

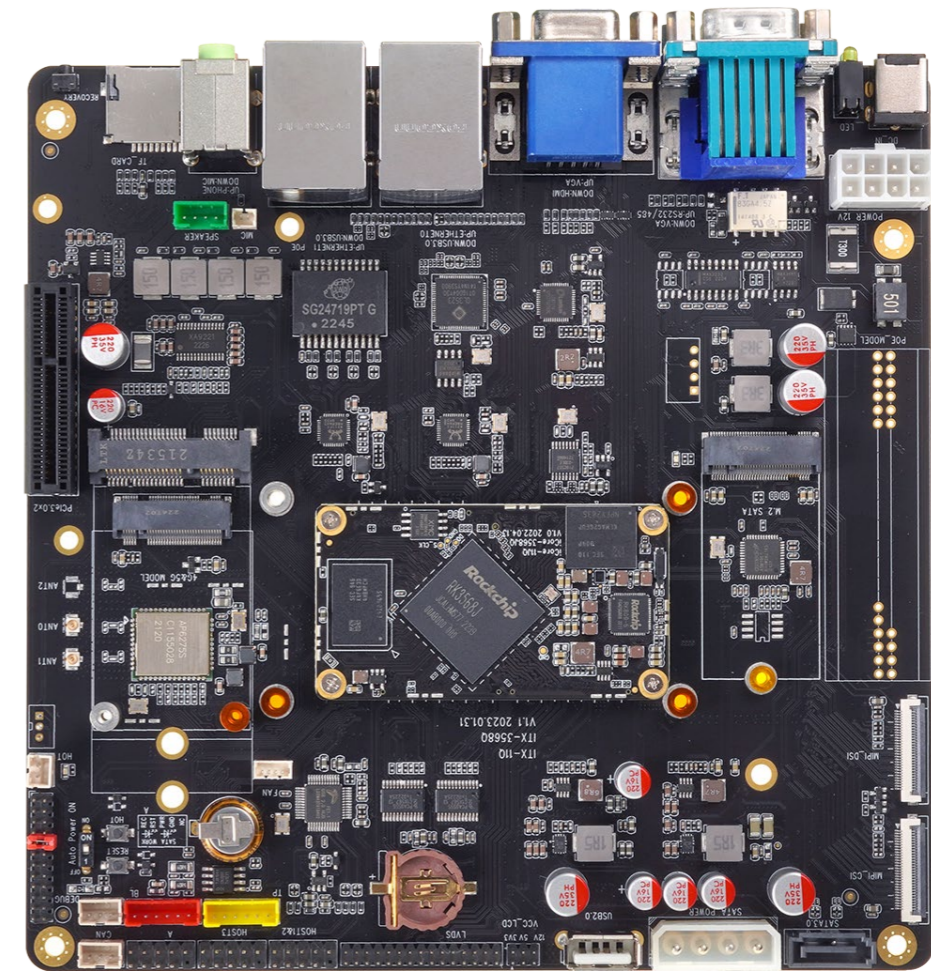


Quad Core ITX Standard MainBoard

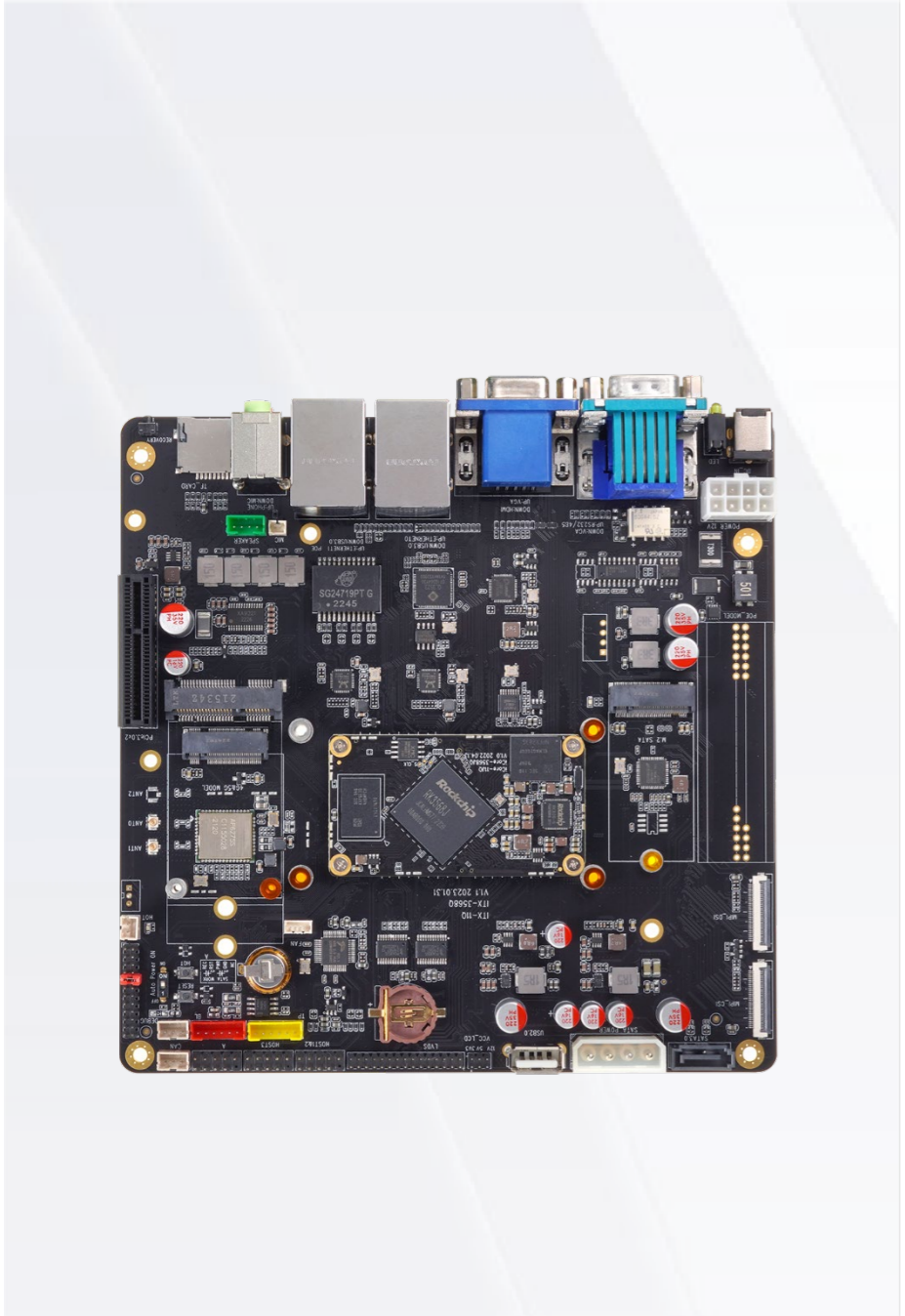
- ITX-3568Q(Commercial)
- ITX-3568JQ(Industrial)
- ITX-3568MQ(Automotive)

V1.1 2024-10-23

T-CHIP INTELLIGENCE TECHNOLOGY



Product features



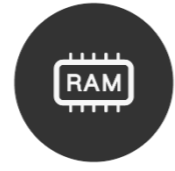
RK3568J industrial-grade processor

The quad-core 64-bit Cortex-A55 processor, with 22nm lithography process, has frequency up to 2.0GHz, delivering efficient and stable performance for data processing of back-end equipment. There are a variety of storage options, allowing customers to quickly implement the research and production of products.



Various display interfaces, dual cameras supported

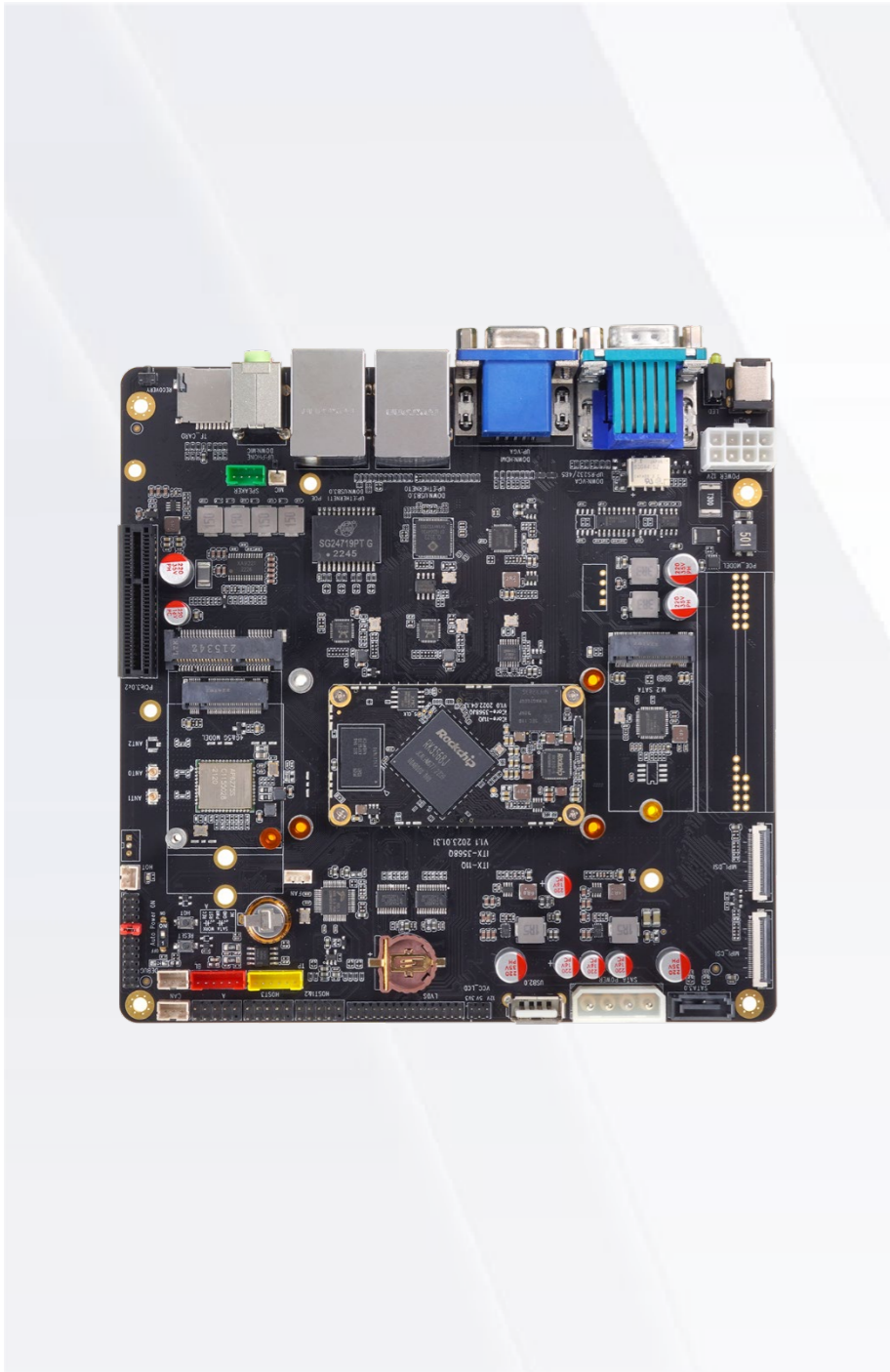
With MIPI-CSI, MIPI-DSI, HDMI2.0 and EDP video interface, it can support up to three screen output with different display. The built-in 8M ISP supports dual cameras and HDR. Video input interface can be connected to an external camera or multiple cameras. The board can be used in NVR, intelligent terminal, multimedia advertising player, etc.



8GB large RAM

It supports up to 8GB RAM, with up to 32Bit width and frequency up to 1600MHz, this configuration ensures enhanced data protection and reliability, meeting the requirements for large-memory products.

Product features



Integrated co-processors – GPU, VPU, NPU

It is integrated with dual-core GPU, high-performance VPU and high-efficiency NPU. The GPU supports OpenGL ES3.2/2.0/1.1, Vulkan1.1. The VPU can achieve 4K@60fps H.265/H.264/VP9 video decoding and 1080P@60fps H.265/H.264 video encoding. The NPU supports one-click switching of mainstream frameworks like Caffe/TensorFlow.



Powerful network communication

It supports 2-channel Gigabit Ethernet(RJ45/1000Mbps), POE(output power 60W), 2.4GHz/5GHz dual-band WiFi6(802.11a/b/g/n/ac/ax protocol), Bluetooth 5.0, and expandable 5G/4G LTE wireless communication.



Android and Linux are supported

Android 11.0, Ubuntu Desktop version and Server version are supported. And it also supports RTLinux, delivering excellent real-time performance. The stable and reliable operation provides a safe and stable system environment for product research and production.



A wide range of applications

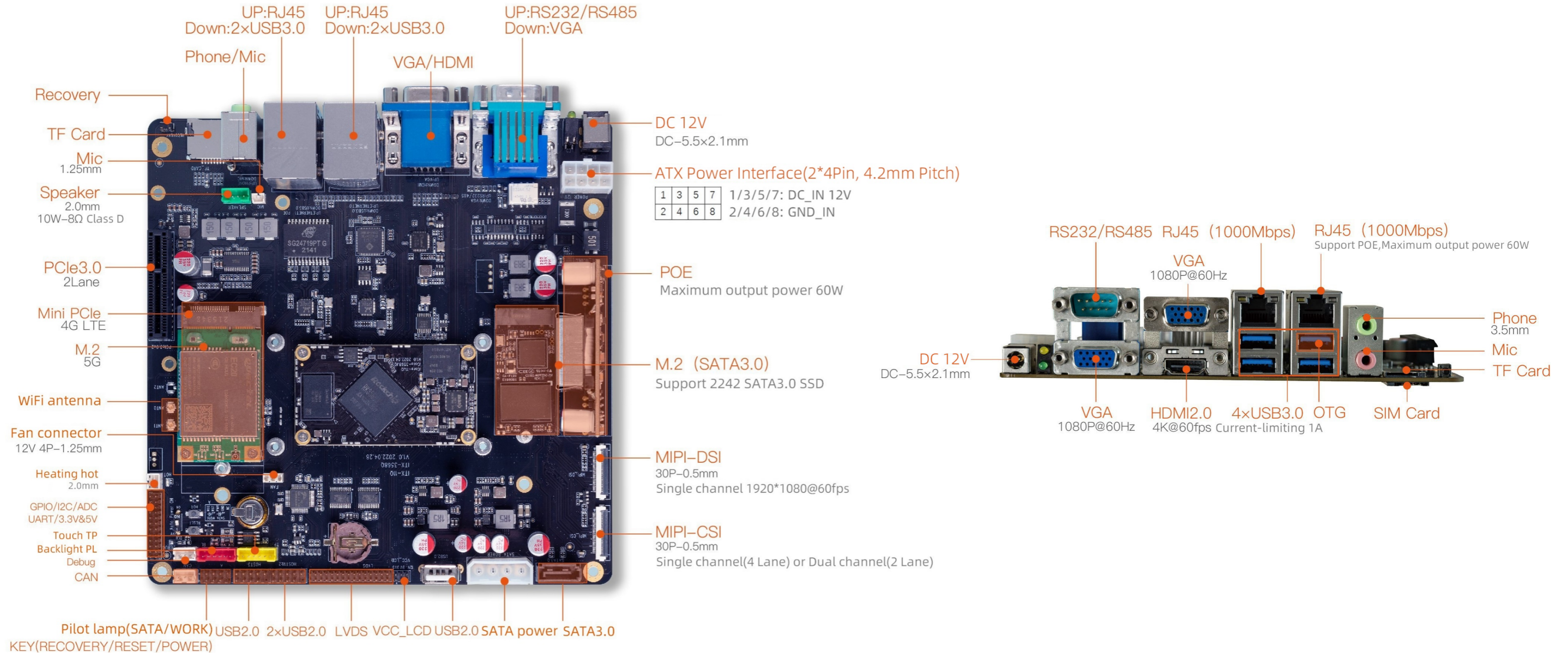
This mainboard can be widely used in smart NVR, cloud terminal, IoT gateway, industrial control, edge computing, face recognition gate, NAS, vehicle center console, etc.

Specifications

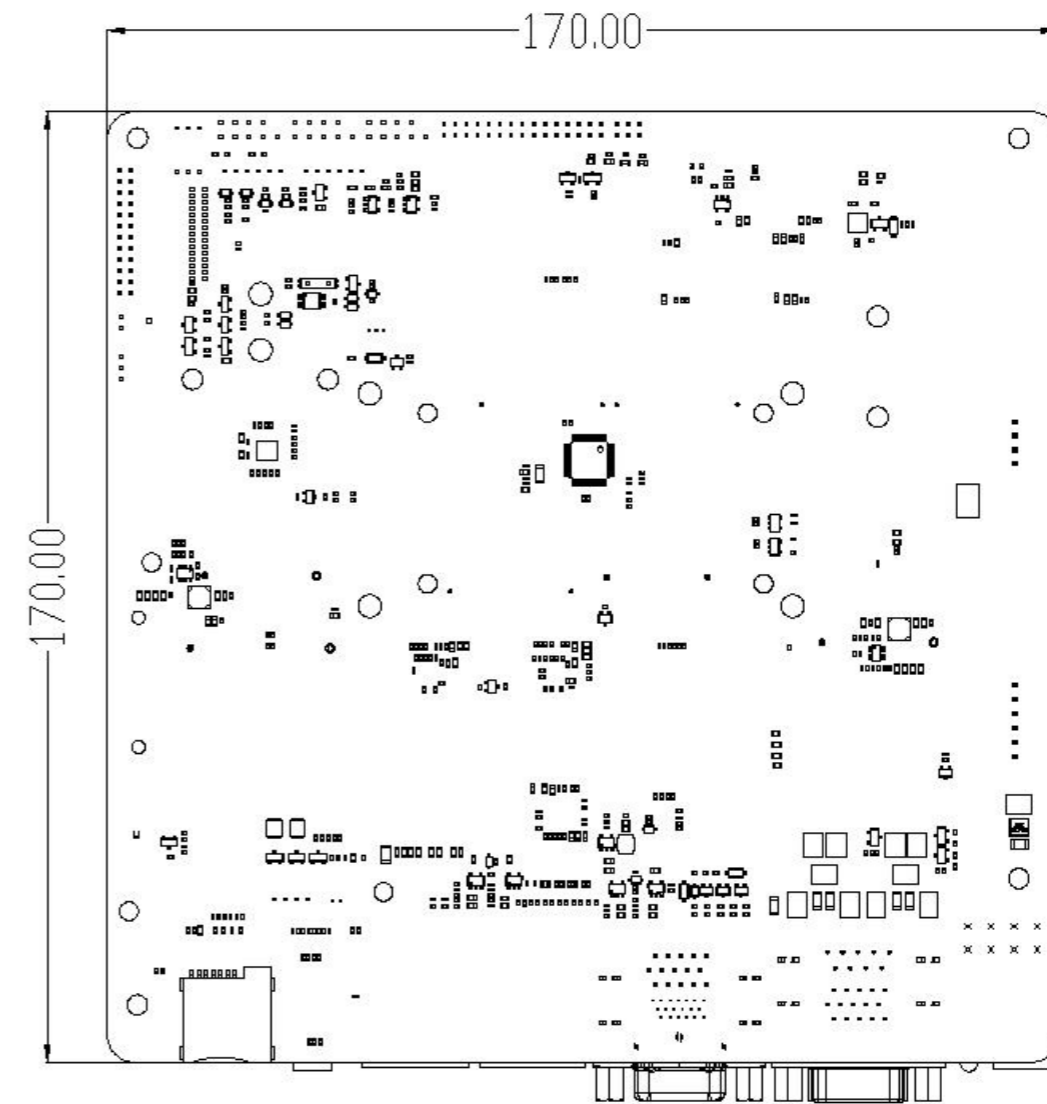
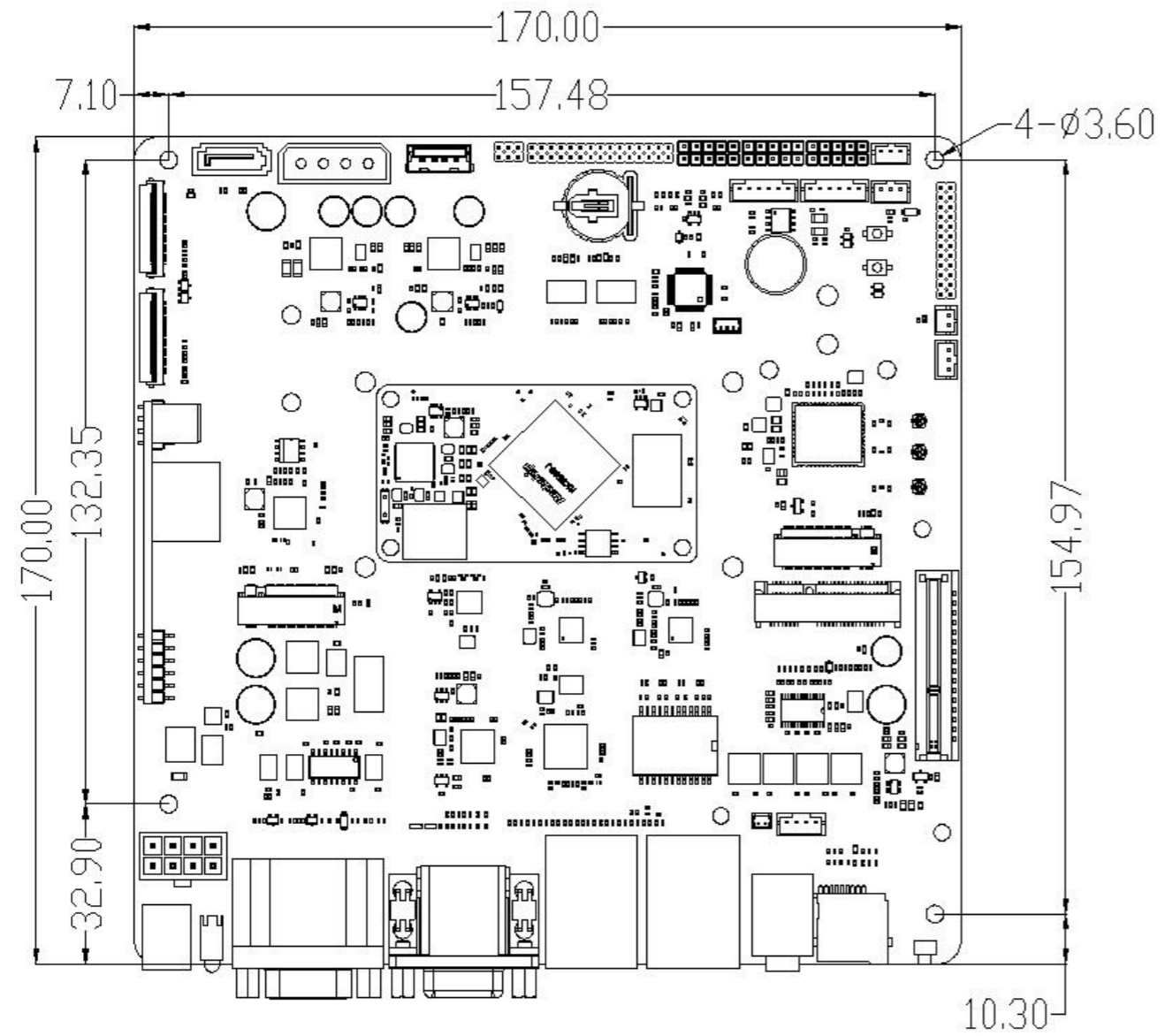


		ITX-3568Q(Commercial)	ITX-3568JQ(Industrial)	ITX-3568MQ(Automotive)
Basic Specifications	CPU	RK3568B2 Quad-core 64-bit Cortex-A55 processor, 22nm lithography process, up to 2.0GHz	RK3568J Quad-core 64-bit Cortex-A55 processor, 22nm lithography process, up to 1.4GHz	RK3568M Quad-core 64-bit Cortex-A55 processor, 22nm lithography process, up to 1.6GHz
	GPU	ARM G52 2EE, supports OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1, embedded high-performance 2D acceleration hardware		
	NPU	Integrated high-performance AI accelerator RKNN NPU, 1.0Tops@INT8(Commercial), 512MAC NPU(Industrial and Automotive) Supports one-click switching of Caffe/TensorFlow/TFLite/ONNX/PyTorch/Keras/Darknet		
	ISP	Supports 8M ISP, supports HDR		
	VPU	4K@60fps H.265/H.264/VP9 video encoding(or 8CH 1080P@30fps multi-format decoding) 1080P@60fps H.265/H.264 video encoding		
	RAM	LPDDR4 (1GB/2GB/4GB/8GB optional)		
	Storage	eMMC(8GB/16GB/32GB/64GB/128GB optional) 16MB SPI Flash		
	Power	Multiple power supply methods: DC 12V voltage input (5.5×2.1mm, 12V/1.5A or higher recommended) Chassis power supply 12V input (standard ATX power connector) POE 48V power input (up to 60W)		
	OS	Android 11.0, Ubuntu 18.04, Ubuntu 20.04, RTLinux		
	Size	17cm×17cm(standard Mini-ITX), adaptable to a universal ITX computer case		
	Weight	≈ 400g(Peripherals not included)		
	Power consumption	Min: This model not support hibernation Normal: 4.8W(12V/0.4A) Max: 10.8W(12V/0.9A)	Min: 3.96W(12V/0.33A) Normal: 6W(12V/0.5A) Max: 12W(12V/1A)	Min: This model not support hibernation Normal: 5.4W(12V/0.45A) Max: 10.8W(12V/0.9A)
	Environment	Operating Temperature: -20°C ~ 60°C Operating Humidity: 10% ~ 90%RH(non-condensing)	Operating Temperature: -40°C ~ 85°C Operating Humidity: 10% ~ 90%RH(non-condensing)	Operating Temperature: -40°C ~ 85°C Operating Humidity: 10% ~ 90%RH(non-condensing)
Interface Specifications	Internet	2 × Gigabit Ethernet (RJ45/1000Mbps), support POE (maximum output power 60W) Supports 2.4GHz/5GHz dual-band WiFi6 (802.11a/b/g/n/ac/ax protocol), Bluetooth 5.0, and expandable 5G/4G LTE		
	Camera	1 × MIPI CSI camera interface (configurable as single channel (4 lanes) or dual channel (2 lanes))		
	Video	1 × HDMI2.0 (4K@60Hz) 1 × MIPI DSI (single channel 1920×1080@60fps) 1 × LVDS display interface (led by pin header) 2 × VGA (1080P) * It can support up to three different display outputs		
	Audio	1 × HDMI audio output 1 × 3.5mm headphone audio output (support MIC recording, American Standard CTIA) 1 × Speaker output (10W-8Ω Class D.)		
	SATA	1 × SATA3.0 standard interface 1 × M.2 SATA3.0 (expandable 2242 SATA SSD)		
	PCIe	1 × PCIe 3.0 (2Lanes), expandable standard PCIe 3.0 devices		
	USB	4 × USB3.0 (current limit: 1A) 4 × USB2.0 (3 USB2.0 are led by motherboard pins, current limit 500mA)		
	Other	RS485, RS232, I2C, CAN, UART, ADC, GPIO, Debug, FAN, MIC		

Interface description

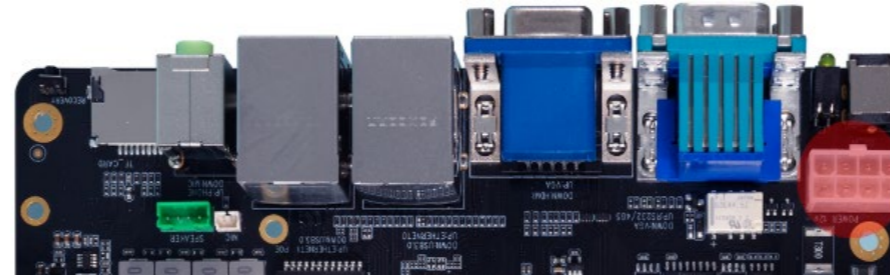


Dimension



Interface definition

1. (J10) POWER 8 PIN 4.2mm Pitch



NO.	Definition	Level/V	NO.	Definition	Level/V
1	DC_IN (12V Input)	12V	2	GND	
3	DC_IN (12V Input)	12V	4	GND	
5	DC_IN (12V Input)	12V	6	GND	
7	DC_IN (12V Input)	12V	8	GND	

2. (J20) MIPI_Display_Interface 30 PIN



NO.	Definition	Level/V	NO.	Definition	Level/V
1	VCC5V0_SYS (5V Output)	5V	16	MIPI_DSI_TX1_D0P	1.8V
2	VCC5V0_SYS (5V Output)	5V	17	MIPI_DSI_TX1_D0N	1.8V



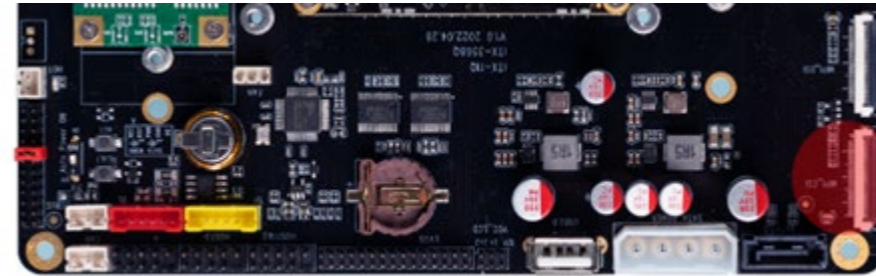
Interface definition

3	VCC5V0_SYS (5V Output)	5V	18	GND	
4	GND		19	MIPI_DSI_TX1_D1P	1.8V
5	I2C_ID (pull down resistance 10K)	3.3V	20	MIPI_DSI_TX1_D1N	1.8V
6	VCC3V3_SYS (3.3V Output)	3.3V	21	GND	
7	I2C4_SDA_M0_TP (pull up resistance 2.2K)	3.3V	22	MIPI_DSI_TX1_CLKP	1.8V
8	I2C4_SCL_M0_TP (pull up resistance 2.2K)	3.3V	23	MIPI_DSI_TX1_CLKN	1.8V
9	LCD_VCC_EN 【from PCA9555】	3.3V	24	GND	
10	MIPI_TP_INT 【GPIO0_C4】 (pull up resistance 2.2K)	3.3V	25	MIPI_DSI_TX1_D2P	1.8V
11	MIPI_BL_EN 【from PCA9555】	3.3V	26	MIPI_DSI_TX1_D2N	1.8V
12	MIPI_BL_PWM 【GPIO0_C3】	3.3V	27	GND	0V
13	LCD1_RST 【GPIO0_B0】	3.3V	28	MIPI_DSI_TX1_D3P	1.8V
14	MIPI_TP_RESET 【from PCA9555】	3.3V	29	MIPI_DSI_TX1_D3N	1.8V
15	GND		30	GND	

Interface definition



3. (J14) MIPI CAMERA 30 PIN



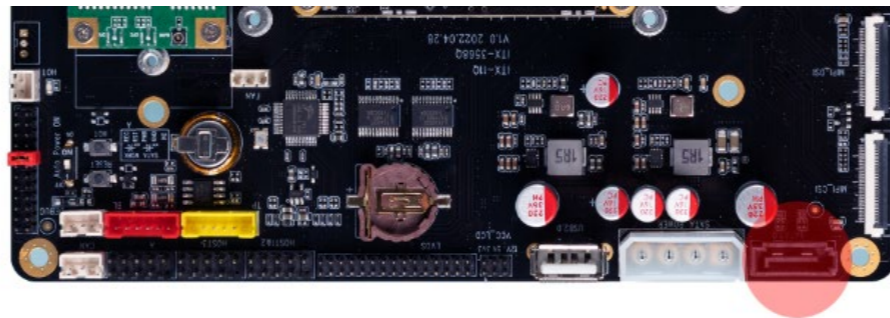
NO.	Definition	Level/V	NO.	Definition	Level/V
1	I2C4_SDA_M0 (Core board Pull up resistance 2.2K)	1.8V	17	MIPI_CSI_RX_CLK0P	1.8V
2	I2C4_SCL_M0 (Core board Pull up resistance 2.2K)	1.8V	18	MIPI_CSI_RX_CLK0N	1.8V
3	MIPI_PDN0CAM 【from PCA9555】	1.8V	19	GND	
4	RESET0_CAM 【from PCA9555】	1.8V	20	MIPI_CSI_RX_D2P	1.8V
5	GND		21	MIPI_CSI_RX_D2N	1.8V
6	MIPI_MCLK0 (Clock0 Output)	1.8V	22	GND	
7	MIPI_PDN1CAM 【from PCA9555】	1.8V	23	MIPI_CSI_RX_D3P	1.8V
8	RESET1_CAM 【from PCA9555】	1.8V	24	MIPI_CSI_RX_D3N	1.8V
9	MIPI_MCLK1 (Clock1 Output)	1.8V	25	GND	
10	GND		26	MIPI_CSI_RX_CLK1P	1.8V
11	MIPI_CSI_RX_D0P	1.8V	27	MIPI_CSI_RX_CLK1N	1.8V
12	MIPI_CSI_RX_D0N	1.8V	28	GND	
13	GND		29	VCC5V0_SYS (5V Output)	5.0V
14	MIPI_CSI_RX_D1P	1.8V	30	VCC5V0_SYS (5V Output)	5.0V
15	MIPI_CSI_RX_D1N	1.8V			

Interface definition



16	GND				
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4. (SATA1) SATA 3.0 Socket

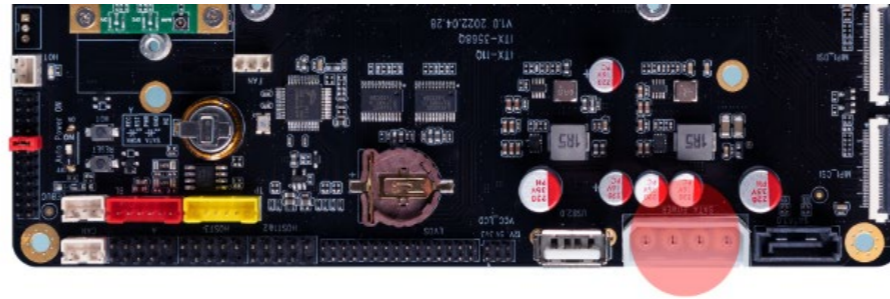


NO.	Definition	Level/V	NO.	Definition	Level/V
1	GND		6	SATA_A_RXP	1.8V
2	SATA_A_TXP	1.8V	7	GND	
3	SATA_A_TXN	1.8V			
4	GND				
5	SATA_A_RXN	1.8V			

Interface definition

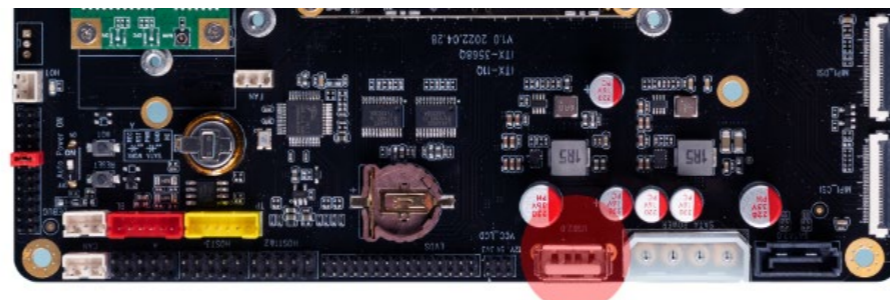


5. (J8) SATA POWER 4 PIN 5.0mm Pitch



NO.	Definition	Level/V	NO.	Definition	Level/V
1	VCC12V0_SATA (12V Output)	12V	3	GND	
2	GND		4	VCC5V0_SATA (5V Output)	5V

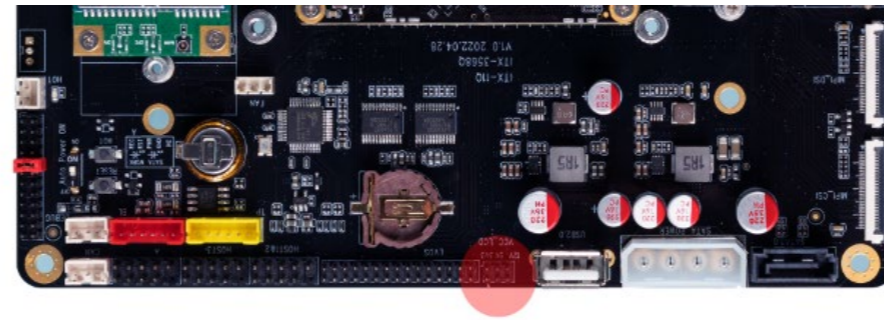
6. (USB1) USB2.0 Socket



NO.	Definition	Level/V	NO.	Definition	Level/V
1	VCC5V0_USB20_HOST3 (5V Output)	5V	3	USB2_HOST3_DP	3.3V
2	USB2_HOST3_DM	3.3V	4	GND	

Interface definition

7. (J24) VCC_LCD Power select jumper 6PIN 2.0mm Pitch

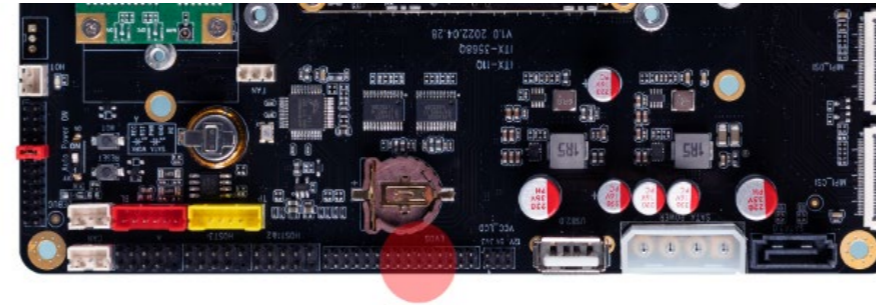


NO.	Definition	Level/V	NO.	Definition	Level/V
1	VCC_LCD_S	3.3/5/12V	2	VCC3V3_SYS	3.3V
3	VCC_LCD_S	3.3/5/12V	4	VCC5V0_SYS	5V
5	VCC_LCD_S	3.3/5/12V	6	VCC_12V_EXT	12V

Interface definition



8. (CON1)LVDS 15X2 PIN 2.0mm Pitch



NO.	Definition	Level/V	NO.	Definition	Level/V
1	VCC_LCD (LCD power Output)	3.3/5/12V	16	LVDS_CLKP	1.8V
2	VCC_LCD (LCD power Output)	3.3/5/12V	17	LVDS_TX3N	1.8V
3	VCC_LCD (LCD power Output)	3.3/5/12V	18	LVDS_TX3P	1.8V
4	GND		19	NC	
5	GND		20	NC	
6	GND		21	NC	
7	LVDS_TX0N	1.8V	22	NC	
8	LVDS_TX0P	1.8V	23	NC	
9	LVDS_TX1N	1.8V	24	NC	
10	LVDS_TX1P	1.8V	25	NC	
11	LVDS_TX2N	1.8V	26	NC	
12	LVDS_TX2P	1.8V	27	NC	
13	GND		28	NC	
14	GND		29	NC	
15	LVDS_CLKN	1.8V	30	NC	

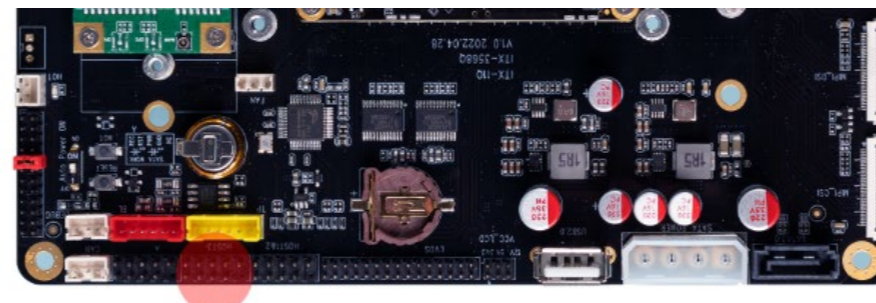
Interface definition

9. (JUSB1)HOST1&2 9 PIN 2.54mm Pitch



NO.	Definition	Level/V	NO.	Definition	Level/V
1	VCC5V0_USB20_HOST2 (5V Output)	5V	2	VCC5V0_USB20_HOST2 (5V Output)	5V
3	DM1	3.3V	4	DM2	3.3V
5	DP1	3.3V	6	DP2	3.3V
7	GND		8	GND	
			10	NC	

10. (JUSB2)HOST3 9PIN 2.54mm Pitch

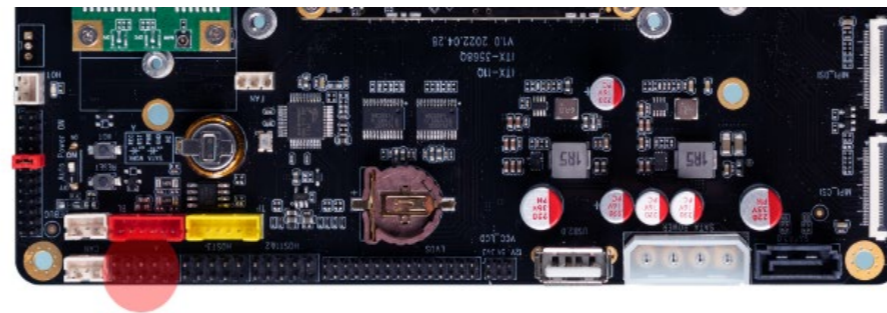


NO.	Definition	Level/V	NO.	Definition	Level/V
1	NC		2	VCC5V0_USB20_HOST1 (5V Output)	5V
3	NC		4	DM3	3.3V

Interface definition

5	NC		6	DP3	3.3V
7	NC		8	GND	
			10	NC	

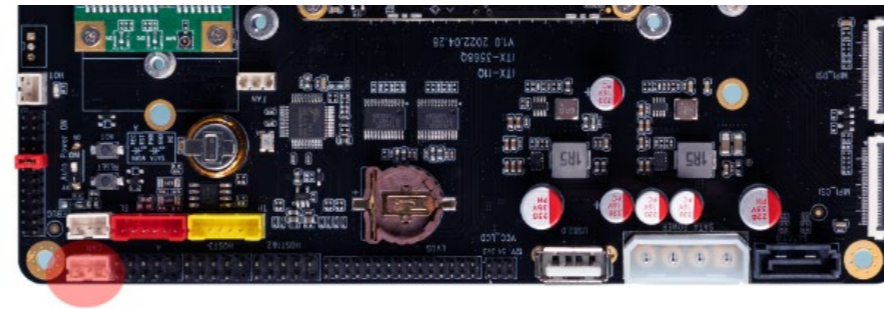
11. (JUSB6) LED/KEY 9 PIN 2.54mm Pitch



NO.	Definition	Level/V	NO.	Definition	Level/V
1	VCC3V3_SYS (3.3V Output)	3.3V	2	RECOVERY_KEY (Active L) (Core board Pull up resistance 10K)	1.8V
3	LED_WORK (Work LED- Active L)	3.3V	4	RESET_KEY (Active L) (Core board Pull up resistance 10K)	3.3V
5	VCC3V3_SYS (3.3V Output)	3.3V	6	PWRON_KEY (Active L) (series resistance 100R)	3.3V
7	SATA_LED (SATA LED- Active L)	3.3V	8	GND	
			10	NC	

Interface definition

12. (J4)CAN 3PIN 2.0mm Pitch wafer (WHITE)



NO.	Definition	Level/V	NO.	Definition	Level/V
1	CANH_2	3.3V	3	CANL_2	3.3V
2	CAN_VSS_2 (GND)				

13. (J12)TP 6PIN 2.0mm Pitch wafer (YELLOW)



NO.	Definition	Level/V	NO.	Definition	Level/V
1	VCC3V3_TP (3.3V Output)	3.3V	4	I2C1_SCL_TP [Pull up resistance 2.2K]	3.3V
2	TP_INT (GPIO0_C7_d) (Pull up resistance 10K)	3.3V	5	I2C1_SDA_TP [Pull up resistance 2.2K]	3.3V
3	TP_RESET(Pull up resistance 10K)	3.3V	6	GND	

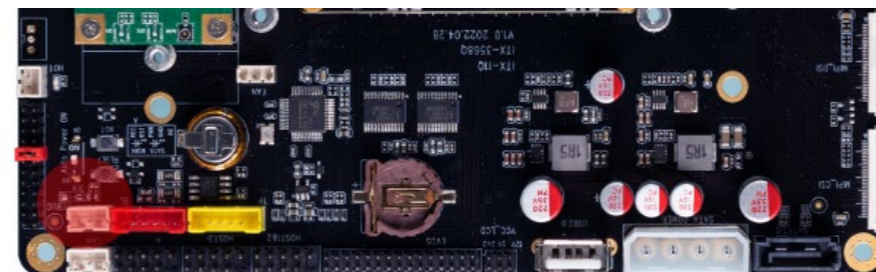
Interface definition

14. (J11)BL 6 PIN 2.0mm Pitch wafer (RED)



NO.	Definition	Level/V	NO.	Definition	Level/V
1	GND		4	BL_EN (from PCA9555) (Pull down resistance 10K) [series resistance 100R]	3.3V
2	GND		5	VCC_12V_EXT (12V Output)	12V
3	BL_PWM15 (Pull down resistance 10K) [series resistance 100R]	3.3V	6	VCC_12V_EXT (12V Output)	12V

15. (J7)DEBUG 3 PIN 2.0mm Pitch wafer (WHITE)

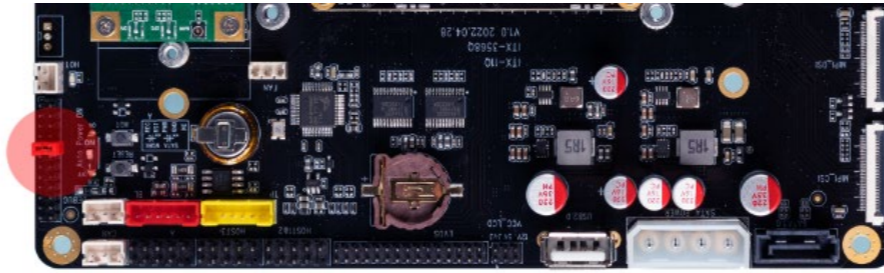


NO.	Definition	Level/V	NO.	Definition	Level/V
1	UART2_RX_M0 (GPIO0_D0_u)	3.3V	3	GND	
2	UART2_TX_M0 (GPIO0_D1_u)	3.3V			

Interface definition



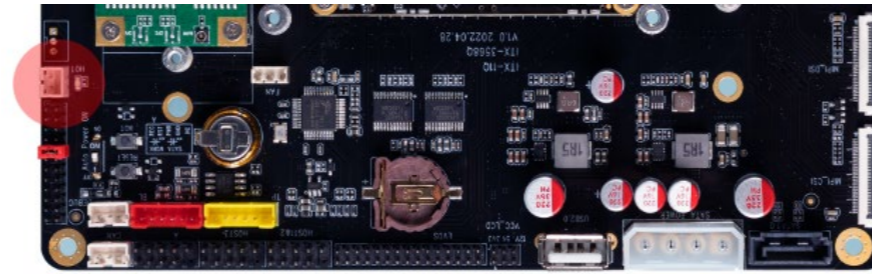
16. (J15) EXT Connector 12X2 PIN 2.0mm Pitch



NO.	Definition	Level/V	NO.	Definition	Level/V
1	VCC5V0_SYS (5V Output)	5V	2	VCC5V0_SYS (5V Output)	5V
3	GND		4	GND	
5	VCC3V3_SYS (3.3V Output)	3.3V	6	VCC3V3_SYS (3.3V Output)	3.3V
7	GND		8	GND	
9	UART9_RX_M1 (GPIO4_C6_d)	3.3V	10	UART9_TX_M1 (GPIO4_C5_d)	3.3V
11	NC	3.3V	12	NC	3.3V
13	ADC2 (ADC2 Input)	1.8V	14	ADC5 (ADC5 Input)	1.8V
15	ADC6 (ADC6 Input)	1.8V	16	ADC7 (ADC7 Input)	1.8V
17	I2C4_SCL_M0 (GPIO4_B3_d) (Pull up resistance 2.2K)	1.8V	18	I2C4_SDA_M0 (GPIO4_B2_d) (Pull up resistance 2.2K)	1.8V
19	I2C1_SCL (GPIO0_B3_u) [Pull up resistance 2.2K]	3.3V	20	I2C4_SDA (GPIO0_B4_u) (Pull up resistance 2.2K)	3.3V
21	PCA9555_IO02 (from PCA9555) (Pull down resistance 10K)	3.3V	22	PCA9555_IO03 (from PCA9555) (Pull down resistance 10K)	3.3V
23	GPIO4_D2_D(GPIO4_D2_d)	3.3V	24	PCA9555_IO07 (from PCA9555) (Pull down resistance 10K)	3.3V

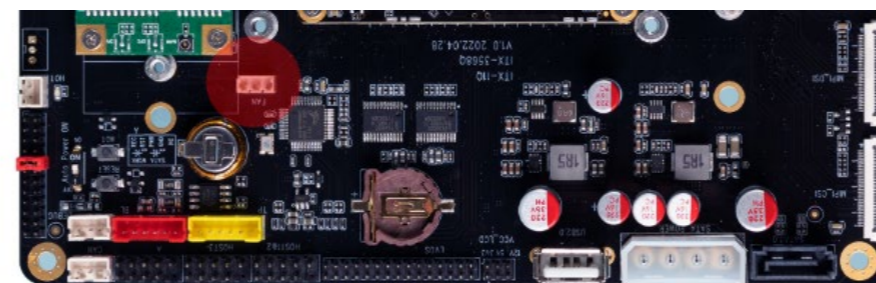
Interface definition

17. (J29)HOT 2 PIN 2.0mm Pitch wafer (WHITE)



NO.	Definition	Level/V	NO.	Definition	Level/V
1	GND		2	VCC_12_EXT (12V Output)	12V

18. (J19)FAN 4 PIN 1.25mm Pitch wafer (WHITE)

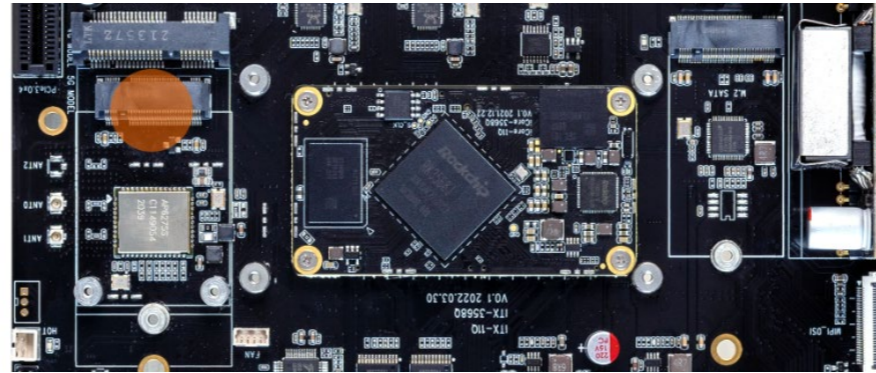


NO.	Definition	Level/V	NO.	Definition	Level/V
1	FAN_PWM_CTL(PWM14_M0)	12V	3	VCC_FAN+	12V
2	FAN_FG (ADC2 Input)	3.3V	4	VCC_FAN-	12V

Interface definition



19. (U30) 5G MODEL (PCIE M.2 NGFF B-Key Socket)



NO.	Definition	Level/V	NO.	Definition	Level/V
1	NC		2	VCC3V8_4G (3.8V Output)	3.8V
3	GND		4	VCC3V8_4G (3.8V Output)	3.8V
5	GND		6	Power Off# (Pull up resistance 10K)	3.8V
7	HUB_USB4_DP	3.3V	8	NC	
9	HUB_USB4_DM	3.3V	10	NC	
11	GND		20	NC	
21	NC		22	NC	
23	NC		24	NC	
25	NC		26	NC	
27	GND		28	NC	
29	USB3RXN (MB series capacitor 0.1uF)	1.8V	30	UIM_RST	1.8/3.0V
31	USB3RXP (MB series capacitor 0.1uF)	1.8V	32	UIM_CLK	1.8/3.0V
33	GND		34	UIM_DAT	1.8/3.0V
35	USB3TXN (MB series capacitor 0.1uF)	1.8V	36	UIM_PWR	1.8/3.0V

Interface definition

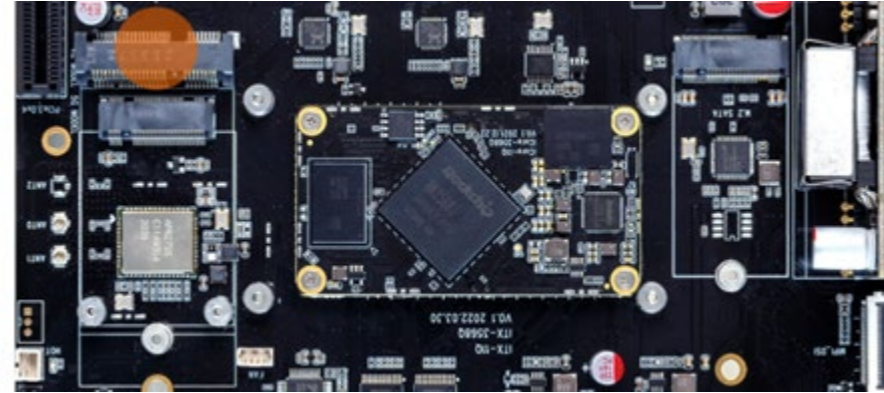


37	USB3TXP (MB series capacitor 0.1uF)	1.8V	38	NC	
39	GND		40	NC	
41	NC		42	NC	
43	NC		44	NC	
45	GND		46	NC	
47	NC		48	NC	
49	NC		50	NC	
51	GND		52	NC	
53	NC		54	NC	
55	NC		56	NC	
57	GND		58	NC	
59	NC		60	NC	
61	NC		62	NC	
63	NC		64	NC	
65	NC		66	SIM_DET	1.8V
67	4G_RESET	1.8V	68	NC	
69	NC		70	VCC3V8_4G (3.8V Output)	3.8V
71	GND		72	VCC3V8_4G (3.8V Output)	3.8V
73	GND		74	VCC3V8_4G (3.8V Output)	3.8V
75	NC				

Interface definition



20. (U13) 4G MODEL (Mini PCI)

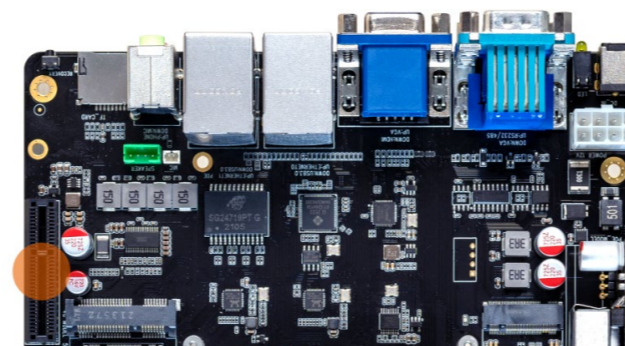


NO.	Definition	Level/V	NO.	Definition	Level/V
1	NC		2	VCC3V8_4G (3.8V Output)	3.8V
3	NC		4	GND	
5	NC		6	NC	
7	NC		8	UIM_PWR	1.8/3.0V
9	GND		10	UIM_DAT	1.8/3.0V
11	NC		12	UIM_CLK	1.8/3.0V
13	NC		14	UIM_RST	1.8/3.0V
15	GND		16	NC	
17	NC		18	GND	
19	NC		20	NC	
21	GND		22	4G_RESET	1.8V
23	NC		24	NC	
25	NC		26	GND	
27	GND		28	NC	

Interface definition

29	GND		30	NC	
31	NC		32	NC	
33	NC		34	GND	
35	GND		36	HUB_HOST20_DM4	3.3V
37	GND		38	HUB_HOST20_DP4	3.3V
39	VCC3V8_4G (3.8V Output)	3.8V	40	GND	
41	VCC3V8_4G (3.8V Output)	3.8V	42	NC	
43	GND		44	SIM_DET	1.8V
45	NC		46	NC	
47	NC		48	NC	
49	NC		50	GND	
51	NC		52	VCC3V8_4G (3.8V Output)	3.8V

21. (J51)PCIe3.0x2 Socket 64 PIN



NO.	Definition	Level/V	NO.	Definition	Level/V
A1	GND		B1	VCC12V_PCIE30 (12V Output)	12V
A2	VCC12V_PCIE30 (12V Output)	12V	B2	VCC12V_PCIE30 (12V Output)	12V

Interface definition



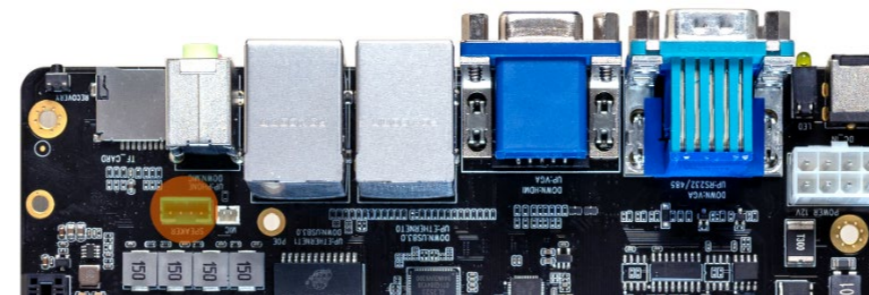
A3	VCC12V_PCIE30 (12V Output)	12V	B3	VCC12V_PCIE30 (12V Output)	12V
A4	GND		B4	GND	
A5	NC		B5	NC	
A6	NC		B6	NC	
A7	NC		B7	GND	
A8	NC		B8	VCC3V3_PCIE30 (3.3V Output)	3.3V
A9	VCC3V3_PCIE30 (3.3V Output)	3.3V	B9	NC	
A10	VCC3V3_PCIE30 (3.3V Output)	3.3V	B10	VCC3V3_PCIE30 (3.3V Output)	3.3V
A11	PCIE30X2_PERSTn_L(GPIO0_C6_d)	3.3V	B11	PCIE30X2_WAKEn_L(GPIO0_C5_d)	3.3V
A12	GND		B12	PCIE30X2_CLKREQn_L (GPIO0_A6_d)	3.3V
A13	PCIE30_REFCLKP_CON	1.8V	B13	GND	
A14	PCIE30_REFCLKN_CON	1.8V	B14	PCIE30_TX0_P (MB series capacitor 0.1uF)	1.8V
A15	GND		B15	PCIE30_TX0_N (MB series capacitor 0.1uF)	1.8V
A16	PCIE30_RX0P	1.8V	B16	GND	
A17	PCIE30_RX0N	1.8V	B17	PCIE30X2_PRsNT_L(GPIO0_B5_u)	3.3V
A18	GND		B18	GND	
A19	NC		B19	PCIE30_TX1_P (MB series capacitor 0.1uF)	1.8V
A20	GND		B20	PCIE30_TX1_N (MB series capacitor 0.1uF)	1.8V
A21	PCIE30_RX1P	1.8V	B21	GND	
A22	PCIE30_RX1N	1.8V	B22	GND	

Interface definition



A23	GND		B23	NC	
A24	GND		B24	NC	
A25	NC		B25	GND	
A26	NC		B26	GND	
A27	GND		B27	NC	
A28	GND		B28	NC	
A29	NC		B29	GND	
A30	NC		B30	NC	
A31	GND		B31	PCIE30X2_PRSENT_L(GPIO0_B5_u)	3.3V
A32	NC		B32	GND	

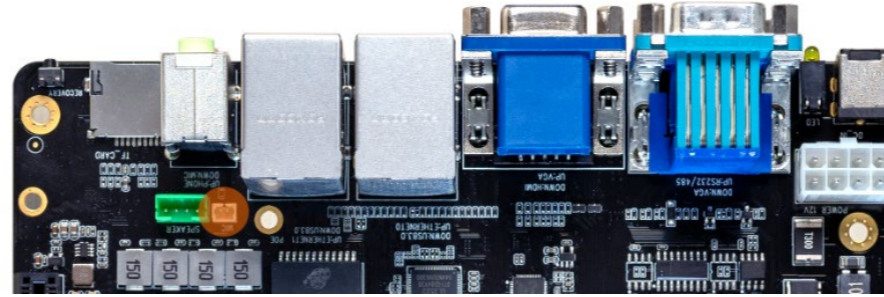
22. (J6)SPEAKER 4 PIN 2.0mm Pitch wafer (GREEN)



NO.	Definition	Level/V	NO.	Definition	Level/V
1	SPK_RP	12V	3	SKP_LP	12V
2	SPK_RN	12V	4	SKP_LN	12V

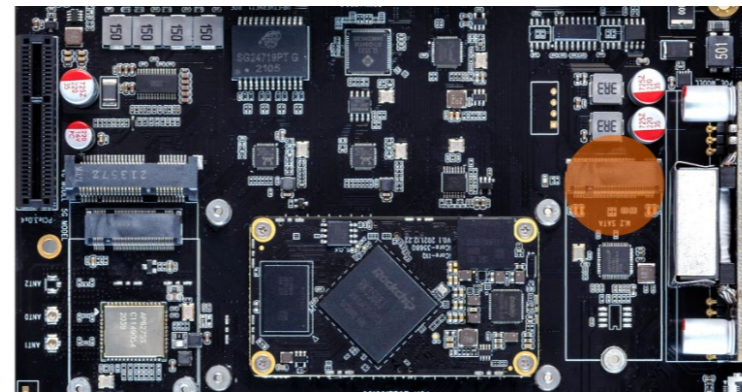
Interface definition

23. (J28)MIC 2 PIN 1.25mm Pitch wafer (WHITE)



NO.	Definition	Level/V	NO.	Definition	Level/V
1	MIC1_INN	3.3V	2	MIC1_INP	3.3V

24. (U1)M.2 SATA (PCIE M.2 NGFF B-Key Socket)



NO.	Definition	Level/V	NO.	Definition	Level/V
1	GND		2	VCC3V3_SATA (3.3V Output)	3.3V
3	GND		4	VCC3V3_SATA (3.3V Output)	3.3V
5	NC		6	NC	
7	NC		8	NC	

Interface definition



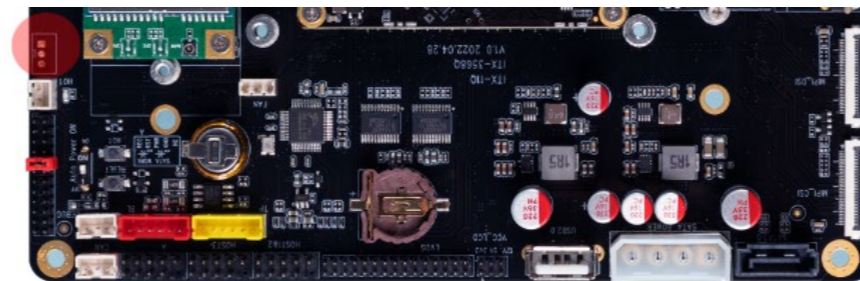
9	GND		10	DAS/DSS	3.3V
11	NC		20	NC	
21	GND		22	NC	
23	NC		24	NC	
25	NC		26	NC	
27	GND		28	NC	
29	NC		30	NC	
31	NC		32	NC	
33	GND		34	NC	
35	NC		36	NC	
37	NC		38	SATA Sleep (Pull up resistance 10K)	3.3V
39	GND		40	NC	
41	SATA_B_RXP (MB series capacitor 0.1uF)	1.8V	42	NC	
43	SATA_B_RXN (MB series capacitor 0.1uF)	1.8V	44	NC	
45	GND		46	NC	
47	SATA_B_TXN	1.8V	48	NC	
49	SATA_B_TXP	1.8V	50	NC	
51	GND		52	NC	
53	NC		54	NC	
55	NC		56	NC	
57	GND		58	NC	
67	NC		68	NC	

Interface definition



69	GND		70	VCC3V3_SATA (3.3V Output)	3.3V
71	GND		72	VCC3V3_SATA (3.3V Output)	3.3V
73	GND		74	VCC3V3_SATA (3.3V Output)	3.3V
75	GND				

25. (J17--NC) I2C4 3 PIN 2.0mm Pitch



NO.	Definition	Level/V	NO.	Definition	Level/V
1	I2C4_SDA_M0 (Pull up resistance 4.7K)	3.3V	3	GND	
2	I2C4_SDA_M0 (Pull up resistance 4.7K)	3.3V			



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