

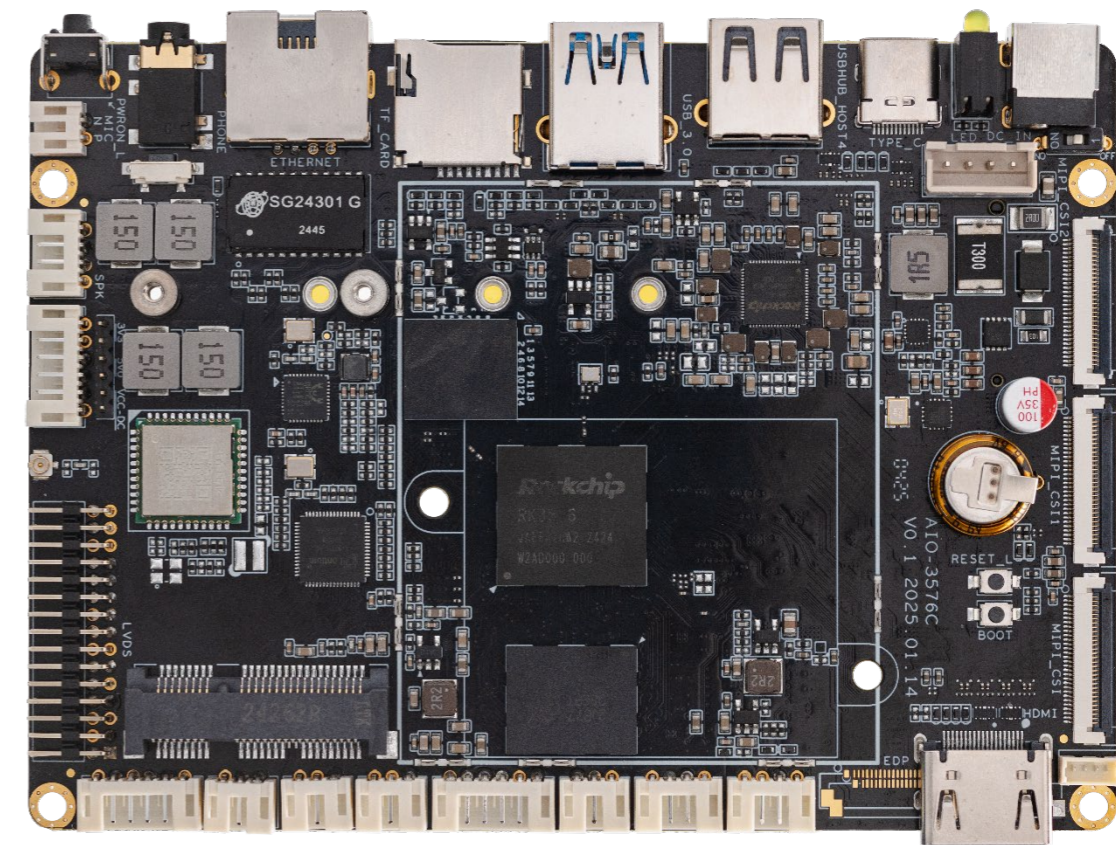


AIO-3576C

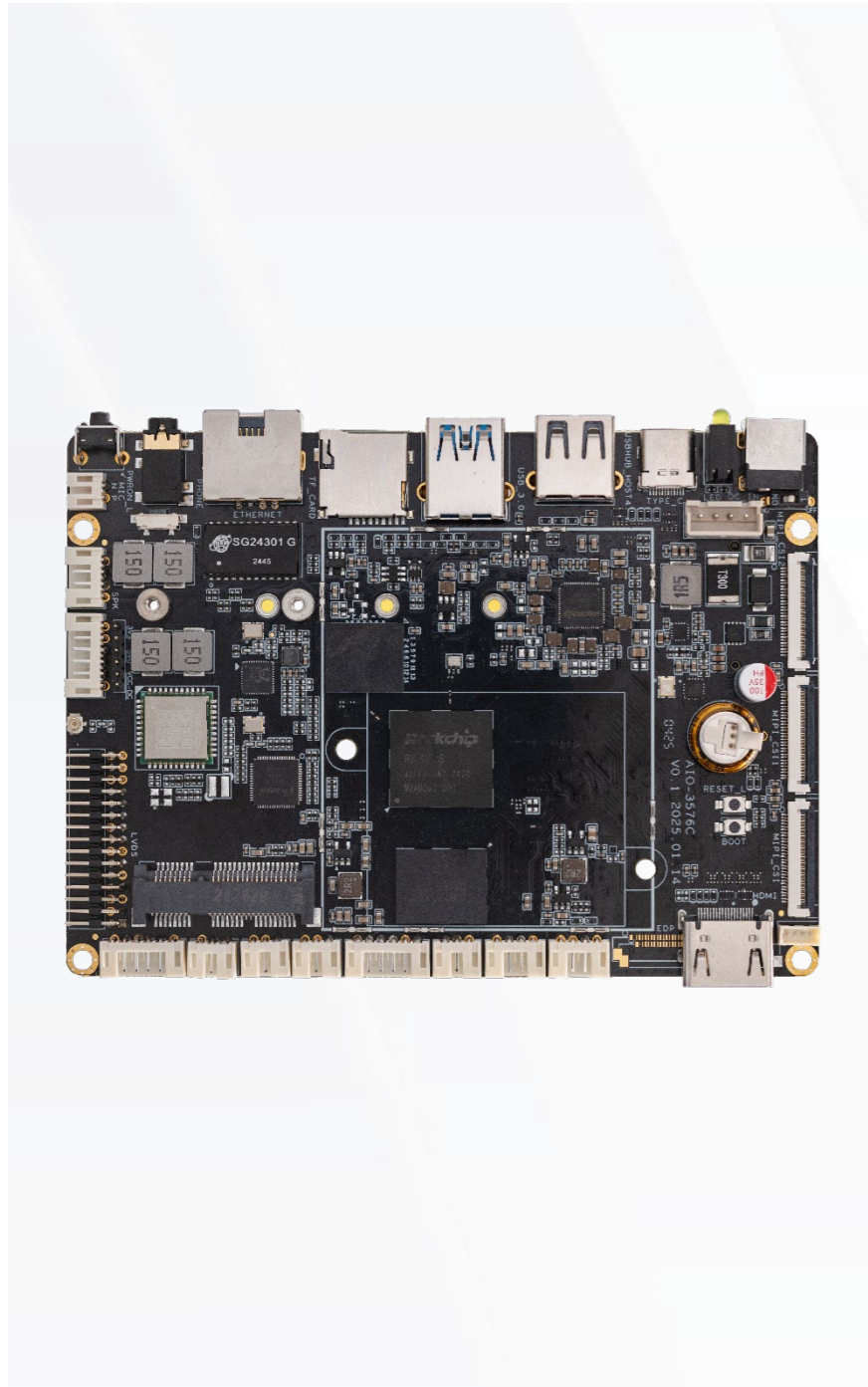
Large-model Industrial Mainboard

V0.1 2025-3-12

T-CHIP INTELLIGENCE TECHNOLOGY



Product features



Octa-core 64-bit AIOT processor RK3576

It adopts Rockchip's new generation of high-performance AIoT chip RK3576, octa-core 64-bit, large and small core architecture (4xA72 +4xA53), advanced process, and the main frequency is up to 2.2GHz.



Built-in 6TOPS computing power NPU

NPU computing power up to 6TOPS, support INT4/INT8 and other operations, support dual-core collaborative or independent work, support multi-tasking, multi-scenario parallelism; Support the privatization and deployment of YOLO and large language models.



4K@120fps high frame rate video decoding

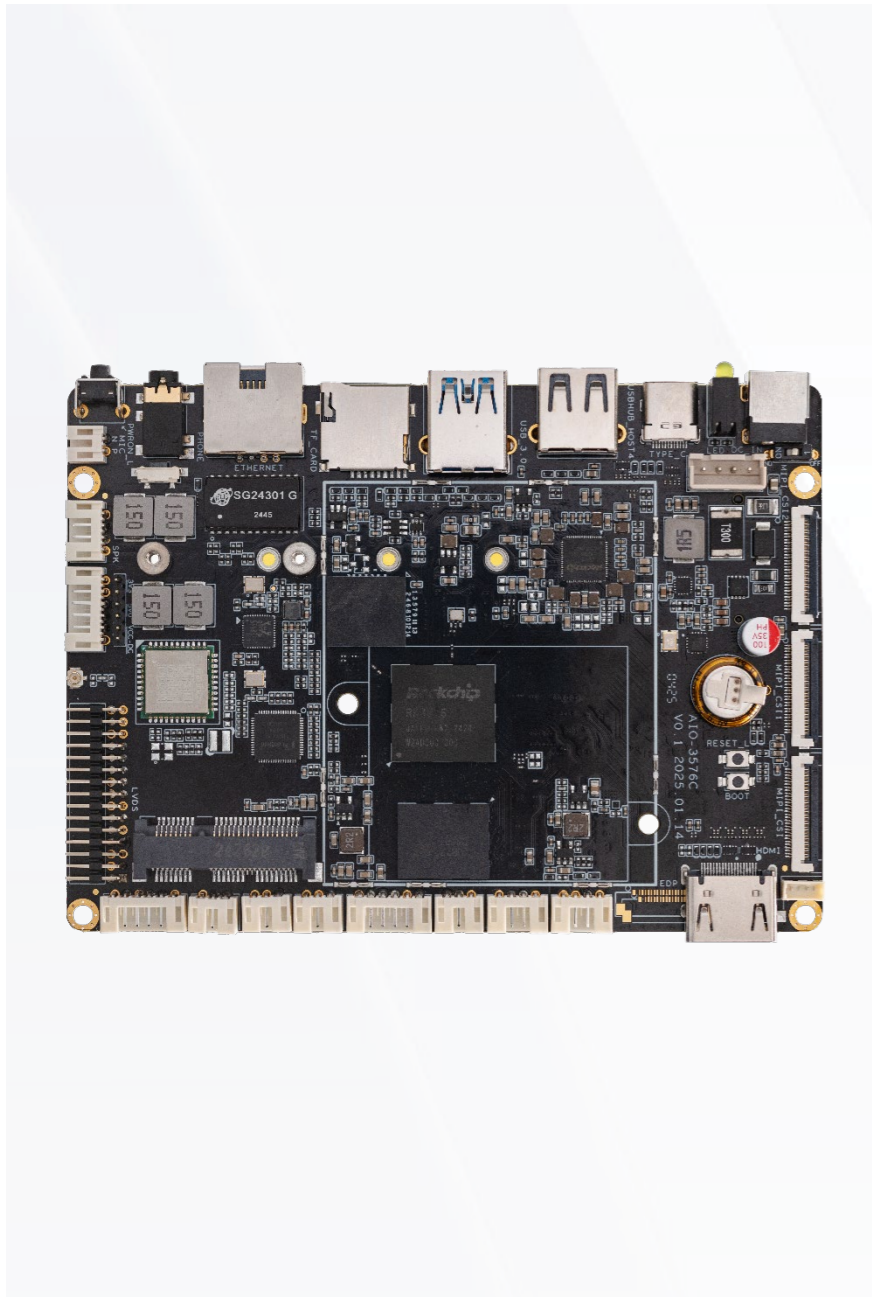
Support 8K@30fps/4K@120fps decode (H.265/HEVC, VP9, AVS2, AV1) , 4K@60fps encode (H.265/HEVC, H.264/AVC). It supports HDMI/eDP, MIPI DSI, LVDS and other display interfaces, and supports three-screen different display and 4K@120Hz ultra-clear display to meet the diverse display needs of multiple scenes.



The private deployment of large language models

Support the privatization deployment of ultra-large-scale parametric models under the Transformer architecture, such as Gemma series, ChatGLM series, Qwen series, Phi series and other large language models.

Product features



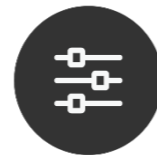
Supports RTLinux and multiple operating systems

Supports RTLinux kernel with excellent real-time performance; Supports Android 14, Linux OS, and Buildroot operating systems, providing a secure and stable system environment for product development and production.



New industrial features to meet the needs of industrial applications

It has new industrial features such as real-time network, Flexbus, hardware resource isolation, and DSMC to meet the needs of different industrial applications.



Abundant expansion interfaces

Equipped with MIPI-DSI, MIPI-CSI, HDMI2.1, Mini PCIe, M.2, USB3.0, USB2.0, MIC, RS485, RS232, CAN, LVDS, I2C, ADC and other expansion interfaces to meet the peripheral expansion needs of different scenarios.



A wide range of applications

It is widely used in: edge computing, large model localization, smart commercial display, cloud terminal products, industrial control host, automotive electronics and other industries.

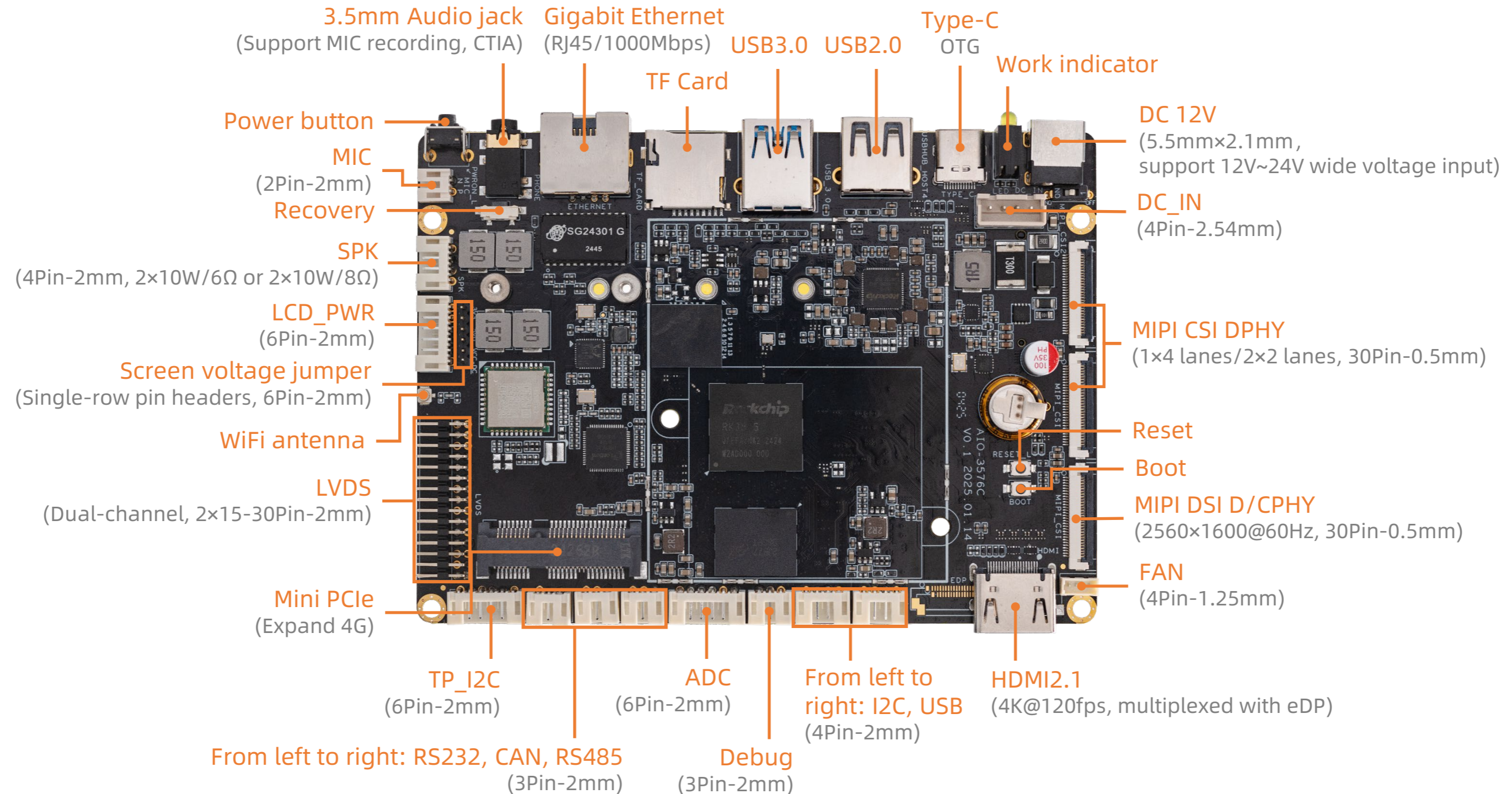
Specifications



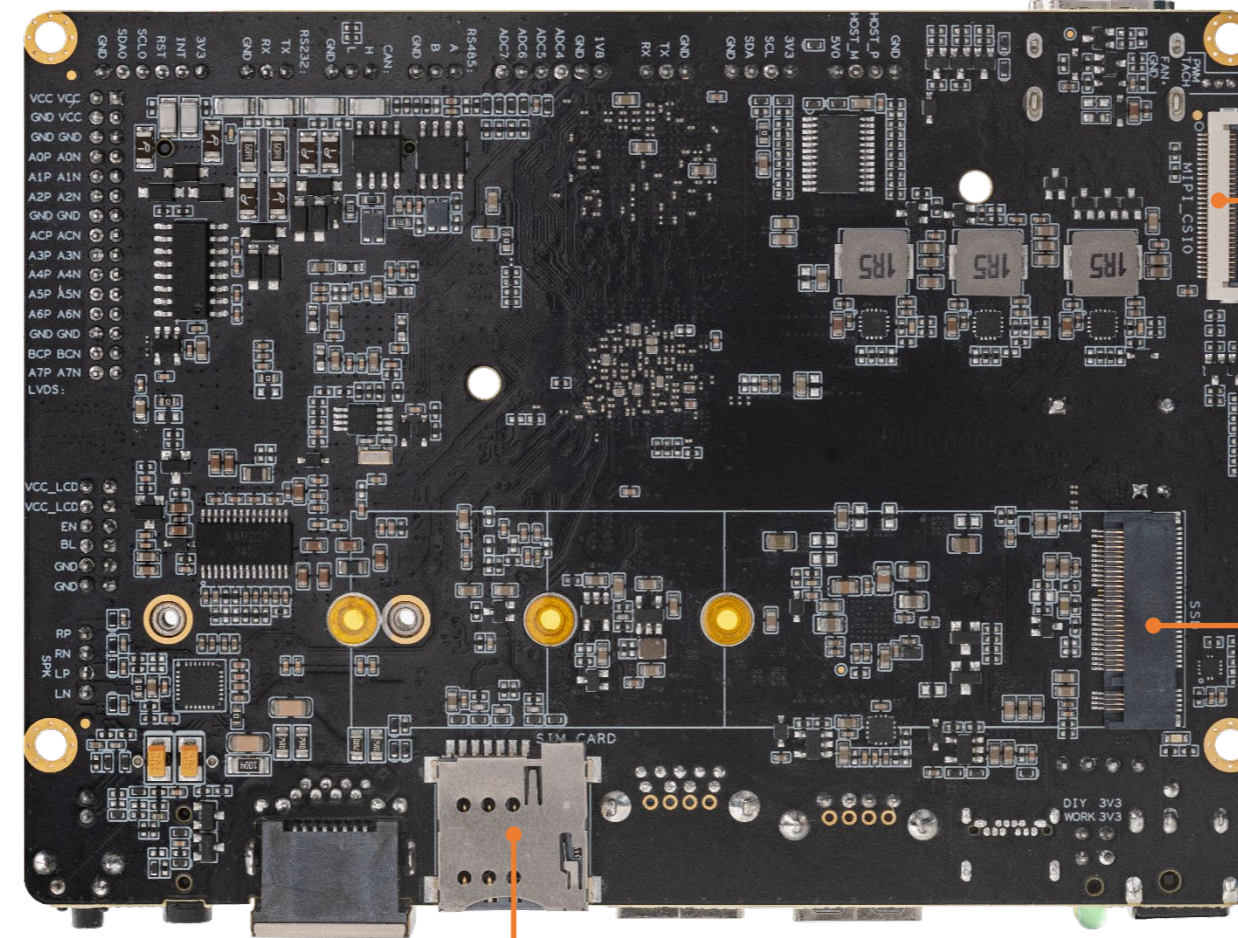
Specifications		
Basic Specifications	SOC	Rockchip RK3576
	CPU	Octa-core 64-bit processor (4xA72 + 4xA53) with a maximum frequency of 2.2GHz
	GPU	G52 MC3 @ 1GHz, supports OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1, embedded high-performance 2D acceleration hardware
	NPU	6 TOPS computing power NPU, support INT4/INT8/INT16/FP16/BF16/TF32 operation, support dual-core collaborative or independent work, support multi-task, multi-scenario parallelism
	ISP	Built-in 16 million pixel ISP, support low-light noise reduction, support RGB-IR sensor, support up to 120dB HDR, AI-ISP to improve low-noise image effect
	Codecs	Decode: 8K@30fps/4K@120fps (H.265/HEVC, VP9, AVS2, AV1), 4K@60fps (H.264/AVC) Encode: 4K@60fps (H.265/HEVC, H.264/AVC)
	RAM	LPDDR5 (4GB/8GB/16GB Optional)
	Storage	eMMC (16GB/32GB/64GB/128GB/256GB Optional)
	Storage Expansion	1 × M.2 M-KEY (Scalable SATA3.0/PCIe NVMe SSD, support 2242/2260/2280), 1 × TF Card
	Power	DC 12V (5.5mm × 2.1mm, support 12V~24V wide voltage input), 1 × DC_IN (4Pin-2.54mm)
	Power consumption	Max: 8.4W(12V/700mA), Normal: 1.2W(12V/100mA), Min: 0.24W(12V/20mA)
	OS	It supports RTLinux kernel and has excellent real-time performance, which is widely used in industrial application scenarios. Support Android14, Linux OS, Buildroot, domestic operating system, provide a safe and stable system environment for product research and production. It has new industrial features such as real-time network, Flexbus, hardware resource isolation, and DSMC to meet the needs of different industrial applications.
	AI performance	Support the privatization deployment of ultra-large-scale parametric models under the Transformer architecture, such as Gemma series, ChatGLM series, Qwen series, Phi series and other large language models. It supports traditional network architectures such as CNN, RNN, and LSTM, and supports the import and export of RKNN models; Support a variety of deep learning frameworks, including TensorFlow, TensorFlow Lite, PyTorch, Caffe, ONNX and Darknet. It also supports the development of custom operators. Support Docker container management technology. It supports the real-time object detection algorithm YOLO (You Only Look Once), which is fast and real-time compared with traditional object detection methods, and can accurately identify and locate multiple target objects in images or videos, powering AI applications.
	Size	126.0mm × 94.4mm × 14.2mm
Weight	≈91g	
Environment	Operating Temperature: -20°C ~ 60°C, Storage Temperature: -20°C ~ 70°C, Storage Humidity: 10% ~ 90%RH(non-condensing)	
Interface Specifications	Internet	1 × Gigabit Ethernet (RJ45/1000Mbps), supports 2.4GHz/5GHz dual-band WiFi (802.11a/b/g/n/ac), Bluetooth 5.0, expandable 4G LTE (Mini PCIe)
	Video input	2 × MIPI-CSI DPHY (1x4Lanes or 2x2Lanes, 30Pin-0.5mm) 1 × MIPI-CSI D/CPHY (DPHY(1x4 Lanes/2x2 Lanes) or CPHY(3Lanes), 30Pin-0.5mm)
	Video output	1 × HDMI2.1 (4K@120fps, multiplexed with eDP), 1 × eDP (Not pasted by default, multiplexed with HDMI, can be pasted with 30P-0.5mm or 40P-0.5mm two specifications), 1 × MIPI-DSI (2560×1600@60Hz, 30Pin-0.5mm), 1 × LVDS (Dual-channel, double-row pin headers 2×15-30Pin-2mm)
	Audio	1 × MIC (2Pin-2mm), 1 × SPK (4Pin-2mm, 2×10W/6Ω or 2×10W/8Ω), 1 × 3.5mm Audio jack (Support MIC recording, American Standard CTIA)
	USB	1 × USB3.0 (HOST, max: 1.2A), 1 × USB2.0 (HOST, max: 0.5A), 1 × Type-C (OTG), 1 × USB_HOST (4Pin-2mm)
	Button	1 × Reset, 1 × Recovery, 1 × BOOT
	Other interfaces	1 × RS232 (3Pin-2mm), 1 × RS485 (3Pin-2mm), 1 × CAN (3Pin-2mm), 1 × I2C (4Pin-2mm), 4 × ADC (6Pin-2mm), 1 × Debug (3Pin-2mm), 1 × LCD_PWR (6Pin-2mm), 1 × TP_I2C (6Pin-2mm), 1 × FAN (4Pin-1.25mm) , 1 × Screen voltage jumper (Single-row pin headers, 6Pin-2mm)



Interface description



Interface description

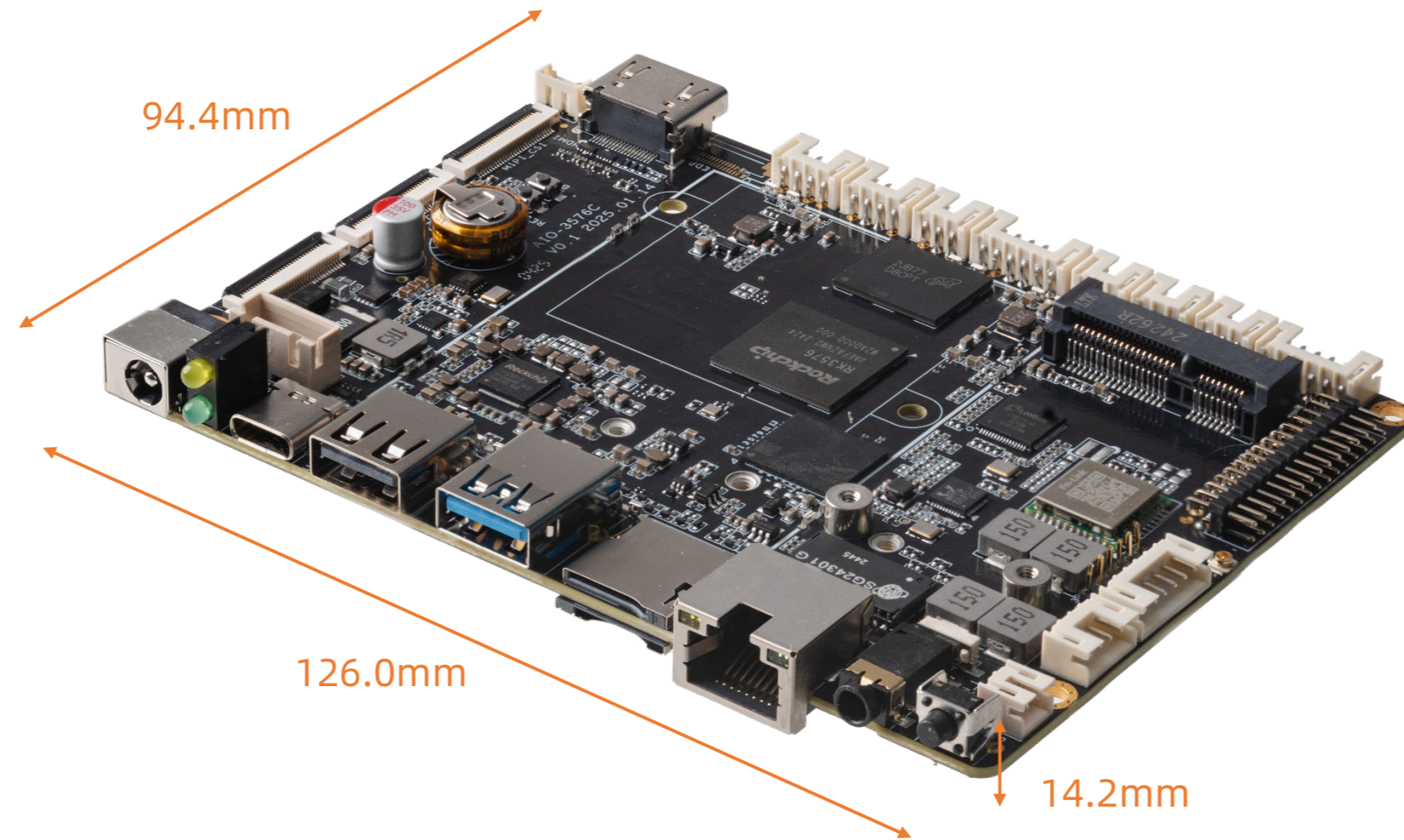


MIPI CSI D/C PHY
(DPHY(1x4 lanes) or CPHY(3 lanes),
30Pin-0.5mm)

M.2 M-KEY
(SATA3.0 PCIe NVMe SSD
2242/2260/2280)

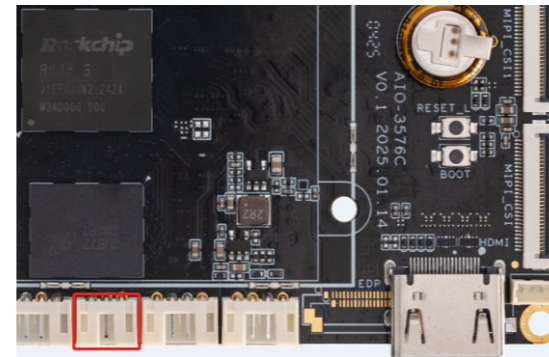
SIM Card

Dimension



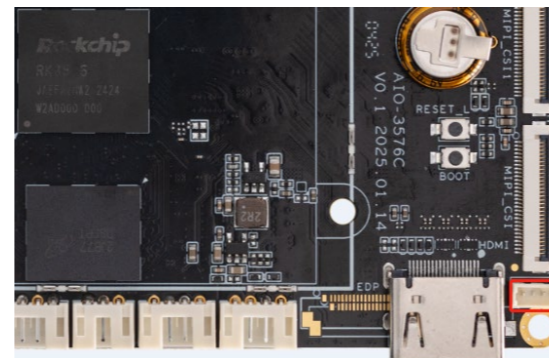
Interface definition

1. (J6) DEBUG: 3PIN 2.0mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	GND		3	UART0_RX_Debug	3.3V
2	UART0_TX_Debug	3.3V			

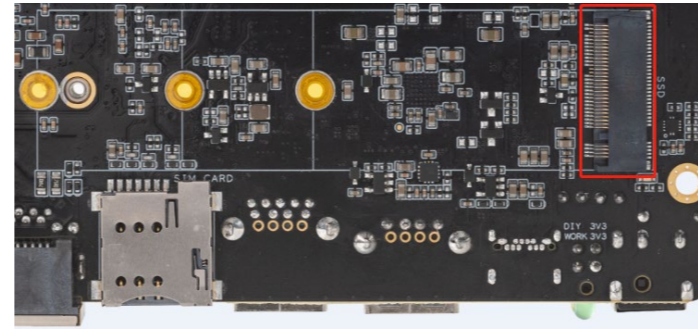
2. (J22)FAN: 4PIN 1.25mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	GND		2	FAN+ (5V Output)	5V
3	FG Input 【GPIO0_D3】	3.3V	4	PWM1 Output 【GPIO4_A7】	3.3V

Interface definition

3. (U8)SSD M.2 PCIE/SATA M-KEY socket



NO.	Definition	Power/V	NO.	Definition	Power/V
1	GND		2	VCC3V3_PCIE (3.3V Output)	3.3
3	GND		4	VCC3V3_PCIE (3.3V Output)	3.3
5	NC		6	NC	
7	NC		8	NC	
9	GND		10	DAS/DSS [pull up resistor10K]	3.3
11	NC		12	VCC3V3_PCIE (3.3V Output)	3.3
13	NC		14	VCC3V3_PCIE (3.3V Output)	3.3
15	NC		16	VCC3V3_PCIE (3.3V Output)	3.3
17	NC		18	VCC3V3_PCIE (3.3V Output)	3.3
19	NC		20	NC	
21	GND		22	NC	
23	NC		24	NC	
25	NC		26	NC	
27	GND		28	NC	
29	NC		30	NC	

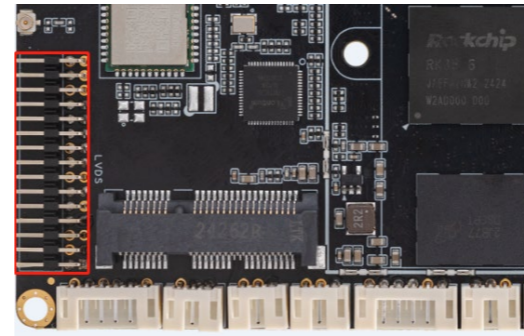


Interface definition

31	NC		32	NC	
33	GND		34	NC	
35	NC		36	NC	
37	NC		38	DEVSLP [GPIO2_B7, pull up resistor10K]	3.3
39	GND		40	NC	
41	PCIE0_RXP/SATA0_RXP	-	42	NC	
43	PCIE0_RXN/SATA0_RXN	-	44	NC	
45	GND		46	NC	
47	PCIE0_TXN/SATA0_TXN (Series capacitor 100nF)	-	48	NC	
49	PCIE0_TXP/SATA0_TXP (Series capacitor 100nF)	-	50	PCIE0_PERSTn (GPIO2_B1)	3.3
51	GND		52	PCIE0_CLKREQn_M0 (GPIO2_B2)	3.3
53	PCIE0_REFCLKN	-	54	PCIE0_WAKEn_M0 (GPIO0_D2)	3.3
55	PCIE0_REFCLKP	-	56	NC	
57	GND		58	NC	
67	NC		68	NC	
69	GND		70	VCC3V3_PCIE (3.3V Output)	3.3
71	GND		72	VCC3V3_PCIE (3.3V Output)	3.3
73	GND		74	VCC3V3_PCIE (3.3V Output)	3.3
75	GND				

Interface definition

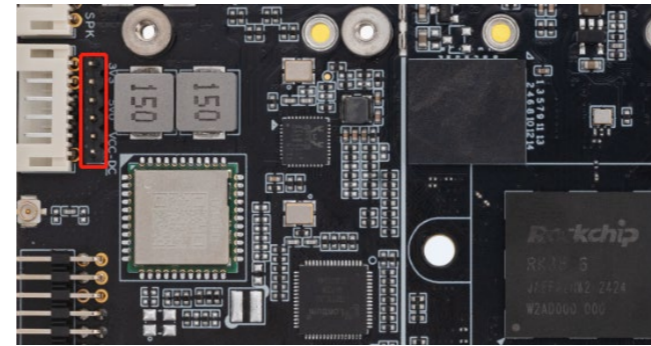
4. (CON1) LVDS Dual-Row Header 2*15PIN 2.0mm pitch



NO.	Definition	Power/V	NO.	Definition	Power/V
1	VCC_LCD (12V/5V/3.3V OUTPUT)	12/5/3.3V optional (Total MAX:1.0A)	2	VCC_LCD (12V/5V/3.3V OUTPUT)	12/5/3.3V optional (Total MAX:1.0A)
3	VCC_LCD (12V/5V/3.3V OUTPUT)		4	GND	
5	GND		6	GND	
7	LVDS_A0N	-	8	LVDS_A0P	-
9	LVDS_A1N	-	10	LVDS_A1P	-
11	LVDS_A2N	-	12	LVDS_A2P	-
13	GND		14	GND	
15	LVDS_ACN	-	16	LVDS_ACP	-
17	LVDS_A3N	-	18	LVDS_A3P	-
19	LVDS_A4N	-	20	LVDS_A4P	-
21	LVDS_A5N	-	22	LVDS_A5P	-
23	LVDS_A6N	-	24	LVDS_A6P	-
25	GND		26	GND	
27	LVDS_BCN	-	28	LVDS_BCP	-
29	LVDS_A7N	-	30	LVDS_A7P	-

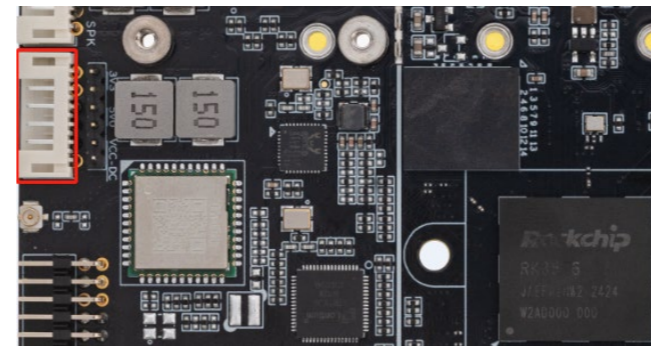
Interface definition

5. (J21) VCC_LCD voltage selection 6pin Header 2.0mm pitch



NO.	Definition	Power/V	NO.	Definition	Power/V
1	VCC_DC	12V	2	VCC_LCD	12/5.0/3.3V
3	VCC5V0_SYS	5.0V	4	VCC_LCD	12/5.0/3.3V
5	VCC3V3_SYS	3.3V	6	VCC_LCD	12/5.0/3.3V

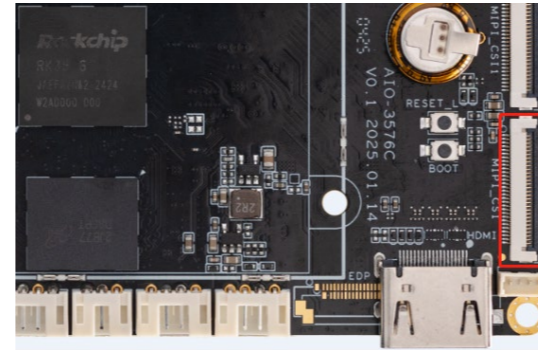
6. (J10) LCD_Backlight 6pin Wafer connector 2.0mm pitch



NO.	Definition	Power/V	NO.	Definition	Power/V
1	VCC_DC Output	12V	4	BL_PWM Output	3.3V
2	VCC_DC Output	12V	5	GND	
3	BL_EN Output	3.3V	6	GND	

Interface definition

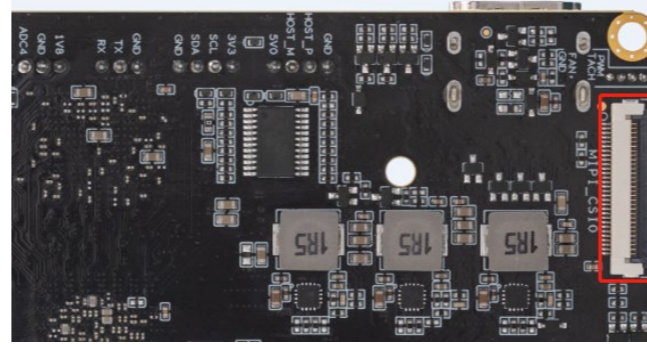
7. (JJ5000) MIPI DSI 30PIN 0.5mm pitch



NO.	Definition	Power/V	NO.	Definition	Power/V
1	VCC5V0_SYS (5.0V OUTPUT)	5.0V	16	DSI_D0_P	-
2	VCC5V0_SYS (5.0V OUTPUT)	5.0V	17	DSI_D0_N	-
3	VCC5V0_SYS (5.0V OUTPUT)	5.0V	18	GND	
4	GND		19	DSI_D1_P	-
5	NC		20	DSI_D1_N	-
6	VCC3V3_SYS (3.3V OUTPUT)	3.3V	21	GND	
7	I2C0_SDA_M1 【GPIO0_C2】 Pull-up resistor 2.2K	3.3V	22	DSI_CLK_P	-
8	I2C0_SCL_M1 【GPIO0_C1】 Pull-up resistor 2.2K	3.3V	23	DSI_CLK_N	-
9	LCD_EN 【Extended IO】	3.3V	24	GND	
10	TP_INT 【GPIO0_C3】	3.3V	25	DSI_D2_P	-
11	BL_EN 【Extended IO】	3.3V	26	DSI_D2_N	-
12	BL_PWM 【GPIO0_B5】	3.3V	27	GND	
13	LCD_RESET 【Extended IO】	3.3V	28	DSI_D3_P	-
14	TP_RESET 【Extended IO】	3.3V	29	DSI_D3_N	-
15	GND		30	GND	

Interface definition

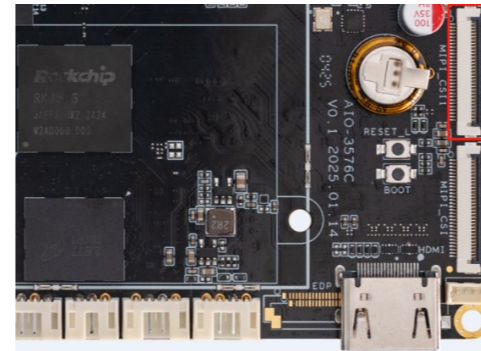
8. (J5) MIPI CSIO 30PIN 0.5mm pitch



NO.	Definition	Power/V	NO.	Definition	Power/V
1	I2C7_SDA_M2 【GPIO4_A1_d】 Pull-up resistor 2.2K	1.8	16	GND	
2	I2C7_SCL_M2 【GPIO4_A0_d】 Pull-up resistor 2.2K	1.8	17	CSI0_CLK_P	-
3	CAM0_PWDN 【GPIO2_B0_d】	1.8	18	CSI0_CLK_N	-
4	CAM0_RESET 【Extended IO】	1.8	19	GND	
5	GND		20	CSI1_D2_P	-
6	CAM0_MCLK 【GPIO0_A0_d】	1.8	21	CSI1_D2_N	-
7	CAM0_PWDN 【GPIO2_B0_d】	1.8	22	GND	
8	CAM0_RESET 【Extended IO】	1.8	23	CSI1_D3_P	-
9	CAM0_MCLK 【GPIO0_A0_d】	1.8	24	CSI1_D3_N	-
10	GND		25	GND	
11	CSI0_D0_P	-	26	NC	-
12	CSI0_D0_N	-	27	NC	-
13	GND		28	GND	
14	CSI0_D1_P	-	29	VCC5V0_SYS (5.0V OUTPUT)	5.0
15	CSI0_D1_N	-	30	VCC5V0_SYS (5.0V OUTPUT)	5.0

Interface definition

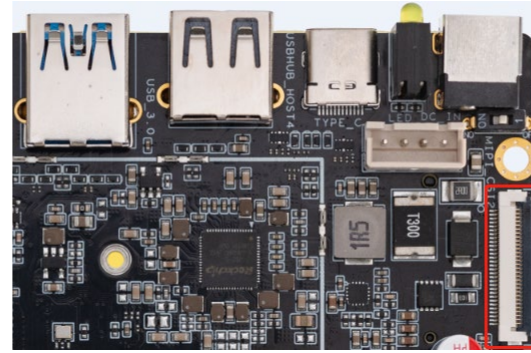
9. (J4) MIPI CSI1 30PIN 0.5mm pitch



NO.	Definition	Power/V	NO.	Definition	Power/V
1	I2C4_SDA_M1 【GPIO4_A6_d】 Pull-up resistor 2.2K	1.8	16	GND	
2	I2C4_SCL_M1 【GPIO4_A4_d】 Pull-up resistor 2.2K	1.8	17	CSI1_CLK_P	-
3	CAM1_PWDN 【GPIO2_B3_d】	1.8	18	CSI1_CLK_N	-
4	CAM1_RESET 【Extended IO】	1.8	19	GND	
5	GND		20	CSI2_D0_P	-
6	CAM1_MCLK 【GPIO2_D6_d】	1.8	21	CSI2_D0_N	-
7	CAM2_PWDN 【GPIO2_B5_d】	1.8	22	GND	
8	CAM1_RESET 【Extended IO】	1.8	23	CSI2_D1_P	-
9	CAM1_MCLK 【GPIO2_B5_d】	1.8	24	CSI2_D1_N	-
10	GND		25	GND	
11	CSI1_D0_P	-	26	CSI2_CLK_P	-
12	CSI1_D0_N	-	27	CSI2_CLK_N	-
13	GND		28	GND	
14	CSI1_D1_P	-	29	VCC5V0_SYS (5.0V OUTPUT)	5.0
15	CSI1_D1_N	-	30	VCC5V0_SYS (5.0V OUTPUT)	5.0

Interface definition

10. (J3) MIPI CSI2 30PIN 0.5mm pitch

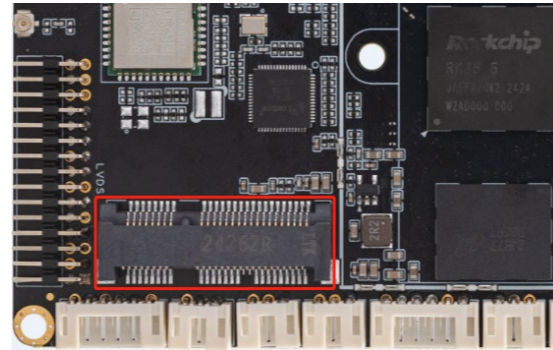


NO.	Definition	Power/V	NO.	Definition	Power/V
1	I2C3_SDA_M0 【GPIO4_B4_d】 Pull-up resistor 2.2K	1.8	16	GND	
2	I2C3_SCL_M0 【GPIO4_B5_d】 Pull-up resistor 2.2K	1.8	17	CSI3_CLK_P	-
3	CAM3_PWDN 【GPIO4_B0_d】	1.8	18	CSI3_CLK_N	-
4	CAM2_RESET 【Extended IO】	1.8	19	GND	
5	GND		20	CSI4_D0_P	-
6	CAM2_MCLK 【GPIO2_D7_d】	1.8	21	CSI4_D0_N	-
7	CAM4_PWDN 【GPIO4_B2_d】	1.8	22	GND	
8	CAM2_RESET 【Extended IO】	1.8	23	CSI4_D1_P	-
9	CAM2_MCLK 【GPIO2_D7_d】	1.8	24	CSI4_D1_N	-
10	GND		25	GND	
11	CSI3_D0_P	-	26	CSI4_CLK_P	-
12	CSI3_D0_N	-	27	CSI4_CLK_N	-
13	GND		28	GND	
14	CSI3_D1_P	-	29	VCC5V0_SYS (5.0V OUTPUT)	5.0
15	CSI3_D1_N	-	30	VCC5V0_SYS (5.0V OUTPUT)	5.0

Interface definition



11. (U3) 4G MINI PCIE

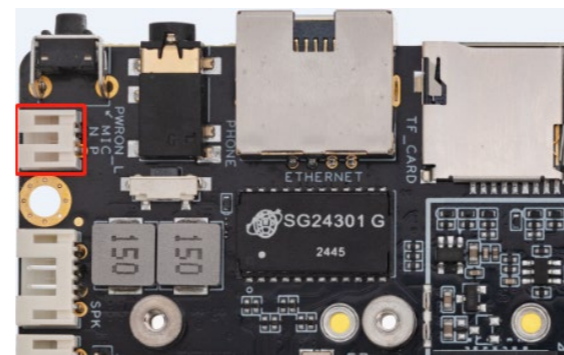


NO.	Definition	Power/V	NO.	Definition	Power/V
1	NC		2	VCC3V5_4G (3.5V Output)	3.5
3	NC		4	GND	
5	NC		6	NC	
7	NC		8	UIM_PWR	1.8
9	GND		10	UIM_DAT	1.8
11	NC		12	UIM_CLK	1.8
13	NC		14	UIM_RST	1.8
15	GND		16	NC	
17	NC		18	GND	
19	NC		20	NC	
21	GND		22	4G_RESET	3.5
23	NC		24	NC	
25	NC		26	GND	
27	GND		28	NC	
29	GND		30	NC	

Interface definition

31	NC		32	NC	
33	NC		34	GND	
35	GND		36	4G_HOST20_DM	-
37	GND		38	4G_HOST20_DP	-
39	VCC3V5_4G (3.5V Output)	3.5	40	GND	
41	VCC3V5_4G (3.5V Output)	3.5	42	NC	
43	GND		44	SIM_DET	1.8
45	NC		46	NC	
47	NC		48	NC	
49	GND		50	GND	
51	NC		52	VCC3V5_4G (3.5V Output)	3.5

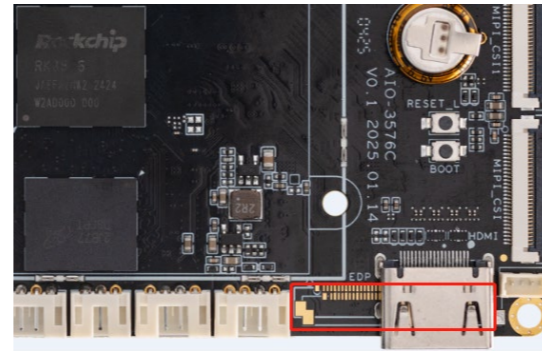
12. (J18) MIC 2PIN 2.0mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	MIC+	3.3V	2	MIC-	3.3V

Interface definition

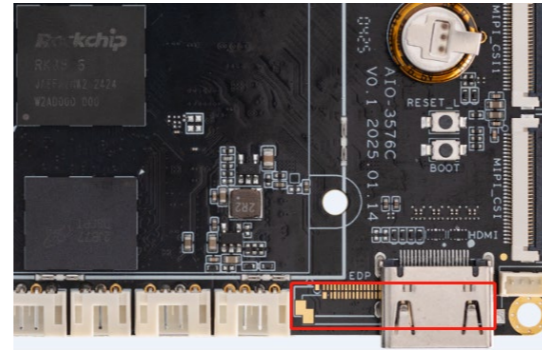
13. (J5300)EDP 30PIN 0.5mm pitch **optional**



NO.	Definition	Power/V	NO.	Definition	Power/V
1	NC		16	GND	
2	NC		17	EDP_AUXP (Series capacitor 100nF)	-
3	NC		18	EDP_AUXN (Series capacitor 100nF)	-
4	GND		19	GND	
5	EDP_D3N (Series capacitor 100nF)	-	20	EDP_HPDI INPUT (GPIO4_C1)	3~5V
6	EDP_D3P (Series capacitor 100nF)	-	21	GND	
7	GND		22	NC	
8	EDP_D2N (Series capacitor 100nF)	-	23	NC	
9	EDP_D2P (Series capacitor 100nF)	-	24	GND	
10	GND		25	NC	
11	EDP_D1N (Series capacitor 100nF)	-	26	VDD_10V (10V OUTPUT)	10V
12	EDP_D1P (Series capacitor 100nF)	-	27	VDD_10V (10V OUTPUT)	10V
13	GND		28	VDD_10V (10V OUTPUT)	10V
14	EDP_D0N (Series capacitor 100nF)	-	29	VDD_10V (10V OUTPUT)	10V
15	EDP_D0P (Series capacitor 100nF)	-	30	VDD_10V (10V OUTPUT)	10V

Interface definition

14. (J23)EDP 40PIN 0.5mm pitch **optional**

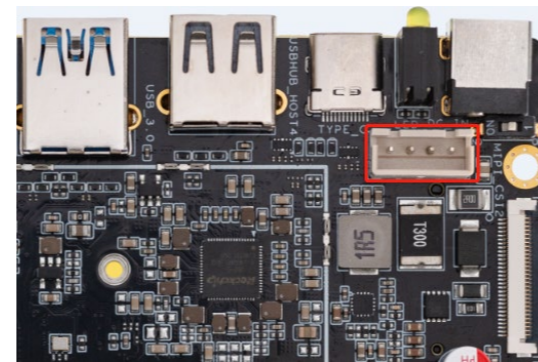


NO.	Definition	Power/V	NO.	Definition	Power/V
1	NC		21	VCC3V3_EDP (3.3V OUTPUT)	3.3V
2	GND		22	NC	
3	EDP_D3N (Series capacitor 100nF)	-	23	GND	
4	EDP_D3P (Series capacitor 100nF)	-	24	GND	
5	GND		25	GND	
6	EDP_D2N (Series capacitor 100nF)	-	26	GND	
7	EDP_D2P (Series capacitor 100nF)	-	27	EDP_HPDI INPUT (GPIO4_C1)	3~5V
8	GND		28	GND	
9	EDP_D1N (Series capacitor 100nF)	-	29	GND	
10	EDP_D1P (Series capacitor 100nF)	-	30	GND	
11	GND		31	GND	
12	EDP_D0N (Series capacitor 100nF)	-	32	BL_EN (GPIO4_C7_d)	3.3V
13	EDP_D0P (Series capacitor 100nF)	-	33	BL_PWM(GPIO0_C4_d)	3.3V
14	GND		34	NC	
15	EDP_AUXP (Series capacitor 100nF)	-	35	NC	

Interface definition

16	EDP_AUXN (Series capacitor 100nF)	-	36	VDD_10V (10V Output)	10V
17	GND		37	VDD_10V (10V Output)	10V
18	VCC3V3_EDP (3.3V OUTPUT)	3.3V	38	VDD_10V (10V Output)	10V
19	VCC3V3_EDP (3.3V OUTPUT)	3.3V	39	VDD_10V (10V Output)	10V
20	VCC3V3_EDP (3.3V OUTPUT)	3.3V	40		

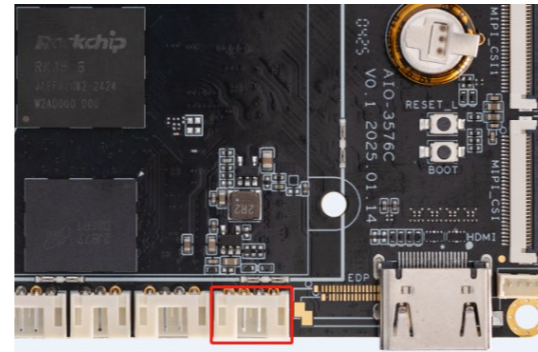
15. (J7)DC_IN 4PIN 2.0mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	12V Input	12V	3	GND	
2	12V Input	12V	4	GND	

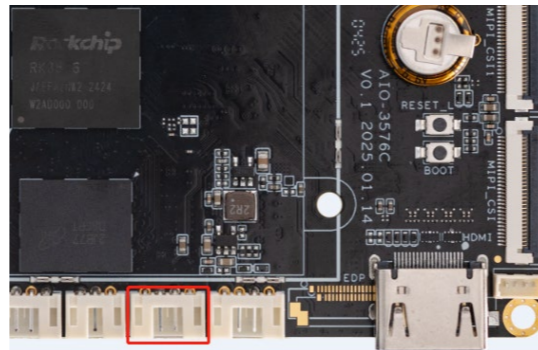
Interface definition

16. (J17)USB 4PIN 2.0mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	GND		3	HOST_DM4	-
2	HOST_DP4	-	4	VCC5V0_USB (5V OUTPUT)	5.0V

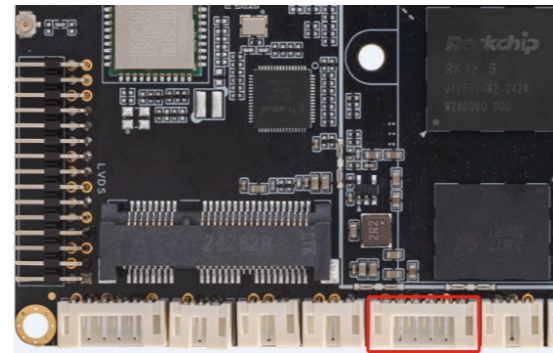
17. (J28)I2C 4PIN 2.0mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	VCC3V3_SYS (3.3V Output)	3.3V	3	I2C2_SDA_M0 [pull up resistor2.2K]	3.3V
2	I2C2_SCL_M0 [pull up resistor2.2K]	3.3V	4	GND	

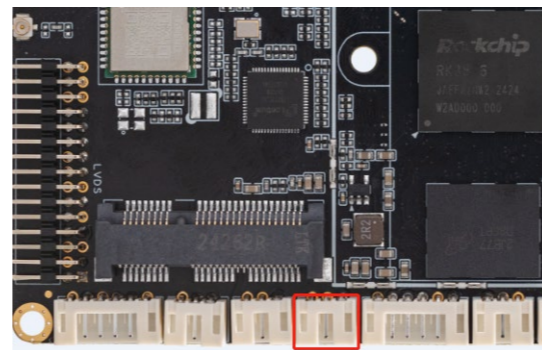
Interface definition

18. (J2)ADC 6PIN 2.0mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	VCCA1V8 (1.8V Output)	1.8V	4	ADC5 Input	1.8V
2	GND		5	ADC6 Input	1.8V
3	ADC4 Input	1.8V	6	ADC7 Input	1.8V

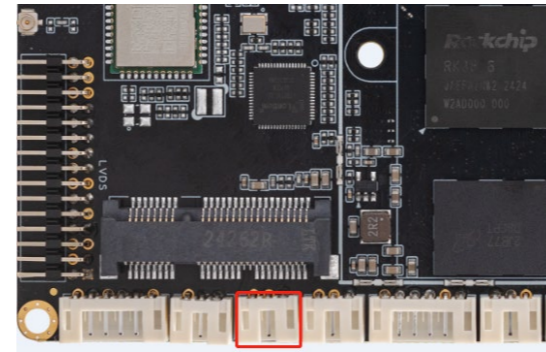
19. (J13)RS485 3PIN 2.0mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	RS485_A	3.3V	3	GND	
2	RS485_B	3.3V			

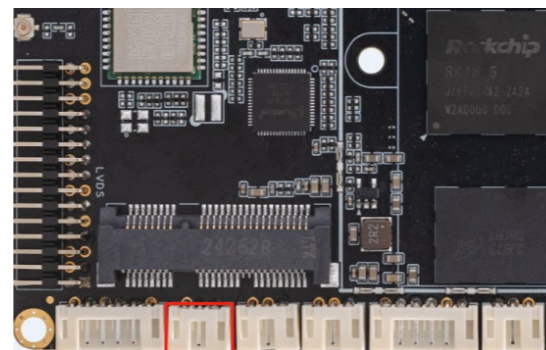
Interface definition

20. (J12)CAN 3PIN 2.0mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	CAN_H	3.3V	3	GND	
2	CAN_L	3.3V			

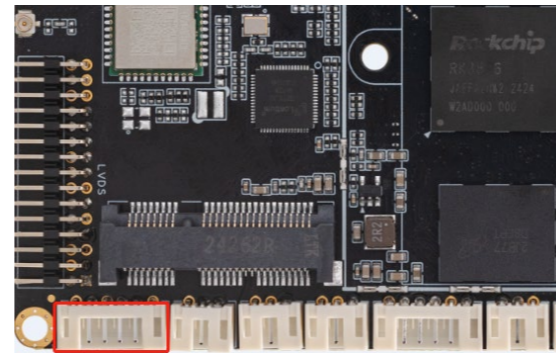
21. (J14)RS232 3PIN 2.0mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	RS232_TX	+/-10V	3	GND	
2	RS232_RX	+/-10V			

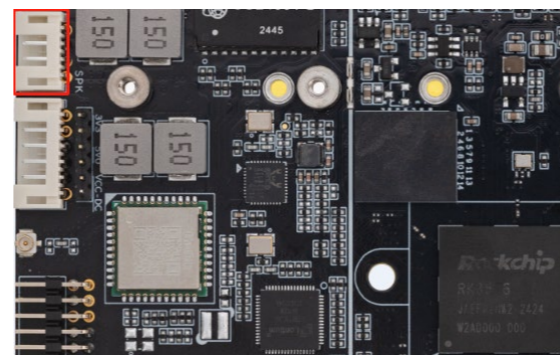
Interface definition

22. (J26)TP 6PIN 2.0mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	VCC3V3_SYS (3.3V Output)	3.3V	4	I2C0_SCL_M1_TP	3.3V
2	TP_INT (Input)	3.3V	5	I2C0_SDA_M1_TP	3.3V
3	TP_REST (Output)	3.3V	6	GND	

23. (J19)SPEAKER 4PIN 2.0mm pitch Wafer connector



NO.	Definition	Power/V	NO.	Definition	Power/V
1	SPEAKER_R+	12V	3	SPEAKER_L+	12V
2	SPEAKER_R-	12V	4	SPEAKER_L-	12V



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