



ORIENT DISPLAY
MAKE THINGS POSSIBLE

**SPECIFICATION
FOR
IoT MODULE**

**MODULE NO: AMV-3126A0
REVISION NO: 0**

Customer's Approval:

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	SIGNATURE	DATE
PREPARED BY (RD ENGINEER)		
CHECKED BY		
APPROVED BY		

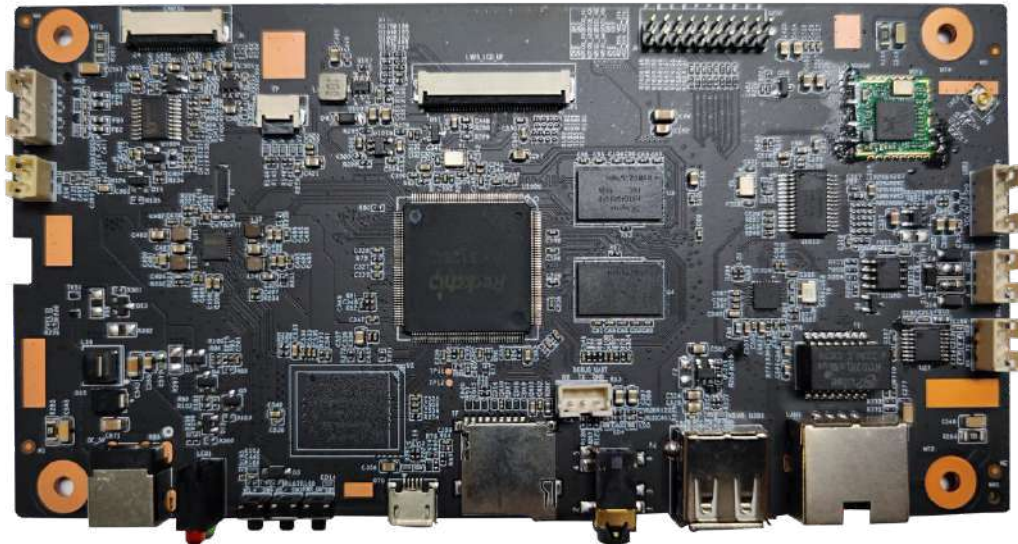
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1.MODULE DESCRIPTION

AMV-3126A0 mainboard uses a Rockchip RK3126 quad-core ARM Cortex-A7 architecture CPU with a maximum dominant frequency of 1.2GHz. It integrates ARM Mali-400MP2 GPU and supports OpenGL ES1.1/2.0; Embedded high performance 2D acceleration hardware. Multimedia supports multi-format 1080P 60fps video decoding (H.265,H.264,VC-1, MPEG-1/2/4, VP8), up to 1080P video encoding, support H.264,VP8. Display support RGB/LVDS/MIPI-DSI, the highest resolution 1280x720. The chip memory supports 16bits DDR3-1066 or DDR3L-1066. Support MLC NAND, EMMC 4.51, Serial Nor FLASH.

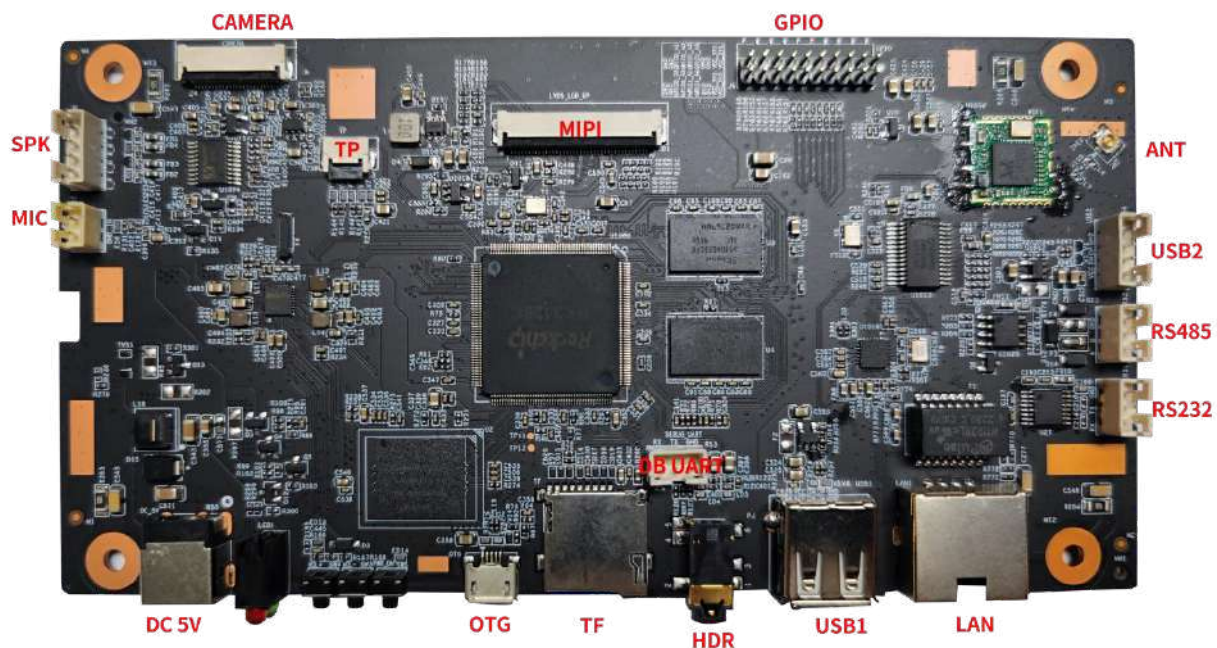
The mainboard has DDR3 1G and 8G EMMC memory, supporting MIPI display output; 2 USB ports, 1 OTG and 8 GPIO, support RS232/RS485,WIFI/BT, can meet the needs of different customers.



2.GENERAL INFORMATION

Product Introduce	
System	Android
CPU	RK3126 ARM quad-core A7 , Highest frequency is 1.2GHz;ARM Mali-400MP2 GPU
Store	1G DDR3 + 8G EMMC (support TF card)
Display interface	MIPI
Camera	MIPI
Communication interface	WIFI、 BT、 RS232*1、 RS485*1、 USB*2、 OTG*1、 LAN*1、 GPIO*8
Audio interface	MIC、 SPK(4Ω/3.2W*2)
Module Power Supply	5V DC
Module Power Consumption	3.8W(TYP.)
System upgrade	Support local USB upgrade
OSD Language	Multilingualism
Module Size	158.00*80.00*9.90mm
Weight	70g (TYP.)

3. INTERFACE DESCRIPTION



Positive



Backside

PWOER: 5V DC



OTG:



TF:



HDR:



DB_UART:

Pin No.	Symbol	Pin No.	Symbol
1	RX	3	GND
2	TX	/	/

USB1:



LAN:



RS232:

Pin No.	Symbol	Pin No.	Symbol
1	RX	3	GND
2	TX	/	/

RS485:

Pin No.	Symbol	Pin No.	Symbol
1	RS485-A	3	GND
2	RS485-B	/	/

USB2(TP):

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

ANT:



GPIO:

Pin No.	Symbol	Pin No.	Symbol
1	VCC_3.3	11	GPIO1_A2
2	VCC_3.3	12	GPIO1_A1
3	VCC_3.3	13	GPIO1_A0
4	VCC_3.3	14	GPIO0_A3
5	GND	15	GPIO0_A1
6	GND	16	GPIO0_D3
7	GND	17	GND
8	GND	18	GND
9	GPIO1_A5	19	GND
10	GPIO1_A4	20	GND

MIPI:

Pin No.	Symbol	Pin No.	Symbol
1	LEDK	21	GND
2	LEDK	22	MIPI_TX_D2N
3	LEDA	23	MIPI_TX_D2P
4	LEDA	24	GND
5	NC	25	MIPI_TX_D3N
6	U/D	26	MIPI_TX_D3P
7	L/R	27	GND
8	RST	28	NC
9	STBYB	29	NC
10	VCC_LCD	30	VCCIO_LCD
11	NC	31	NC
12	GND	32	LCD_LCK
13	MIPI_TX_D0N	33	GPIO2_B4/LCD_D10
14	MIPI_TX_D0P	34	GPIO2_B5/LCD_D11
15	GND	35	GPIO2_B6/LCD_D12
16	MIPI_TX_D1N	36	GPIO2_B7/LCD_D13
17	MIPI_TX_D1P	37	GPIO2_C0/LCD_D14
18	GND	38	GPIO2_C1/LCD_D15

19	MIPI_TX_CLKN	39	GPIO2_C2/LCD_D16
20	MIPI_TX_CLKP	40	GPIO2_C3/LCD_D17

TP:

Pin No.	Symbol	Pin No.	Symbol
1	GND	4	INT
2	SCL	5	RST
3	SDA	6	VCC

CAMERA:

Pin No.	Symbol	Pin No.	Symbol
1	CIF_PDN_B	13	CIF_CLKOUT
2	GND	14	CIF_D6
3	SDA_CAMERA	15	GND
4	VCC28_CIF	16	CIF_D5
5	SCL_CAMERA	17	CIF_CLKIN
6	CIF_RST	18	CIF_D4
7	CIF_VSYNC	19	CIF_D0
8	CIF_PDN_F	20	CIF_D3
9	CIF_HREF	21	CIF_D1
10	VCC18_CIF	22	CIF_D2
11	VCC28_CIF	23	NC
12	CIF_D7	24	NC

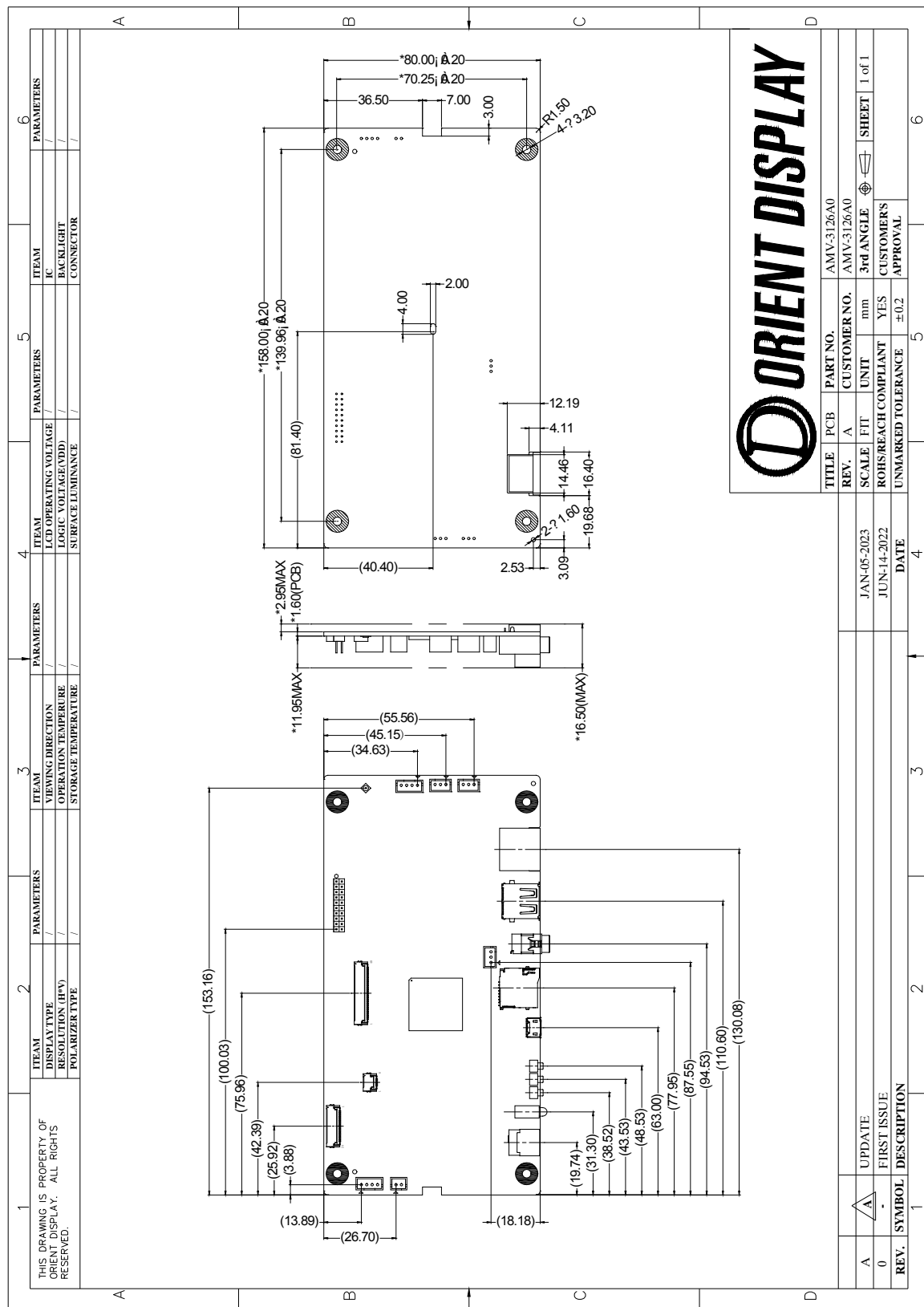
SPK:

Pin No.	Symbol	Pin No.	Symbol
1	OUTR_P	3	OUTL_N
2	OUTR_N	4	OUTL_P

MIC:

Pin No.	Symbol	Pin No.	Symbol
1	MIC_IN	2	GND

4. MOUDLE EXTERNAL DIMENSIONS



5. ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Power Supply Input Voltage(Module)	VDD	5.0	6.0	V
Operation Temperature	Top	0	+50	°C
Storage Temperature	Tst	-20	+70	°C
Humidity	RH	-	90%	%RH

6.RELIABILITY TEST CONDITIONS

No.	Test Item	Test condition	Inspection after test
1	High Temperature Storage Test	+70°C/72 hours	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.
2	Low Temperature Storage Test	-20°C/72 hours	
3	High Temperature Operating Test	+50°C/48 hours	
4	Low Temperature Operating Test	0°C/48 hours	
5	Temperature Cycle Storage Test	-20°C ~ 25°C ~ +70°C/10 cycles (30 min.) (10 min.) (30 min.)	
6	High Temperature High Humidity Test	+40°C*90% RH/48 hours	
7	Vibration Test	Frequency : 250 r/min Amplitude : 1 inch Time: 45 min	
8	Drop Test	Drop direction: 1 corner/3 edges/6 sides ,10 times	
		Packing weight(kg)	
		<11	80±1.6
		11</= G<21	60±1.2
		21</= G<31	50±1.0
31</= G<40	40±0.8		
9	ESD Test	Air discharge: ±8 KV, 10 times Contact discharge: ±4 KV, 10 times	

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.