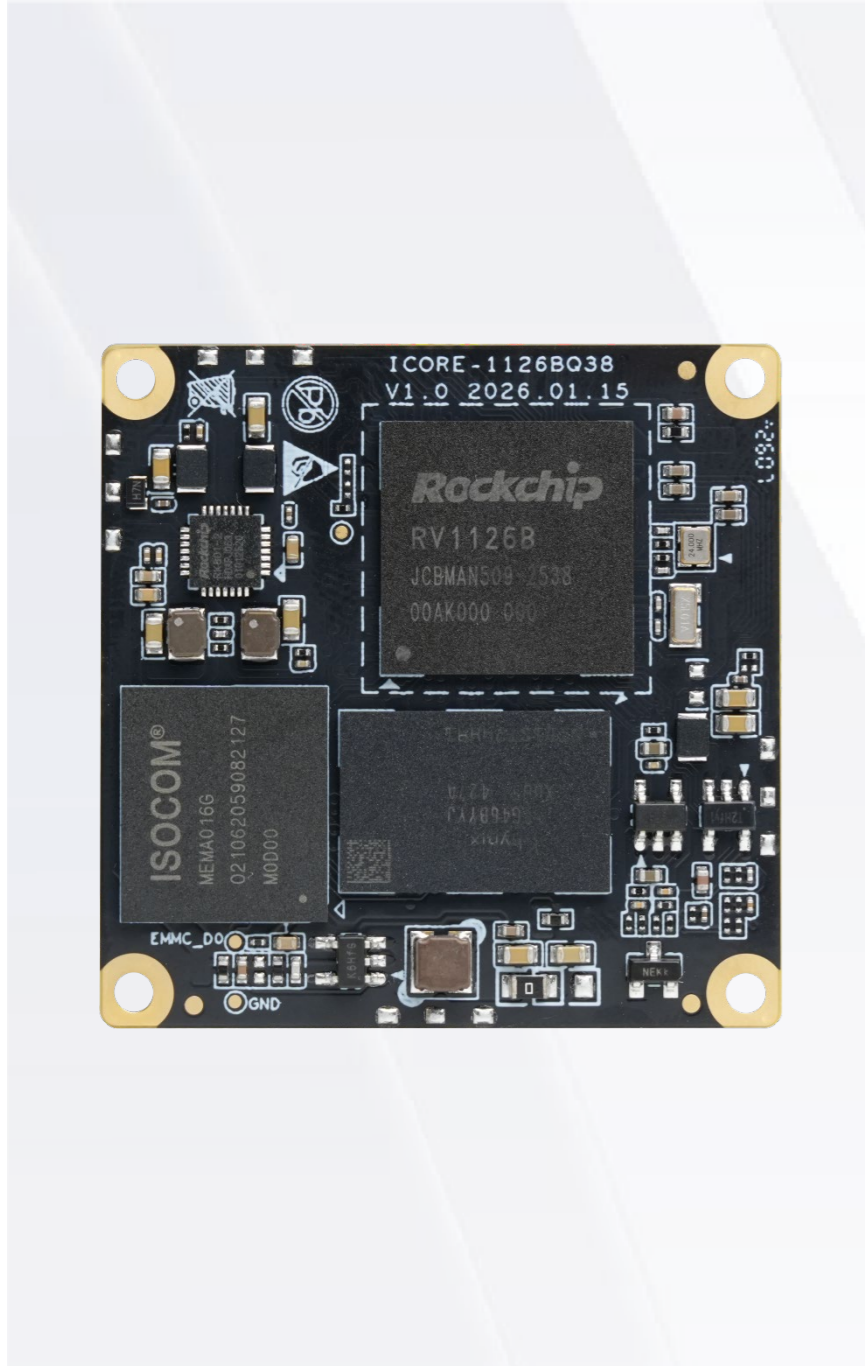
Built-in 3TOPS NPU enables seamless running of large language models (LLMs) and multimodal models with $\leq 2B$ parameters (e.g., Qwen Series, Gemma2-2B, Phi2, MiniCPM). It supports weight sparsification, W4A16/W8A16 mixed-precision quantization and Transformer optimization, enabling accurate target recognition in complex scenarios and cross-modal information fusion.



Intelligent encoding engine

Integrated intelligent encoding engine supports 8M@45fps UHD encoding; dynamic bitrate optimization cuts bitstream by 50% vs. traditional CBR mode, doubling recording time with the same storage space.

Product features



Support 5 cameras input at the same time

Equipped with two MIPI CSI/LVDS/SubLVDS DPHY interfaces and one DVP interface, supporting a maximum of 5 cameras for concurrent input.



National Cryptography Standard encryption algorithms

Built-in national cryptography level security solution supporting SM2/SM3/SM4 encryption algorithms, integrated with TrustZone security isolation technology and keyladder key management system, ideal for scenarios with ultra-high security requirements.



BTB interface design, 38mm×38mm small size

The core board is designed with BTB interface and high-speed industrial-grade connectors, which has super transmission capacity, high-frequency transmission stability, and convenience without welding; The core board is only 38mm×38mm, which is small in size and saves more valuable space.



Widely applicable scenarios

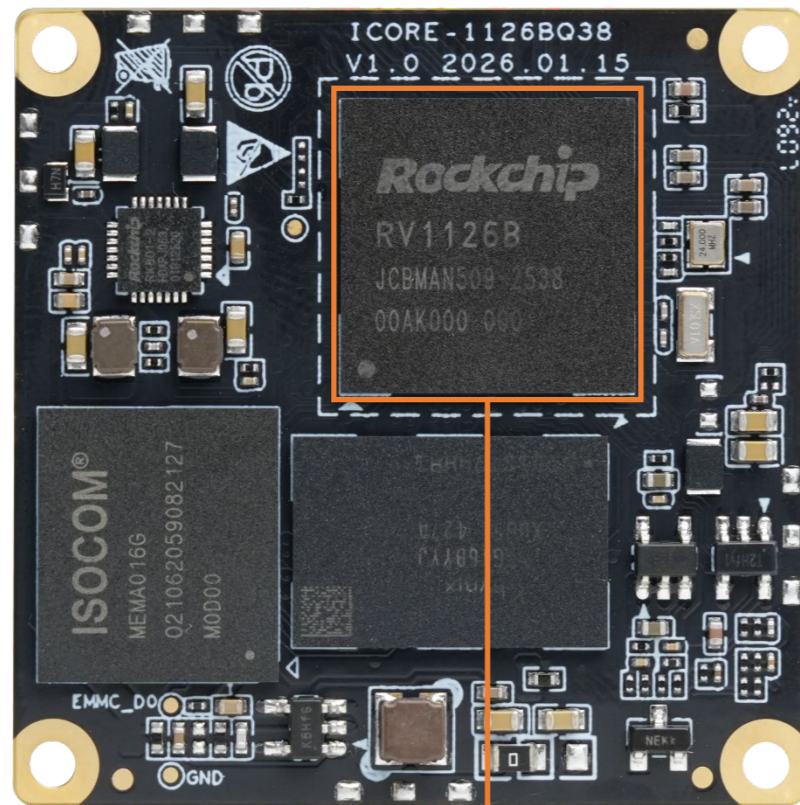
Widely applicable to: face recognition, access control systems, intelligent security, smart IP cameras, smart doorbells/peepholes, dashcams, and other industrial fields.

Specifications

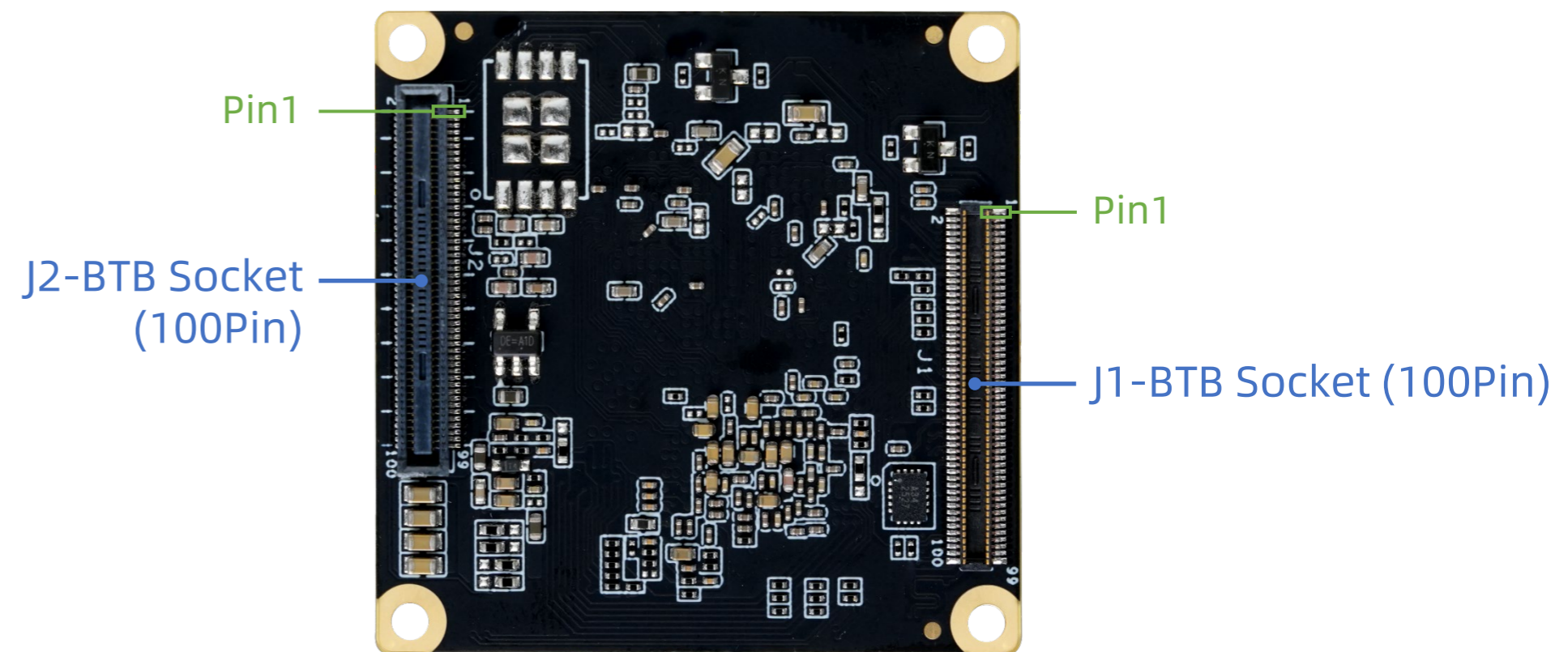


		ICORE-1126BQ38(Commercial)	ICORE-1126BJQ38(Industrial)
Basic Specifications	SOC	Rockchip RV1126B	Rockchip RV1126BJ
	CPU	Quad-core 64-bit ARM Cortex-A53, integrated with NEON and FPU, maximum main frequency of 1.6GHz	
	NPU	3TOPS NPU, supporting INT4/INT8/INT16/FP16 mixed-precision computing	
	ISP	Built-in 12MP ISP with multiple algorithm accelerators including HDR, 3A, LSC, 3DNR, 2DNR, sharpening, defogging, fisheye correction, gamma correction and feature point detection. Integrated 8MP AI-ISP enables day-night dual-mode adaptation with AI Remosaic technology; supports AOA (Always On Audio), 6-DOF digital anti-shake, binocular AI dynamic stitching and more.	
	Encoding/Decoding	Encoding: 12M@30fps H.265/H.264 Decoding: 4K@30fps H.265/H.264	
	RAM	LPDDR4/LPDDR4X (1GB/2GB/4GB Optional)	
	Storage	eMMC (8GB/16GB/64GB Optional)	
	Power	5V (voltage tolerance ±5%)	
	Power consumption	Normal: 1W(5V/200mA), Max: 3W(5V/600mA), Min(Sleep): 0.2W(5V/40mA)	
	OS	Debian12, Buildroot+QT	
	Software support	Supports private deployment of lightweight large language models and multimodal large models with up to 2B parameters under the Transformer architecture, such as small-sized large AI models including the Qwen series, Gemma2-2B, Phi2, InternLM2, MiniCPM series, TinyLLAMA, and RWKV7. Supports deep learning frameworks such as TensorFlow, TensorFlow Lite, PyTorch, Caffe, and ONNX.	
	Interface	BTB (2 × BTB Socket (100Pin))	
	Size	38.0mm × 38.0mm × 6.0mm	
	Weight	≈9g	
Environment	Operating Temperature: -20°C ~ 60°C Storage Humidity: 10% ~ 90%RH (non-condensing)	Operating Temperature: -40°C ~ 85°C Storage Humidity: 10% ~ 90%RH (non-condensing)	
Interface Specifications	Internet	One Gigabit Ethernet port can be expanded via the GMAC interface, with FEPHY Fast Ethernet functionality supported. Due to hardware resource limitations, only one of the two Ethernet modes can be selected for use at any given time. TSO (TCP Segmentation Offload) and USO (UDP Segmentation Offload) network acceleration are supported 2.4GHz/5GHz dual-band Wi-Fi and Bluetooth can be expanded via the SDIO 3.0 interface 4G/3G networks can be expanded via the USB interface	
	Video input	2 × (MIPI-CSI/LVDS/Sub LVDS) DPHY - 4 Lanes per DPHY group (1×4 Lanes or 2×2 Lanes) - 2.5 Gbps per Lane 1 × DVP (BT.601/BT.656/BT.1120) *A maximum of 5 cameras can be supported for concurrent input via the above interfaces	
	Video output	1 × MIPI-DSI (1080P@60Hz, 1×4lanes) Supports BT.656/BT.1120 interfaces Supports MCU/RGB LCD interfaces, with a maximum of 24 bits	
	Audio	1 × SAI (4T/4R), 1 × SAI (1T/1R), 1 × SAI (1T/3R), supporting I2S/TDM/PCM audio protocols PDM and Audio Codec support a sampling rate of up to 192KHz	
	USB	1 × USB2.0 HOST, 1 × USB3.0 DRD	
	Others	2 × SPI, 8 × UART, 5 × I2C, 2 × CAN, 27 × PWM, GPIOs, 1 × SDMMC, 1 × SDIO3.0, 3 × SARADC	

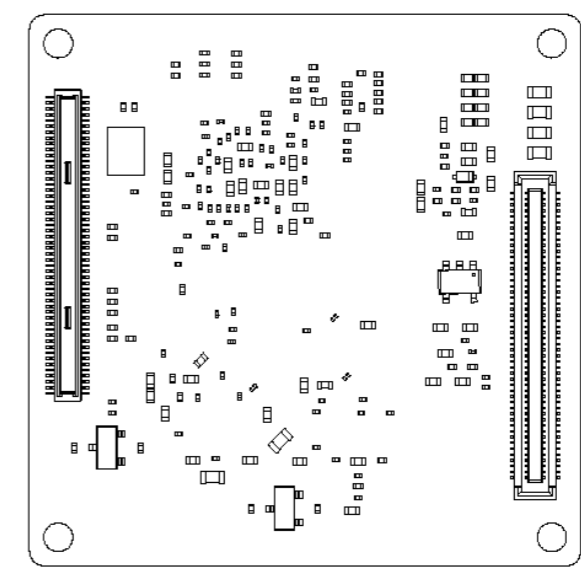
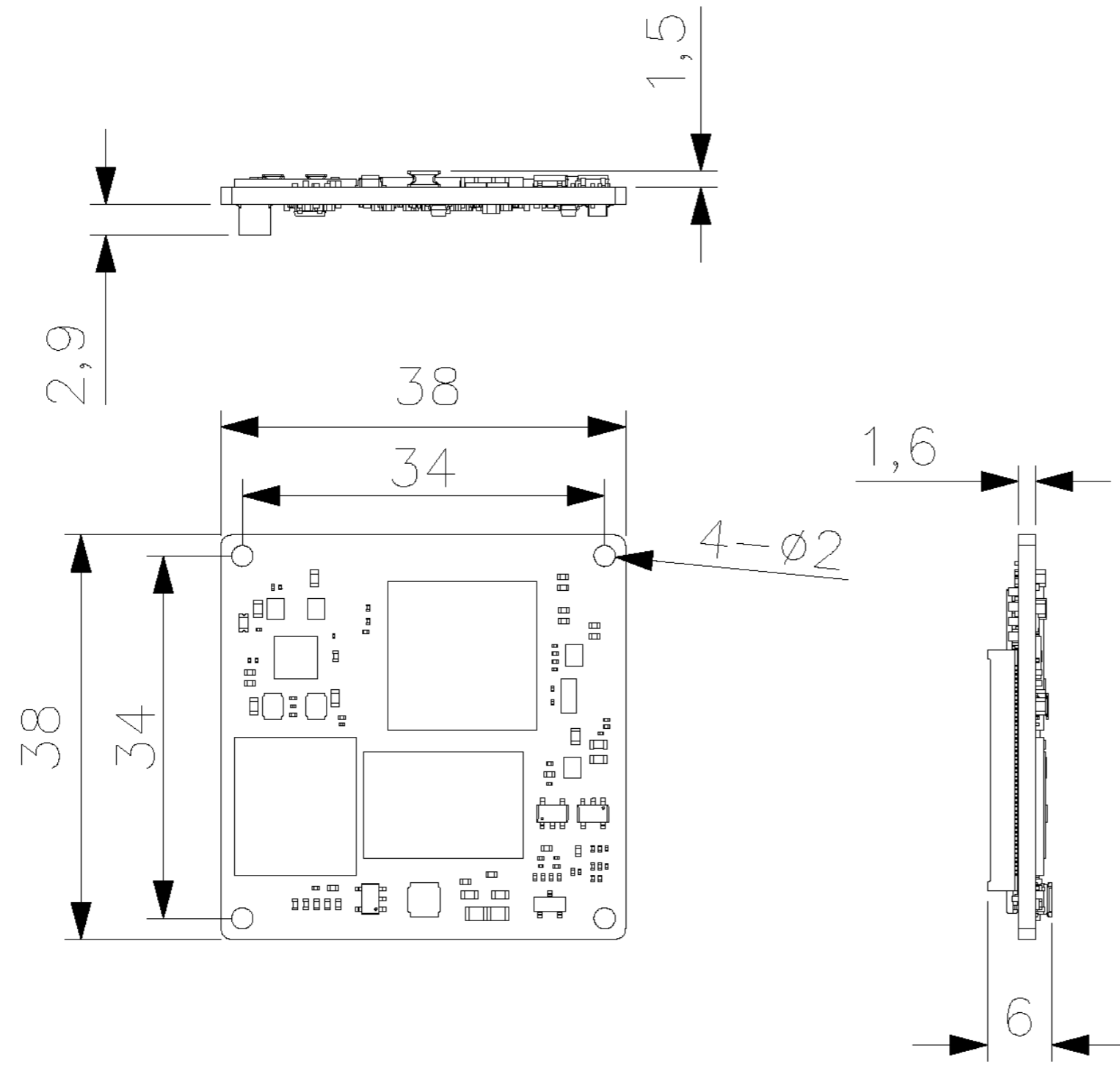
Interface description



Rockchip RV1126B (Commercial)/
Rockchip RV1126BJ (Industrial)



Dimension





Interface definition

Notes1:
 Pin type: I = input, O = output, I/O = input/output (bidirectional), G= Ground , P = power supply , DOWN = Internal pull down , UP = Internal pull UP , L = Low Level , H = High level

PIN	ICORE-1126BQ38 pin definition (J1)	RV1126B Pin Number	Pin type	IO Power domain	IO Pull	Function for Main BOARD (EXT-ICORE-3576Q38)	Default function description
1	RTC_32K_OUT/CLK_32K/GPIO0_A2	AL12	I/O	1.8V	Z	32KOUT_RTC2SOC	32KOUT_RTC INPUT To SOC
3	UART0_RX_M2/PWM1_CH3_M0/I2C1_SDA_M0/JTAG_TMS_M0/GPIO0_B4	AL9	I/O	3.3V	UP	UART0_RX_DBG	UART0_RX_M0_DEBUG
5	UART0_TX_M2/PWM1_CH2_M0/I2C1_SCL_M0/JTAG_TCK_M0/GPIO0_B3	AM10	I/O	3.3V	UP	UART0_TX_DBG	UART0_RX_M0_DEBUG
7	SARADC0_IN7_BOOT	1A20	O	1.8V	-	SARADC0_IN7_BOOT	ADC7 INPUT (MASKROM Model)
9	SARADC0_IN0	1B20	O	1.8V	-	SARADC0_IN0	ADC0 INPUT (LOADER Model)
11	SARADC0_IN1	1C18	O	1.8V	-	SARADC0_IN1	ADC1 INPUT
13	SARADC0_IN3	1B18	O	1.8V	-	SARADC0_IN3	ADC3 INPUT
15	FSPI1_D0_M0/SPI0_MOSI_M0/GPIO0_B0	1AB4	I/O	3.3V	DOWN	POW_HOLD	POW_HOLD,Active H
17	FEPHY_LEDSPD_M1/CAN0_TXD_M0/IR_FPA_MCLK/I2C2_SDA_M1/PWM1_CH3_M1/UART3_RX_M1/GPIO5_D5	1C22	I/O	3.3V	UP	UART3_RX_M1	UART3_RX_M1
19	FEPHY_LEDLINK_M1/SPI1_CSN1_M2/CAN0_RXD_M0/IR_FPA_FSYNC/I2C2_SCL_M1/PWM0_CH7_M2/UART3_TX_M1/GPIO5_D4	2D13	I/O	3.3V	UP	UART3_TX_M1	UART3_TX_M1
21	FSPI1_D1_M0/SPI0_MISO_M0/GPIO0_B1	1AA4	I/O	3.3V	DOWN	USBCC_INT_L	USBCC_INT_L
23	VO_LCDC_D7/SPI0_CSN1_M2/VI_CIF_D3_M1/DSMC_D10/SAI2_LRCK_M1/I2C5_SDA_M2/PWM0_CH0_M1/UART5_CTSN_M1/GPIO5_A7	L31	I/O	3.3V	DOWN	I2C5_SDA_M2	I2C5_SDA_M2
25	VO_LCDC_D1/I2C5_SCL_M2/VI_CIF_D1_M1/DSMC_DQS1/SAI2_SDI2_M1/IR_FPA_SDA1/PWM2_CH5_M0/UART4_CTSN_M1/GPIO5_A1	R32	I/O	3.3V	DOWN	I2C5_SCL_M2	I2C5_SCL_M2
27	GND02		G			GND	GND



Interface definition

29	SAIO_LRCK_M0/DSM_AUD_LN/PWM2_CH7_M1/GPIO7_A3	1AB22	I/O	3.3V	DOWN	DSM_AUD_LN	DSM_AUD_LN
31	SAIO_SDO0_M0/DSM_AUD_LP/GPIO7_A5	1AC22	I/O	3.3V	DOWN	DSM_AUD_LP	DSM_AUD_LP
33	FEPHY_RXN	B24	O	-		FEPHY_RXN	FEPHY_RXN
35	FEPHY_RXP	B25	O	-		FEPHY_RXP	FEPHY_RXP
37	FEPHY_TXN	A25	I	-		FEPHY_TXN	FEPHY_TXN
39	FEPHY_TXP	A26	I	-		FEPHY_TXP	FEPHY_TXP
41	GND03		G			GND	GND
43	AUDIO_ADC1_MICP	AL17	O	-		MIC1_P	MIC1_P
45	AUDIO_ADC1_MICN	AL18	O	-		MIC1_N	MIC1_N
47	AUDIO_ADC0_MICP	AM16	O	-		MIC0_P	MIC0_P
49	AUDIO_ADC0_MICN	AM17	O	-		MIC0_N	MIC0_N
51	MIPI_DPHY_CSI_RX0_CLK1P	AL22	O	-		MIPI_CSI_RX0_CLK1P	MIPI_CSI_RX0_CLK1P
53	MIPI_DPHY_CSI_RX0_CLK1N	AM22	O	-		MIPI_CSI_RX0_CLK1N	MIPI_CSI_RX0_CLK1N
55	GND06		G			GND	GND
57	MIPI_DPHY_CSI_RX0_D0P	AM25	O	-		MIPI_CSI_RX0_D0P	MIPI_CSI_RX0_D0P
59	MIPI_DPHY_CSI_RX0_D0N	AM26	O	-		MIPI_CSI_RX0_D0N	MIPI_CSI_RX0_D0N
61	MIPI_DPHY_CSI_RX0_D1P	AL24	O	-		MIPI_CSI_RX0_D1P	MIPI_CSI_RX0_D1P
63	MIPI_DPHY_CSI_RX0_D1N	AL25	O	-		MIPI_CSI_RX0_D1N	MIPI_CSI_RX0_D1N



Interface definition

65	MIPI_DPHY_CSI_RX0_CLK0P	AM23	O	-		MIPI_CSI_RX0_CLK0P	MIPI_CSI_RX0_CLK0P
67	MIPI_DPHY_CSI_RX0_CLK0N	AL23	O	-		MIPI_CSI_RX0_CLK0N	MIPI_CSI_RX0_CLK0N
69	MIPI_DPHY_CSI_RX0_D2P	AM19	O	-		MIPI_CSI_RX0_D2P	MIPI_CSI_RX0_D2P
71	MIPI_DPHY_CSI_RX0_D2N	AM20	O	-		MIPI_CSI_RX0_D2N	MIPI_CSI_RX0_D2N
73	MIPI_DPHY_CSI_RX0_D3P	AL20	O	-		MIPI_CSI_RX0_D3P	MIPI_CSI_RX0_D3P
75	MIPI_DPHY_CSI_RX0_D3N	AL21	O	-		MIPI_CSI_RX0_D3N	MIPI_CSI_RX0_D3N
77	GND08		G			GND	GND
79	MIPI_DPHY_DSI_TX_CLKN	B29	I	-		MIPI_DSI_CLKN	MIPI_DSI_CLKN
81	MIPI_DPHY_DSI_TX_CLKP	B30	I	-		MIPI_DSI_CLKP	MIPI_DSI_CLKP
83	MIPI_DPHY_DSI_TX_D3N	B32	I	-		MIPI_DSI_D3N	MIPI_DSI_D3N
85	MIPI_DPHY_DSI_TX_D3P	C32	I	-		MIPI_DSI_D3P	MIPI_DSI_D3P
87	MIPI_DPHY_DSI_TX_D2N	B31	I	-		MIPI_DSI_D2N	MIPI_DSI_D2N
89	MIPI_DPHY_DSI_TX_D2P	A31	I	-		MIPI_DSI_D2P	MIPI_DSI_D2P
91	MIPI_DPHY_DSI_TX_D1N	A28	I	-		MIPI_DSI_D1N	MIPI_DSI_D1N
93	MIPI_DPHY_DSI_TX_D1P	A29	I	-		MIPI_DSI_D1P	MIPI_DSI_D1P
95	MIPI_DPHY_DSI_TX_D0N	B27	I	-		MIPI_DSI_D0N	MIPI_DSI_D0N
97	MIPI_DPHY_DSI_TX_D0P	B28	I	-		MIPI_DSI_D0P	MIPI_DSI_D0P
99	GND09		G			GND	GND



Interface definition

2	GND01		G			GND	GND
4	UART0_TX_M1/JTAG_TCK_M2/CAN1_RXD_M0/PWM2_CH6_M0/GPIO5_D6	1A22	I/O	3.3V	UP	CAN1_RXD_M0	CAN1_RXD_M0
6	UART0_RX_M1/JTAG_TMS_M2/CAN1_TXD_M0/PWM2_CH7_M0/GPIO5_D7	1B22	I/O	3.3V	UP	CAN1_TXD_M0	CAN1_TXD_M0
8	REF_CLK0_OUT/TEST_CLK0_OUT/GPIO0_A0	AM13	I/O	3.3V	Z	GPIO0_A0_Z	GPIO0_A0_Z
10	SPI2AHB_D2/PWM0_CH1_M0/UART1_RX_M0/I2C5_SDA_M0/GPIO0_C5	1AA10	I/O	3.3V	DOWN	GPIO0_C5_D	GPIO0_C5_D
12	SPI2AHB_D1/PWM0_CH2_M0/UART1_RTSN_M0/GPIO0_C6	1AB10	I/O	3.3V	DOWN	GPIO0_C6_D	GPIO0_C6_D
14	SPI2AHB_D0/PWM0_CH3_M0/UART1_CTSN_M0/GPIO0_C7	1AB8	I/O	3.3V	DOWN	GPIO0_C7_D	GPIO0_C7_D
16	USB2_DRD_VBUSDET	1AA2	I/O	3.3V		USB2_DRD_VBUSDET	USB2_DRD_VBUSDET
18	USB2_DRD_ID	1AB2	I/O	3.3V		USB2_DRD_ID	USB2_DRD_ID
20	VO_LCDC_D4/SPI0_MOSI_M2/DSMC_D13/SAI2_SDO_M1/PWM0_CH3_M1/UART5_TX_M1/GPIO5_A4	N31	I/O	3.3V	DOWN	UART5_TX_M1	UART5_TX_M1
22	VO_LCDC_D5/SPI0_MISO_M2/DSMC_D12/SAI2_SCLK_M1/PWM0_CH2_M1/UART5_RX_M1/GPIO5_A5	M32	I/O	3.3V	DOWN	UART5_RX_M1	UART5_RX_M1
24	SPI0_MOSI_M1/SAI1_SCLK_M1/I2C3_SCL_M1/GPIO4_A4	1V22	I/O	3.3V	DOWN	GPIO4_A4_D	GPIO4_A4_D
26	SPI0_MISO_M1/SAI1_LRCK_M1/I2C3_SDA_M1/GPIO4_A5	AF32	I/O	3.3V	DOWN	GPIO4_A5_D	GPIO4_A5_D
28	VO_LCDC_DEN/SPI1_CSN0_M2/ETH_PTP_REFCLK_M1/DSMC_CSN3/I2C3_SCL_M2/PWM0_CH6_M2/GPIO5_D0	F32	I/O	3.3V	DOWN	SPI1_CSN0_M2	SPI1_CSN0_M2
30	VO_LCDC_VSYNC/SPI1_MOSI_M2/DSMC_INT3/PWM1_CH1_M1/UART3_RTSN_M1/GPIO5_D2	E32	I/O	3.3V	DOWN	SPI1_MOSI_M2	SPI1_MOSI_M2
32	VO_LCDC_HSYNC/SPI1_CLK_M2/ETH_PPSTRIG_M1/DSMC_CSN2/I2C3_SDA_M2/PWM1_CH2_M1/GPIO5_D1	E31	I/O	3.3V	DOWN	SPI1_CLK_M2	SPI1_CLK_M2
34	VO_LCDC_CLK/SPI1_MISO_M2/DSMC_INT2/PWM1_CH0_M1/UART3_CTSN_M1/GPIO5_D3	D31	I/O	3.3V	DOWN	SPI1_MISO_M2	SPI1_MISO_M2



Interface definition

36	I2C2_SCL_M0/PWM0_CH4_M0/GPIO0_D0	1AA8	I/O	3.3V	DOWN	I2C2_SCL_SENSOR	I2C2_SCL_SENSOR (Core board pull up resistance 2.2K)
38	I2C2_SDA_M0/PWM0_CH5_M0/GPIO0_D1	1AC6	I/O	3.3V	DOWN	I2C2_SDA_SENSOR	I2C2_SDA_SENSOR (Core board pull up resistance 2.2K)
40	REF_CLK1_OUT/I2C1_SCL_M1/UART4_TX_M2/PWM1_CH0_M0/GPIO0_B4_d	P32	I/O	3.3V	DOWN	GPIO5_A2_D	GPIO5_A2_D
42	REF_CLK2_OUT/I2C1_SDA_M1/UART4_RX_M2/PWM1_CH1_M0/GPIO0_B5_d	P31	I/O	3.3V	DOWN	GPIO5_A3_D	GPIO5_A3_D
44	GND04		G			GND	GND
46	USB2_HOST_DP	AL4	I/O	-		USB2_HOST_DP	USB2_HOST_DP
48	USB2_HOST_DM	AL3	I/O	-		USB2_HOST_DM	USB2_HOST_DM
50	USB2_DRD_DP	AL2	I/O	-		USB2_DRD_DP	USB2_DRD_DP
52	USB2_DRD_DM	AM2	I/O	-		USB2_DRD_DM	USB2_DRD_DM
54	GND05		G			GND	GND
56	SAI0_SDI1_M0/SAI0_SDO3_M0/PDM_SDI1_M0/DSM_AUD_RP/I2C1_SDA_M3/UART2_TX_M1/GPIO7_B1	1AC14	I/O	3.3V	DOWN	DSM_AUD_RP	DSM_AUD_RP
58	SAI0_SDI2_M0/SAI0_SDO2_M0/PDM_SDI2_M0/DSM_AUD_RN/I2C1_SCL_M3/UART2_RX_M1/GPIO7_B0	1AB14	I/O	3.3V	DOWN	DSM_AUD_RN	DSM_AUD_RN
60	TYPEC_SSRX1P		I/O	-		TYPEC_SSRX1P	TYPEC_SSRX1P
62	TYPEC_SSRX1N		I/O	-		TYPEC_SSRX1N	TYPEC_SSRX1N
64	TYPEC_SSTX1P		I/O	-		TYPEC_SSTX1P	TYPEC_SSTX1P
66	TYPEC_SSTX1N		I/O	-		TYPEC_SSTX1N	TYPEC_SSTX1N
68	TYPEC_SSRX2P		I/O	-		TYPEC_SSRX2P	TYPEC_SSRX2P
70	TYPEC_SSRX2N		I/O	-		TYPEC_SSRX2N	TYPEC_SSRX2N



Interface definition

72	TYPEC_SSTX2P		I/O	-		TYPEC_SSTX2P	TYPEC_SSTX2P
74	TYPEC_SSTX2N		I/O	-		TYPEC_SSTX2N	TYPEC_SSTX2N
76	GND07		G			GND	GND
78	MIPI_DPHY_CSI_RX1_D2P	AL27	O	-		MIPI_CSI_RX1_D2P	MIPI_CSI_RX1_D2P
80	MIPI_DPHY_CSI_RX1_D2N	AL28	O	-		MIPI_CSI_RX1_D2N	MIPI_CSI_RX1_D2N
82	MIPI_DPHY_CSI_RX1_D3P	AM28	O	-		MIPI_CSI_RX1_D3P	MIPI_CSI_RX1_D3P
84	MIPI_DPHY_CSI_RX1_D3N	AM29	O	-		MIPI_CSI_RX1_D3N	MIPI_CSI_RX1_D3N
86	MIPI_DPHY_CSI_RX1_CLK1P	AL29	O	-		MIPI_CSI_RX1_CLK1P	MIPI_CSI_RX1_CLK1P
88	MIPI_DPHY_CSI_RX1_CLK1N	AL30	O	-		MIPI_CSI_RX1_CLK1N	MIPI_CSI_RX1_CLK1N
90	MIPI_DPHY_CSI_RX1_CLK0P	AL31	O	-		MIPI_CSI_RX1_CLK0P	MIPI_CSI_RX1_CLK0P
92	MIPI_DPHY_CSI_RX1_CLK0N	AM31	O	-		MIPI_CSI_RX1_CLK0N	MIPI_CSI_RX1_CLK0N
94	MIPI_DPHY_CSI_RX1_D1P	AL32	O	-		MIPI_CSI_RX1_D1P	MIPI_CSI_RX1_D1P
96	MIPI_DPHY_CSI_RX1_D1N	AK32	O	-		MIPI_CSI_RX1_D1N	MIPI_CSI_RX1_D1N
98	MIPI_DPHY_CSI_RX1_D0P	AJ32	O	-		MIPI_CSI_RX1_D0P	MIPI_CSI_RX1_D0P
100	MIPI_DPHY_CSI_RX1_D0N	AJ31	O	-		MIPI_CSI_RX1_D0N	MIPI_CSI_RX1_D0N
PIN	ICORE-1126BQ38 pin definition (J2)	RV1126B Pin Number	Pin type	IO Power domain	IO Pull	Function for Main BOARD (EXT-ICORE-3576Q38)	Default function description
1	VCC5V0_SYS		P	5V		VCC5V0_SYS Normal: 5V/200mA Max.:5V/600mA Sleep:5V/40mA	VCC5V0_SYS INPUT Voltage 5.0V +/-5%
3	VCC5V0_SYS		P	5V			



Interface definition

5	VCC5V0_SYS		P	5V		VCC5V0_SYS Normal: 5V/200mA Max.:5V/600mA Sleep:5V/40mA	VCC5V0_SYS INPUT Voltage 5.0V +/-5%
7	VCC5V0_SYS		P	5V			
9	VCC5V0_SYS		P	5V			
11	GND12		G			GND	GND
13	GND13		G			GND	GND
15	GND14		G			GND	GND
17	GND15		G			GND	GND
19	PMIC_PWRON		O			PMIC_PWRON	PMIC_PWRON(PWERON KEY INPUT,Active L)
21	VCC_3V3		P			VCC_3V3	VCC_3V3
23	VDC_EXT		P			VDC_EXT	PMIC_EN INPUT, Active H
25	VCC3V3_SYS		P			VCC3V3_SYS	VCC3V3_SYS OUTPUT (3.3V, Total Max:100mA)
27	VCC3V3_SYS		P			VCC3V3_SYS	
29	RESET	AL16	O	3.3V		RESET	RESET (SYSTEM RESET INPUT, Active L)
31	PWR_CTRL0/GPIO0_A3	AM11	I/O	3.3V	UP	GPIO0_A3_U	GPIO0_A3_U
33	PWR_CTRL1/GPIO0_A4	1AB6	I/O	1.8V	DOWN	RTC_INT_L	RTC_INT INPUT, Active L (Core board pull up resistance 4.7K)
35	SARADC2_IN7/VI_CIF_HSYNC_M0/ETH_RXCLK_M0/FEPHY_LEDSPD_M2/ PWM0_CH3_M2/UART3_RX_M2/I2C2_SDA_M2/GPIO6_C3	V31	I/O	1.8V	DOWN	GPIO6_C3_D	GPIO6_C3_D
37	SARADC2_IN5/VI_CIF_CLKIN_M0/ETH_CLK_25M_OUT_M0/PWM0_CH1_ M2/UART3_CTSN_M2/GPIO6_C1	U32	I/O	1.8V	DOWN	GPIO6_C1_D	GPIO6_C1_D
39	SARADC2_IN6/VI_CIF_CLKOUT_M0/ETH_TXCLK_M0/FEPHY_LEDLINK_M2/ PWM0_CH2_M2/UART3_TX_M2/GPIO6_C2	U31	I/O	1.8V	DOWN	GPIO6_C2_D	GPIO6_C2_D



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41	SARADC2_IN4/VI_CIF_VSYNC_M0/ETH_MDC_M0/PWM0_CH0_M2/UART3_RT SN_M2/I2C2_SCL_M2/GPIO6_C0	V32	I/O	1.8V	DOWN	GPIO6_C0_D	GPIO6_C0_D
43	GND11		G			GND	GND
45	SDMMC0_D2/UART3_RX_M0/UART4_RTSN_M3/JTAG_TCK_M1/TEST_CLK1_O UT/GPIO2_A2	1AB18	I/O	3.3V	DOWN	SDMMC0_D2(To SD CARD)	SDMMC0_D2 (Core board series resistance 22R)
47	SDMMC0_D3/UART3_TX_M0/UART4_CTSN_M3/JTAG_TMS_M1/GPIO2_A3	1AA18	I/O	3.3V	DOWN	SDMMC0_D3(To SD CARD)	SDMMC0_D3 (Core board series resistance 22R)
49	SDMMC0_CLK/UART3_RTSN_M0/UART4_RX_M3/GPIO2_A4	1AC20	I/O	3.3V	DOWN	SDMMC0_CLK(To SD CARD)	SDMMC0_CLK (Core board series resistance 22R)
51	SDMMC0_CMD/UART3_CTSN_M0/UART4_TX_M3/GPIO2_A5	1AC18	I/O	3.3V	DOWN	SDMMC0_CMD(To SD CARD)	SDMMC0_CMD (Core board series resistance 22R)
53	SDMMC0_D1/UART0_TX_M0/I2C0_SCL_M1/GPIO2_A1	1AA20	I/O	3.3V	DOWN	SDMMC0_D1(To SD CARD)	SDMMC0_D1 (Core board series resistance 22R)
55	SDMMC0_D0/UART0_RX_M0/I2C0_SDA_M1/GPIO2_A0	1AB20	I/O	3.3V	DOWN	SDMMC0_D0(To SD CARD)	SDMMC0_D0 (Core board series resistance 22R)
57	GND10		G			GND	GND
59	FSPI1_CSN0_M0/SPI0_CSN0_M0/GPIO0_A7	1AC4	I/O	3.3V	UP	SDMMC0_PWREN	SDMMC0_PWREN
61	SDMMC0_DET/PWM1_CH0_M0/GPIO0_A5	AL10	I/O	3.3V	UP	SDMMC0_DET	SDMMC0_DET, Active L
63	VO_LCDC_D6/SPI0_CLK_M2/DSMC_D11/SAI2_SDI0_M1/PWM0_CH1_M1/UA RT5_RTSN_M1/GPIO5_A6	L32	I/O	3.3V	DOWN	GPIO5_A6_D	GPIO5_A6_D
65	CAM_CLK1_OUT/UART5_RTSN_M0/GPIO4_B0	AF31	I/O	3.3V	DOWN	MIPI_MCLK_OUT1	MIPI_MCLK_OUT1 (Core board series resistance 22R)
67	CAM_CLK0_OUT/UART5_CTSN_M0/GPIO4_B1	AE31	I/O	3.3V	DOWN	MIPI_MCLK_OUT0	MIPI_MCLK_OUT0 (Core board series resistance 22R)
69	GND09		G			GND	GND
71	UART2_RX_M0/GPIO3_B0	B17	I/O	1.8V	DOWN	UART2_RX_BT	UART2_RX_BT
73	SPI1_CSN0_M1/SAI2_LRCK_M0/PWM2_CH3_M0/UART1_CTSN_M1/I2C4_SDA M0/FEPHY_LEDSPD_M0/GPIO3_B5	1A16	I/O	1.8V	DOWN	WIFI_REG_ON_H	WIFI_REG_ON_H



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75	SPI1_CSN1_M1/SAI2_MCLK_M0/SDMMC1_DET_N/UART1_TX_M1/I2C5_SCL_M1/GPIO3_B6	B16	I/O	1.8V	DOWN	HOST_WAKE_BT_H	HOST_WAKE_BT_H
77	SPI1_MISO_M1/SAI2_SDI0_M0/PWM2_CH1_M0/PRELIGHT_TRIG_OUT/GPIO3_B3	1B14	I/O	1.8V	DOWN	BT_WAKE_HOST_H	BT_WAKE_HOST_H
79	SPI1_CLK_M1/SAI2_SCLK_M0/PWM2_CH2_M0/UART1_RTSN_M1/I2C4_SCL_M0/PHY_LEDLINK_M0/GPIO3_B4	1A14	I/O	1.8V	DOWN	WIFI_WAKE_HOST_H	WIFI_WAKE_HOST_H
81	SAI2_SDI1_M0/UART1_RX_M1/I2C5_SDA_M1/GPIO3_B7	A16	I/O	1.8V	DOWN	HOST_WAKE_WIFI_H	HOST_WAKE_WIFI_H
83	SARADC2_IN3/VI_CIF_D15_M0/ETH_MDIO_M0/PDM_CLK1_M1/UART7_CTSN_M1/GPIO6_B7	1K21	I/O	1.8V	DOWN	UART7_CTSN_M1	UART7_CTSN_M1
85	VI_CIF_D12_M0/ETH_MCLK_M0/SPI1_CLK_M0/PDM_CLK0_M1/UART7_TX_M1/GPIO6_B4	1M21	I/O	1.8V	DOWN	UART7_TX_M1	UART7_TX_M1
87	SARADC2_IN1/VI_CIF_D13_M0/ETH_RXCTL_M0/PDM_SDI0_M1/UART7_RX_M1/GPIO6_B5	1M22	I/O	1.8V	DOWN	UART7_RX_M1	UART7_RX_M1
89	SARADC2_IN2/VI_CIF_D14_M0/PDM_SDI1_M1/UART7_RTSN_M1/GPIO6_B6	1M23	I/O	1.8V	DOWN	UART7_RTSN_M1	UART7_RTSN_M1
91	UART2_RTSN_M0/GPIO3_A6	B19	I/O	1.8V	DOWN	UART2_RTSN_BT	UART2_RTSN_BT
93	UART2_CTSN_M0/GPIO3_A7	B18	I/O	1.8V	DOWN	UART2_CTSN_BT	UART2_CTSN_BT
95	SAI2_SDI2_M0/UART2_TX_M0/GPIO3_B1	A17	I/O	1.8V	DOWN	UART2_TX_BT	UART2_TX_BT
97	SARADC1_IN1/VI_CIF_D1_M0/ETH_PTP_REFCLK_M0/CAN0_TXD_M1/SAI0_LRCK_M1/PWM1_CH1_M2/UART4_RX_M2/I2C3_SDA_M3/GPIO6_A1	AD32	I/O	1.8V	DOWN	I2C3_SDA_M3	I2C3_SDA_M3
99	SARADC1_IN0/VI_CIF_D0_M0/ETH_PPSTRIG_M0/CAN0_RXD_M1/SAI0_SCLK_M1/PWM1_CH0_M2/UART4_TX_M2/I2C3_SCL_M3/GPIO6_A0	AT23	I/O	1.8V	DOWN	I2C3_SCL_M3	I2C3_SCL_M3
2	VCC5V0_SYS		P	5V		VCC5V0_SYS Normal: 5V/200mA Max.:5V/600mA Sleep:5V/40mA	VCC5V0_SYS INPUT Voltage 5.0V +/-5%
4	VCC5V0_SYS		P	5V			
6	VCC5V0_SYS		P	5V			
8	VCC5V0_SYS		P	5V			



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10	GND05		G			GND	GND
12	GND06		G				
14	GND07		G				
16	GND08		G				
18	VCC_RK801		P			VCC_RK801	VCC_RK801 startup circuit power supply
20	VCC_1V8		P			VCC_1V8	VCC_1V8_S3 OUTPUT (1.8V, Total Max:500mA)
22	GND04		G			GND	GND
24	SARADC1_IN2/VI_CIF_D2_M0/ETH_PPSCCLK_M0/CAN1_RXD_M1/SAIO_SDO0_M1/PWM1_CH2_M2/UART5_TX_M2/I2C4_SCL_M1/GPIO6_A2	AC32	I/O	1.8V	DOWN	GPIO6_A2_D	GPIO6_A2_D
26	SARADC1_IN3/VI_CIF_D3_M0/ETH_RXD2_M0/CAN1_TXD_M1/SAIO_SDI0_M1/PWM1_CH3_M2/UART5_RX_M2/I2C4_SDA_M1/GPIO6_A3	AC31	I/O	1.8V	DOWN	GPIO6_A3_D	GPIO6_A3_D
28	SARADC1_IN4/VI_CIF_D4_M0/ETH_RXD3_M0/SAIO_MCLK_M1/PWM2_CH0_M2/UART5_RTSN_M2/I2C5_SCL_M3/GPIO6_A4	AB31	I/O	1.8V	DOWN	GPIO6_A4_D	GPIO6_A4_D
30	SARADC1_IN5/VI_CIF_D5_M0/ETH_TXD2_M0/PWM2_CH1_M2/UART5_CTSN_M2/I2C5_SDA_M3/GPIO6_A5	AA31	I/O	1.8V	DOWN	GPIO6_A5_D	GPIO6_A5_D
32	GND03		G			GND	GND
34	SDMMC1_D0/I2C1_SCL_M1/GPIO3_A2	A22	I/O	1.8V	DOWN	SDIO_D0	SDIO_D0
36	SDMMC1_CLK/GPIO3_A0	B22	I/O	1.8V	DOWN	SDIO_CLK	SDIO_CLK (Core board series resistance 22R)
38	SDMMC1_D3/GPIO3_A5	B20	I/O	1.8V	DOWN	SDIO_D3	SDIO_D3
40	SDMMC1_D1/I2C1_SDA_M1/GPIO3_A3	A23	I/O	1.8V	DOWN	SDIO_D1	SDIO_D1
42	SDMMC1_D2/GPIO3_A4	A20	I/O	1.8V	DOWN	SDIO_D2	SDIO_D2
44	SDMMC1_CMD/GPIO3_A1	B21	I/O	1.8V	DOWN	SDIO_CMD	SDIO_CMD



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46	GND02		G			GND	GND
48	SARADC1_IN6/VI_CIF_D6_M0/ETH_TXD3_M0/PWM2_CH2_M2/UART4_RTSN_M2/GPIO6_A6	AA32	I/O	1.8V	DOWN	GPIO6_A6_D	GPIO6_A6_D
50	SARADC1_IN7/VI_CIF_D7_M0/ETH_TXD0_M0/PWM2_CH3_M2/SAI0_SDI3_M1/SAI0_SDO1_M1/UART4_CTSN_M2/GPIO6_A7	Y32	I/O	1.8V	DOWN	GPIO6_A7_D	GPIO6_A7_D
52	SARADC2_IN0/VI_CIF_D8_M0/ETH_TXD1_M0/SPI1_CSN1_M0/SAI0_SDI2_M1/SAI0_SDO2_M1/UART6_TX_M1/GPIO6_B0	W31	I/O	1.8V	DOWN	GPIO6_B0_D	GPIO6_B0_D
54	VI_CIF_D9_M0/ETH_TXCTL_M0/SPI1_CSN0_M0/SAI0_SDI1_M1/SAI0_SDO3_M1/UART6_RX_M1/GPIO6_B1	1P21	I/O	1.8V	DOWN	GPIO6_B1_D	GPIO6_B1_D
56	SPI0_CSN1_M1/SAI1_MCLK_M1/PWM0_CH5_M1/UART4_TX_M0/GPIO4_A3	1V21	I/O	3.3V	DOWN	UART4_TX_M0	UART4_TX_M0
58	CAM_CLK3_OUT/UART4_RTSN_M0/I2C1_SDA_M2/GPIO4_A0	AG31	I/O	3.3V	UP	UART4_RTSN_M0	UART4_RTSN_M0
60	PWM0_CH4_M1/UART4_RX_M0/GPIO4_A2	1Y23	I/O	3.3V	DOWN	UART4_RX_M0	UART4_RX_M0
62	CAM_CLK2_OUT/UART4_CTSN_M0/I2C1_SCL_M2/GPIO4_A1	AG32	I/O	3.3V	UP	UART4_CTSN_M0	UART4_CTSN_M0
64	VI_CIF_D10_M0/ETH_RXD0_M0/SPI1_MOSI_M0/PDM_SDI2_M1/UART6_RTSN_M1/GPIO6_B2	1P22	I/O	1.8V	DOWN	GPIO6_B2_D	GPIO6_B2_D
66	VI_CIF_D11_M0/ETH_RXD1_M0/SPI1_MISO_M0/PDM_SDI3_M1/UART6_CTSN_M1/GPIO6_B3	1P23	I/O	1.8V	DOWN	GPIO6_B3_D	GPIO6_B3_D
68	GND01		G			GND	GND
70	VO_LCDC_D23/ETH_RXCLK_M1/VI_CIF_HSYNC_M1/DSMC_D0/SAI1_SDI_M2/PWM3_CH7_M1/GPIO5_C7	1D21	I/O	3.3V	DOWN	GMAC_RXCLK_M1	GMAC_RXCLK_M1
72	VO_LCDC_D9/ETH_RXD0_M1/VI_CIF_D5_M1/DSMC_D8/IR_FPA_SDA3/UART6_RX_M0/GPIO5_B1	1K23	I/O	3.3V	DOWN	GMAC_RXD0_M1	GMAC_RXD0_M1
74	VO_LCDC_D8/ETH_RXCTL_M1/VI_CIF_D4_M1/DSMC_D9/IR_FPA_SDA2/UART6_TX_M0/GPIO5_B0	K31	I/O	3.3V	DOWN	GMAC_RXCTL_M1	GMAC_RXCTL_M1
76	VO_LCDC_D10/ETH_RXD1_M1/VI_CIF_D6_M1/DSMC_RESETN/DSMC_INT1/PWM2_CH0_M1/UART6_RTSN_M0/GPIO5_B2	1H23	I/O	3.3V	DOWN	GMAC_RXD1_M1	GMAC_RXD1_M1
78	VO_LCDC_D19/ETH_RXD2_M1/VI_CIF_D15_M1/DSMC_D4/SAI1_MCLK_M2/PWM3_CH3_M1/GPIO5_C3	G31	I/O	3.3V	DOWN	GMAC_RXD2_M1	GMAC_RXD2_M1





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80	VO_LCDC_D20/ETH_RXD3_M1/VI_CIF_VSYNC_M1/DSMC_D3/SAI1_SDO_M2/PWM3_CH4_M1/GPIO5_C4	F31	I/O	3.3V	DOWN	GMAC_RXD3_M1	GMAC_RXD3_M1
82	VO_LCDC_D11/ETH_MCLK_M1/VI_CIF_D7_M1/DSMC_RDYN/PWM2_CH1_M1/UART6_CTSN_M0/GPIO5_B3	1F22	I/O	3.3V	DOWN	GMAC_MCLK_M1	GMAC_MCLK_M1 (Core board series resistance 22R)
84	VO_LCDC_D22/ETH_TXCLK_M1/VI_CIF_CLKIN_M1/DSMC_D1/SAI1_LRCK_M2/PWM3_CH6_M1/GPIO5_C6	1D22	I/O	3.3V	DOWN	GMAC_TXCLK_M1	GMAC_TXCLK_M1 (Core board series resistance 22R)
86	VO_LCDC_D18/ETH_TXCTL_M1/VI_CIF_D14_M1/DSMC_D5/IR_FPA_SDA6/PWM3_CH2_M1/GPIO5_C2	1F23	I/O	3.3V	DOWN	GMAC_TXCTL_M1	GMAC_TXCTL_M1 (Core board series resistance 22R)
88	VO_LCDC_D15/ETH_TXD0_M1/VI_CIF_D11_M1/DSMC_CLKP/PWM2_CH3_M1/UART7_CTSN_M0/GPIO5_B7	H32	I/O	3.3V	DOWN	GMAC_TXD0_M1	GMAC_TXD0_M1 (Core board series resistance 22R)
90	VO_LCDC_D21/ETH_TXD2_M1/VI_CIF_CLKOUT_M1/DSMC_D2/SAI1_SCLK_M2/PWM3_CH5_M1/GPIO5_C5	1D23	I/O	3.3V	DOWN	GMAC_TXD2_M1	GMAC_TXD2_M1 (Core board series resistance 22R)
92	VO_LCDC_D16/ETH_TXD1_M1/VI_CIF_D12_M1/DSMC_D7/IR_FPA_SDA4/PWM3_CH0_M1/GPIO5_C0	J32	I/O	3.3V	DOWN	GMAC_TXD1_M1	GMAC_TXD1_M1 (Core board series resistance 22R)
94	VO_LCDC_D0/ETH_TXD3_M1/VI_CIF_D0_M1/DSMC_CSN1/IR_FPA_SDA0/PWM2_CH4_M0/UART4_RTSN_M1/GPIO5_A0	R31	I/O	3.3V	DOWN	GMAC_TXD3_M1	GMAC_TXD3_M1 (Core board series resistance 22R)
96	VO_LCDC_D12/VI_CIF_D8_M1/DSMC_CSN0/UART7_TX_M0/GPIO5_B4	1H22	I/O	3.3V	DOWN	GEPHY_RST_3V3IO	GEPHY_RST_3V3IO
98	VO_LCDC_D14/ETH_MDC_M1/VI_CIF_D10_M1/DSMC_CLKN/DSMC_INT0/PWM2_CH2_M1/UART7_RTSN_M0/GPIO5_B6	J31	I/O	3.3V	DOWN	GMAC_MDC_M1	GMAC_MDC_M1 (Core board series resistance 22R)
100	VO_LCDC_D13/ETH_MDIO_M1/VI_CIF_D9_M1/DSMC_DQS0/UART7_RX_M0/GPIO5_B5	1H21	I/O	3.3V	DOWN	GMAC_MDIO_M1	GMAC_MDIO_M1




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