SPECIFICATION
FOR
IoT MODULE
MODULE NO: AMV-3568A0
REVISION NO: O

Customer's Approval:

	SIGNATURE	DATE
PREPARED BY (RD ENGINEER)		
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REVISION RECORD

Rev No.	Rev date	Contents	Remarks
O	2024.07.23	First Release	Preliminary

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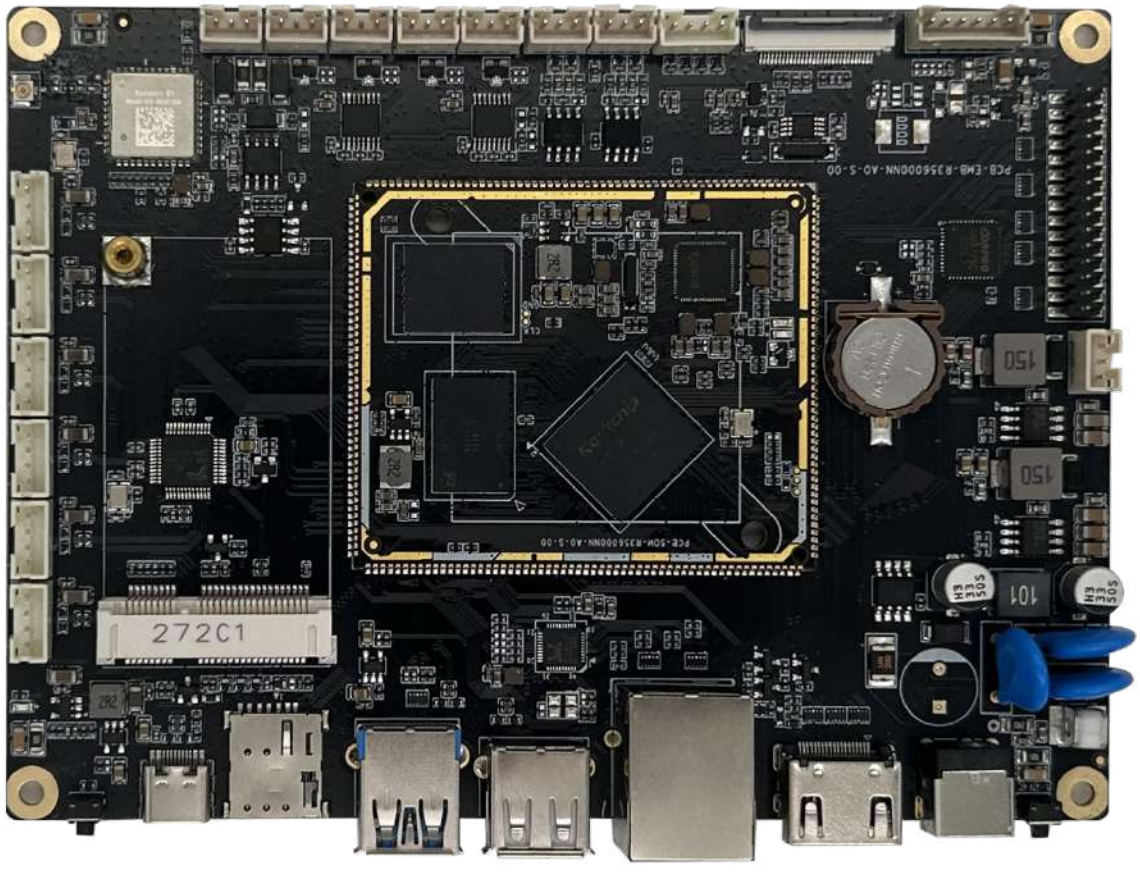
1.MODULE DESCRIPTION

AMV-3568A0 motherboard is a high-performance embedded motherboard that is equipped with the Rockchip RK3566, the latest generation of low-cost, high-performance multi-core processor. It also has 2GB of memory and 16GB of eMMC storage, and can run operating systems such as Android 11 and Linux.

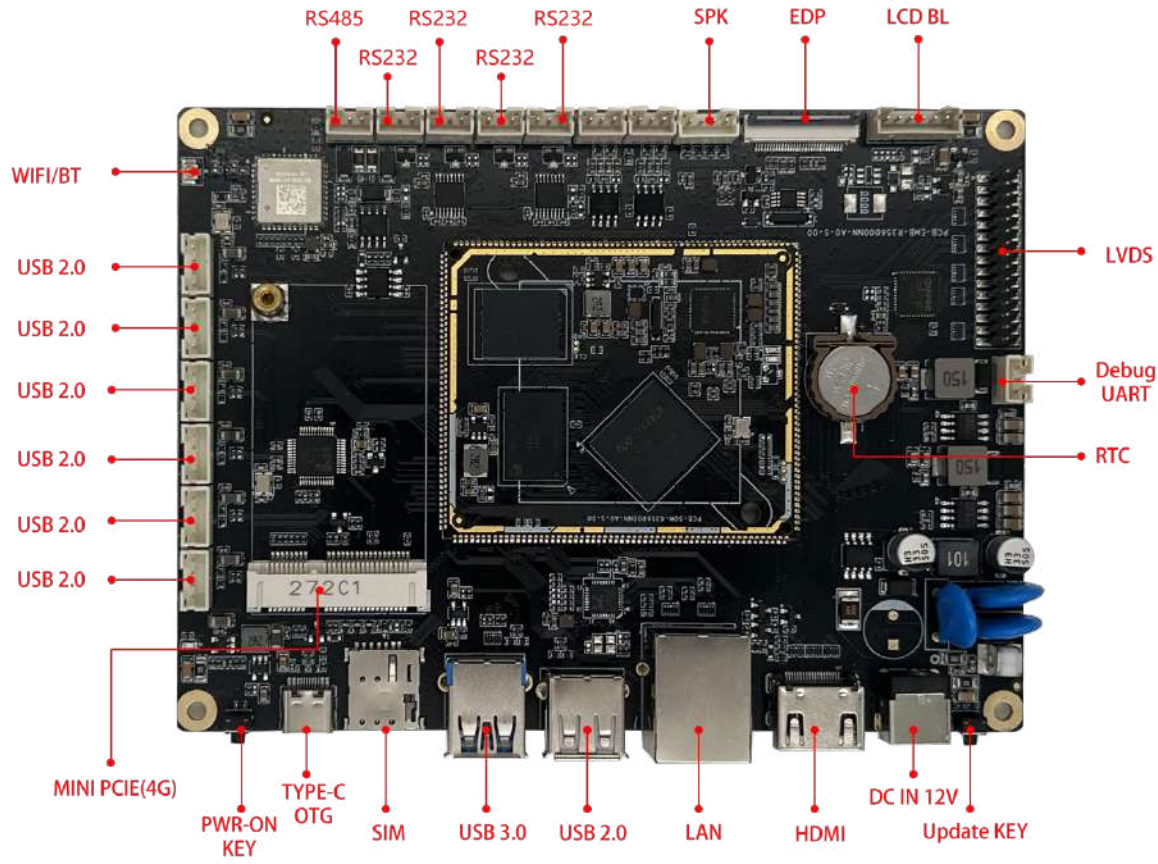
It provides a rich range of peripheral interfaces, allowing for flexible connection to a large number of external devices such as barcode scanners, cameras, barcode printers, and card readers. The high-spec video engine, combined with H.265 hardware decoding and 2K video resolution, provides ultra-high-definition video output. The multi-format display interface makes it flexible for use in various industry scenarios such as smart retail, face access control, and financial self-service terminals.



2.GENERAL INFORMATION

Product Introduce	
Operating System	Linux/Android
CPU	RK3566 ARM quad-core ARM Cortex-A55, Highest frequency is 1.8GHz
Memory	2GB LPDDR4+16GB EMMC(RAM, ROM size can be selected)
USB TYPE-C	OTG
Display interface	HDMI*1、LVDS*1、EDP*1
Ethernet	LAN*1
I/O interface	USB3.0 TYPE-A*1、USB2.0 TYPE-A*1、DB UART*1、SPK*1、 RS232*4、RS485*1、WIFI/BT*1、USB2.0**6、MINI PCIE(4G)*1、 TF card*1
Power Supply	DC-in
	Typ. 12V
Power Consumption	2.5W(Static desktop with default brightness)
System upgrade	Support local USB upgrade
System Language	Multilingualism
Mechanical	107.00*146.00mm
Weight	103g

3.INTERFACE DESCRIPTION



No.	Item	Symbol
1	DC	Power DC 12V
2	HDMI	HDMI 2.0
3	USB	USB2.0*1、USB3.0*1、TYPE-C OTG*1
4	LAN	LAN*1　10/100/1000M
5	SIM CARD	4G LTE
6	TF CARD	TF card slot

Debug UART:

Pin No.	Symbol	Pin No.	Symbol
1	DEBUG_TX(3.3V)	3	GND
2	DEBUG_RX(3.3V)	/	/

LVDS:

Pin No.	Symbol	Pin No.	Symbol
1	VDD	16	LVDS_CLK1P
2	VDD	17	LVDS_D3N
3	VDD	18	LVDS_D3P
4	GND	19	LVDS_D4N
5	GND	20	LVDS_D4P
6	GND	21	LVDS_D5N
7	LVDS_D0N	22	LVDS_D5P
8	LVDS_D0P	23	LVDS_D6N
9	LVDS_D1N	24	LVDS_D6P
10	LVDS_D1P	25	GND
11	LVDS_D2N	26	GND
12	LVDS_D2P	27	LVDS_CLK2N
13	GND	28	LVDS_CLK2P
14	GND	29	LVDS_D7N
15	LVDS_CLK1N	30	LVDS_D7P

LCD_BL:

Pin No.	Symbol	Pin No.	Symbol
1	VCC_BL	4	EN
2	VCC_BL	5	GND
3	PWM	6	GND

EDP:

Pin No.	Symbol	Pin No.	Symbol
1	NC	16	GND
2	GND	17	HPD
3	D1N	18	BL_GND
4	D1P	19	BL_GND
5	GND	20	BL_GND
6	D0N	21	BL_GND

7	D0P	22	BL_EN
8	GND	23	BL_PWM
9	CLKP/AUXP	24	NC
10	CLKN/AUXN	25	NC
11	GND	26	BL_PWR
12	LCD_VCC	27	BL_PWR
13	LCD_VCC	28	BL_PWR
14	NC	29	BL_PWR
15	GND	30	NC

SPK:

Pin No.	Symbol	Pin No.	Symbol
1	OUTPR	3	OUTNL
2	OUTNR	4	OUTPL

RS232*4:

Pin No.	Symbol	Pin No.	Symbol
1	RS232_RX	3	GND
2	RS232_TX	/	/

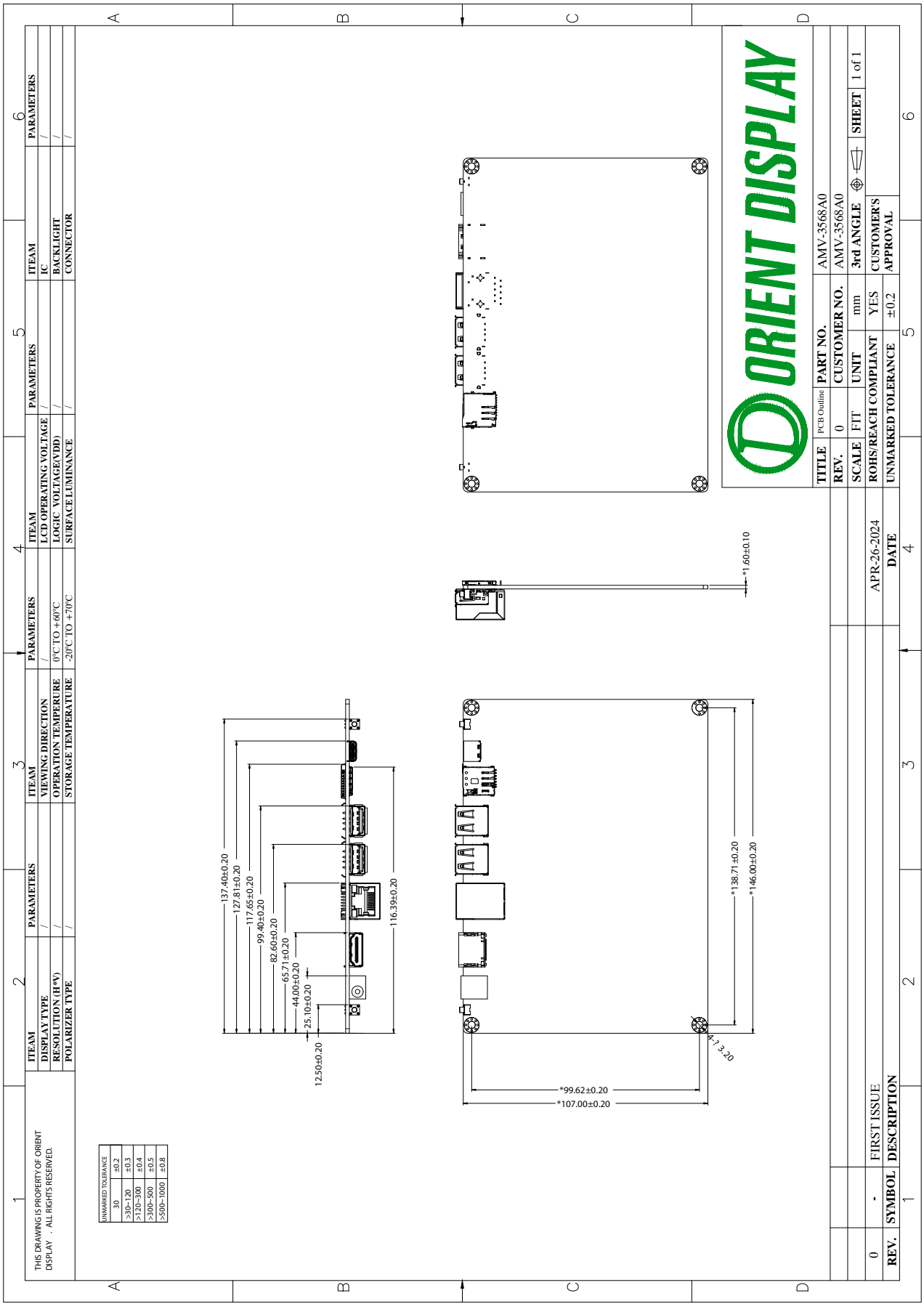
RS485:

Pin No.	Symbol	Pin No.	Symbol
1	RS485_A	3	GND
2	RS485_B	/	/

USB2.0*6:

Pin No.	Symbol	Pin No.	Symbol
1	GND	3	DM
2	DP	4	VCC_USB

4. MOUDLE EXTERNAL DIMENSIONS



5.ENVIRONMENTAL CONDITIONS

Item	Symbol	Min.	Max.	Unit
Operation Temperature	Top	0	+60	°C
Storage Temperature	Tst	-20	+70	°C
Humidity	RH	-	90%	%RH

6.RELIABILITY TEST CONDITIONS

<table>
<tr><th>No.</th><th>Test Item</th><th colspan="2">Test condition</th><th>Inspection after test</th></tr>
<tr><td>1</td><td>High Temperature Storage Test</td><td colspan="2">+70°C/72 hours</td><td rowspan="14">Inspection after 2~4 hours storage at room temperature, the sample shall be free from defects :
1.Current changing value before test and after test is 50% larger.
2. Function defect : Non-display, abnormal-display
3.Visual defect : Glass crack.</td></tr>
<tr><td>2</td><td>Low Temperature Storage Test</td><td colspan="2">-20°C/72 hours</td></tr>
<tr><td>3</td><td>High Temperature Operating Test</td><td colspan="2">+60°C/48 hours</td></tr>
<tr><td>4</td><td>Low Temperature Operating Test</td><td colspan="2">0°C/48 hours</td></tr>
<tr><td>5</td><td>Temperature Cycle Storage Test</td><td colspan="2">-20°C ~ 25°C ~ +70°C/10 cycles
(30 min.) (10 min.) (30 min.)</td></tr>
<tr><td>6</td><td>High Temperature High Humidity Test</td><td colspan="2">+50°C*90% RH/48 hours</td></tr>
<tr><td>7</td><td>Vibration Test</td><td colspan="2">Frequency : 250 r/min
Amplitude : 1 inch
Time: 45 min</td></tr>
<tr><td rowspan="6">8</td><td rowspan="6">Drop Test</td><td colspan="2">Drop direction:
1 corner/3 edges/6 sides ,10 times</td></tr>
<tr><td>Packing weight(kg)</td><td>Drop height(cm)</td></tr>
<tr><td><11</td><td>80±1.6</td></tr>
<tr><td>11≦G<21</td><td>60±1.2</td></tr>
<tr><td>21≦G<31</td><td>50±1.0</td></tr>
<tr><td>31≦G<40</td><td>40±0.8</td></tr>
<tr><td>9</td><td>ESD Test</td><td colspan="2">Air discharge: ±8 KV, 10 times
Contact discharge: ±4 KV, 10 times</td></tr>
</table>

Remark :
1.The tested samples should be applied to only one test item.
2.Sample size for each test item is 3~5 pcs.
3.For High temperature high humidity test, Pure water(Resistance>10MΩ) should be used.
4.In case of malfunction defect caused by ESD damage, if it would be recovered to normal state after resetting, it would be judged as a good part.
5.Failure judgement criterion: Basic specification, Electrical characteristic, Mechanical characteristic, Optical characteristic.

7.REMARK:

- Avoid any inappropriate external force or strong vibration in the assembly process.
- High temperature, high humidity or rapid temperature changes may affect performance. Store and use the product in an appropriate environment.
- Avoid dust, oil mist, acid, alkali and chloride damage to the product.
- Wear wrist straps, antistatic gloves and clothes during assembly to prevent electrostatic discharge (ESD).
- When assembling, use ionic fan to prevent electrostatic discharge (ESD).
- Follow the correct time sequence when operating.
- Turn off the power when connecting or disconnecting the circuit.
- Ensure that the shell is connected to the ground (PE) in the operating environment.