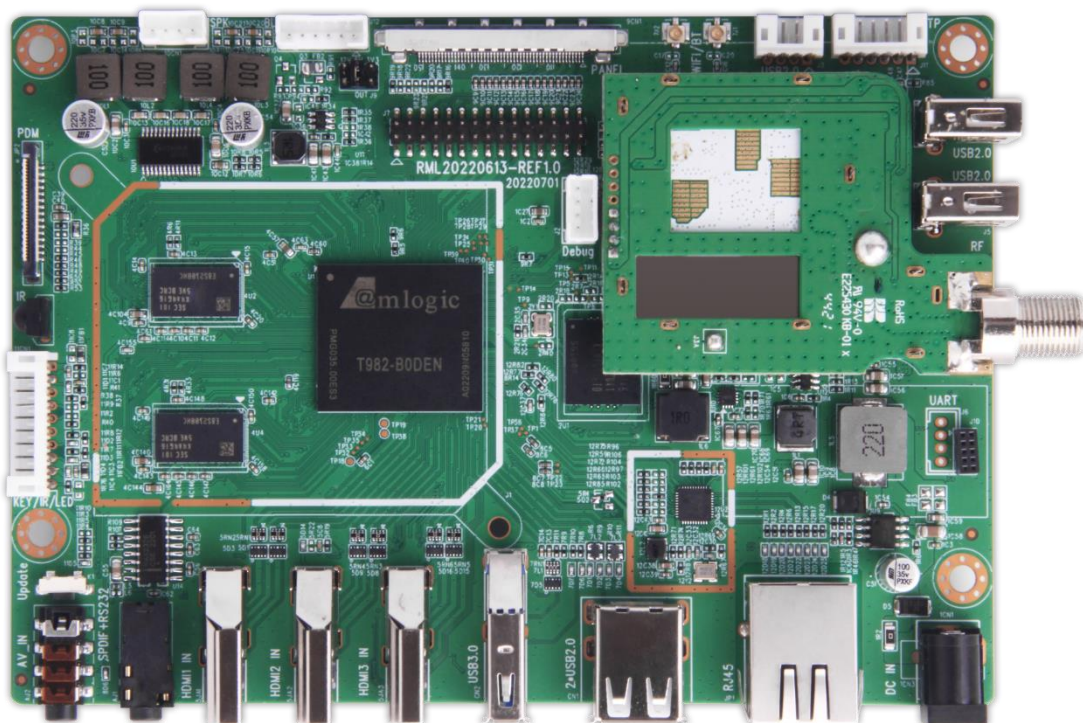


DB982

Hardware User Guide



Powered by:

Geniatech

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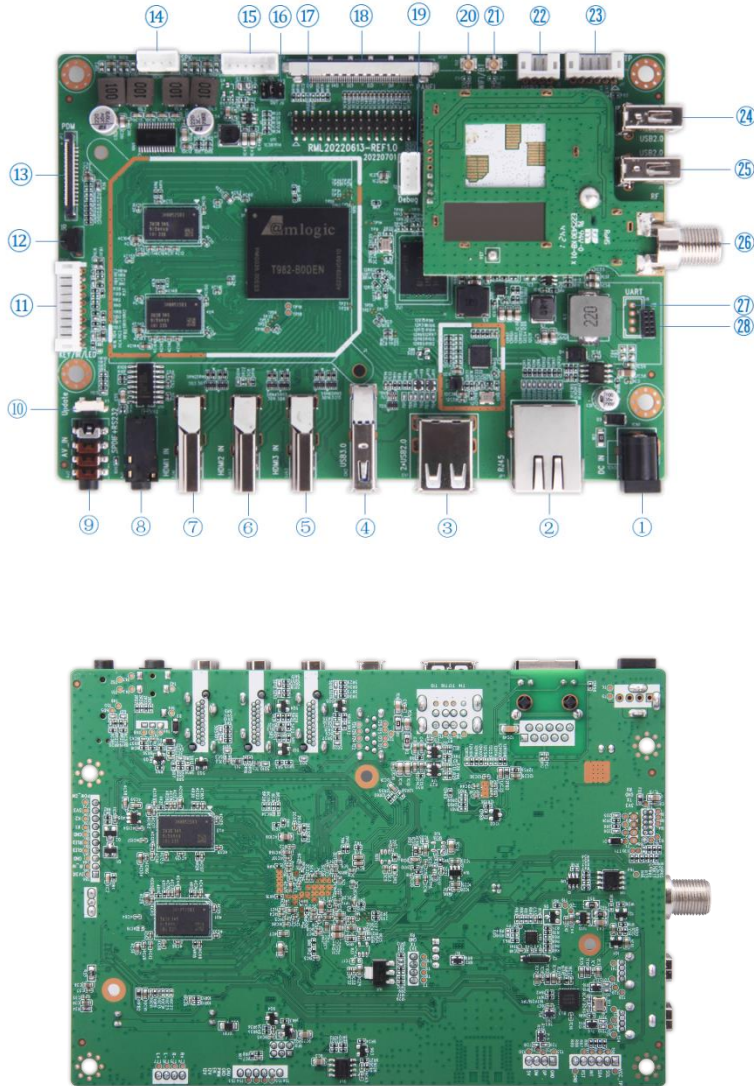
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1 Introduction

DB982 is an Android Customized Board with following new features:

- (I) Quad core ARM Cortex-A55 CPU @ 1.8GHz, ARM Mali-G52 MP2(2EE) GPU
- (II) NPU: 2 NNA with INT8 inference performance up to 2.6 TOPS
- (III) Supports Android R(11.0) OS
- (IV) 2GB RAM (4GB optional), 16GB eMMC (8~64GB optional)
- (V) Supports V by one or LVDS interface 4K LCD Panel (optional)
- (VI) 3*HDMI IN 4KP60 + 1*AV_IN
- (VII) Ethernet 10/100/1000M + BT4.1 (BT5.0 optional) + 802.11.b/g/n/ac (2.4G&5.8G optional)
- (VIII) Supports Mini PCIE LTE (Global standard)
- (IX) GTIOT: Z-WAVE / ZIGBEE / LoRa / LTE / GPS / WiFi / BT5.0
- (X) Supports Dual ATSC3.0 (ATSC3.0/ATSC1.0/DVB-T2/DVB-T/DVB-C optional)
- (XI) Supports WDT&RTC + 2*RS232
- (XII) Supports 1*USB3.0, 5*USB2.0 (one build in)
- (XIII) Supports 1*SPK (MAX: 2*8Ω5W), 1*SPDIF OUT, 1* MIC array
- (XIV) Supports USB and I2C TP
- (XV) Other Port: Update, Power, Menu, Source, LED (Red/Green), IR
- (XVI) Support wide voltage: 9~24V
- (XVII) Designed for dual ATSC3.0 and 4K LCD screens

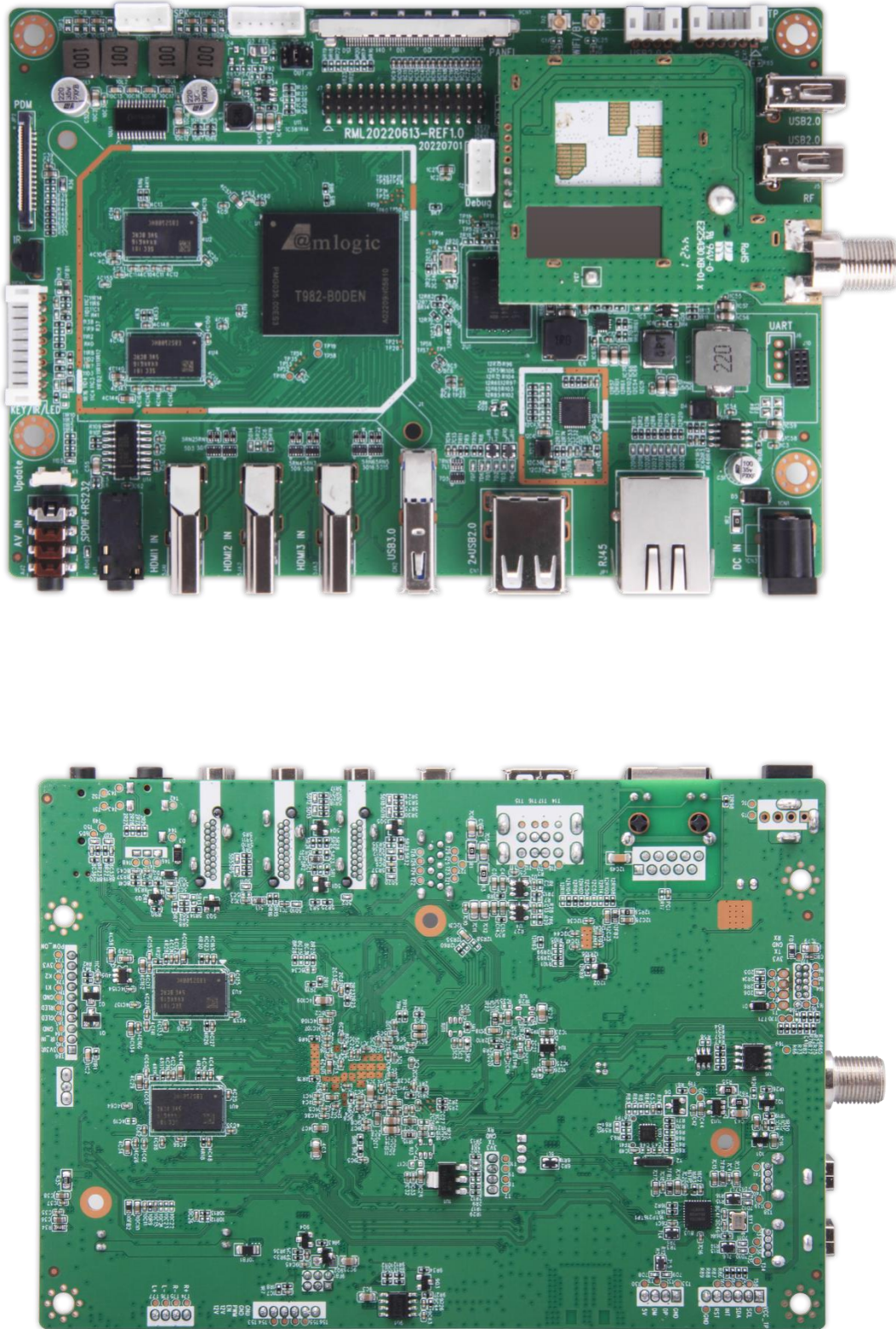
1.1 Board Overview



No	Name	Description
1	DC IN	1* DC IN/4Pin2.0mm
2	LAN	1* Ethernet 1000M
3	USB2.0(1-2)	2*USB2.0 Type A
4	USB 3.0	1*USB3.0 Type A
5	HDMI IN-3	1*HDMI
6	HDMI IN-2	1*HDMI
7	HDMI IN-1	1*HDMI
8	RS232&SPDIF	1*3.5mm Jack
9	AV_IN	1*3.5mm Jack
10	Update key	1* key (AV_IN back)
11	Other connector	1*10Pin2.0mm
12	IR reception	1*IR
13	PDM	1*30Pin0.5mm FPC
14	SPK	1*4Pin2.0mm
15	Backlight	1*6Pin2.0mm
16	LCD Voltage	1*(3*2pin 2.0mm)
17	LVDS	1*(2*15Pin2.0mm)
18	V by one(VX1)	1*51Pin0.5mm
19	Debug	1*4pin 2.0mm
20	WIFI ANT	1*IPXE Connector
21	WIFI/BT ANT	1*IPXE Connector
22	USB2.0-3	1*4pin 2.0mm
23	I2C(TP)	1*6Pin2.0mm
24	USB2.0-4	1*USB2.0 Type A
25	USB2.0-5	1*USB2.0 Type A
26	RF	1*ATSC
27	UART	1*4Pin2.0mm
28	GTiot	1*(2x5Pin1.27mm)

2 What's in the Developer Board

The Developer Board contains one DB982.



3 Getting started

3.1 Prerequisites

Before you power up your DB982 for the first time you will need the following:

- DB982 board
- A DB982 board compliant power supply (sold separately by Geniatech).
- A DB982 board compliant IR remote (sold separately by Geniatech).
- A V by one or LVDS LCD Monitor that supports a resolution of 4K/60Hz.
- V by one-V by one cable or LVDS-LVDS cable to connect the board to the LCD.
- A computer keyboard/mouse with USB interface.

3.2 Starting the board for the first time

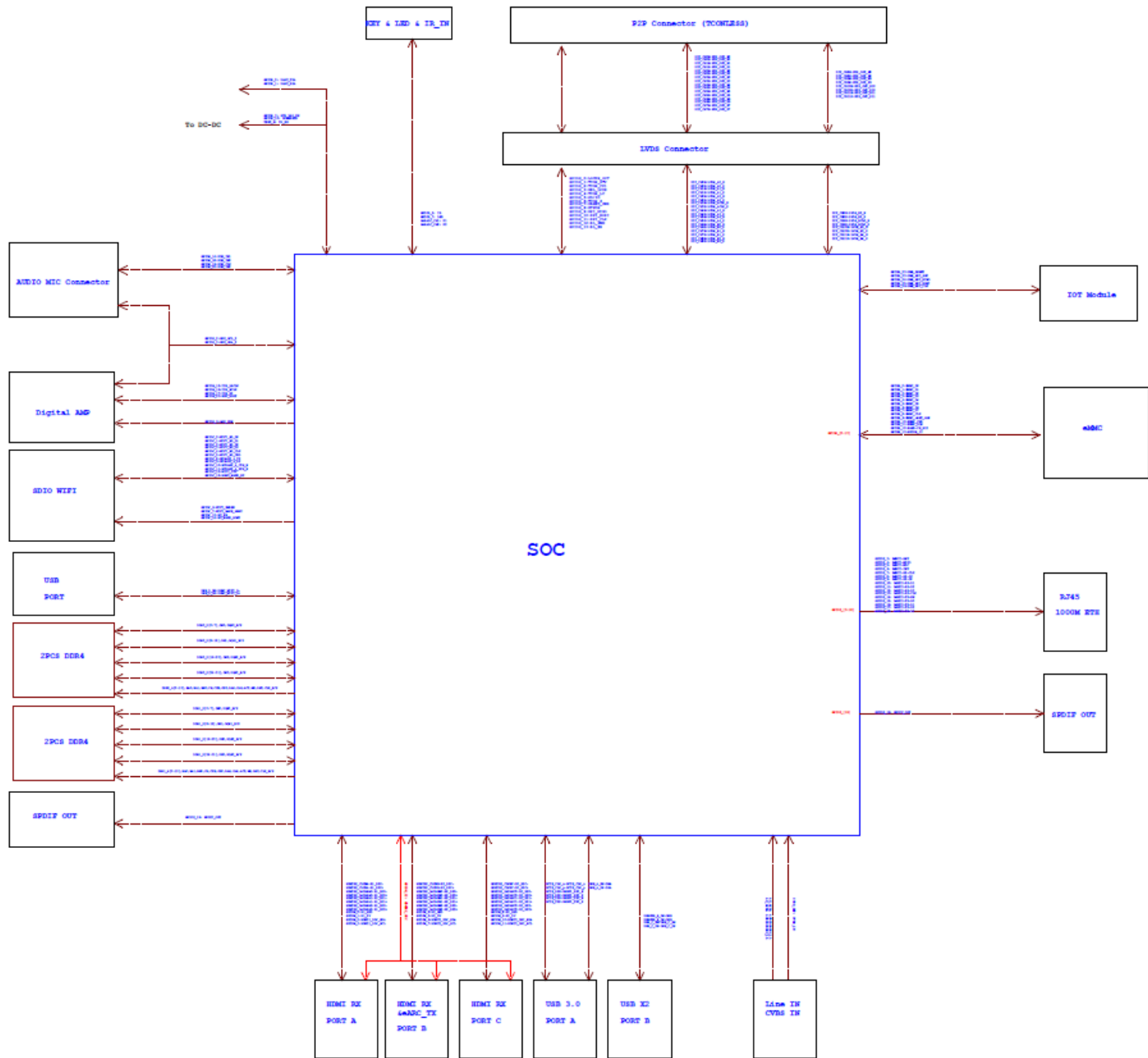
To start the board, follow these simple steps:

- step 1. Connect the V by one / LVDS cable to the DB982 connector (marked) and to the LCD Monitor.
- step 2. Connect the keyboard to the boards USB connector marked or connect the mouse to the USB connector marked. (It doesn't matter which order you connect it in. You can also connect via an external USB Hub.)
- step 3. Connect the power supply to power connector marked.

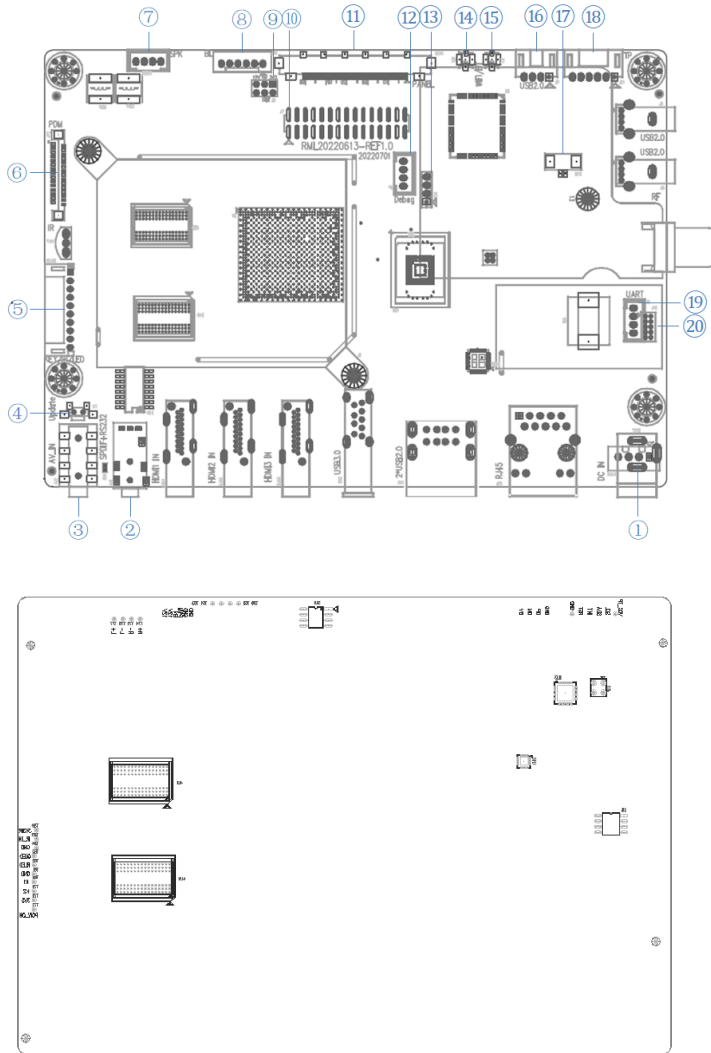
Power on (Plug power adapter), toggle the power switch, then the board will boot up and you will see the boot up logo with Android.

Please note that the first boot takes several minutes due to Androids initialization. Subsequent boot times should be faster.

Block Diagram:

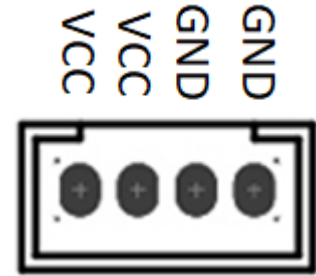
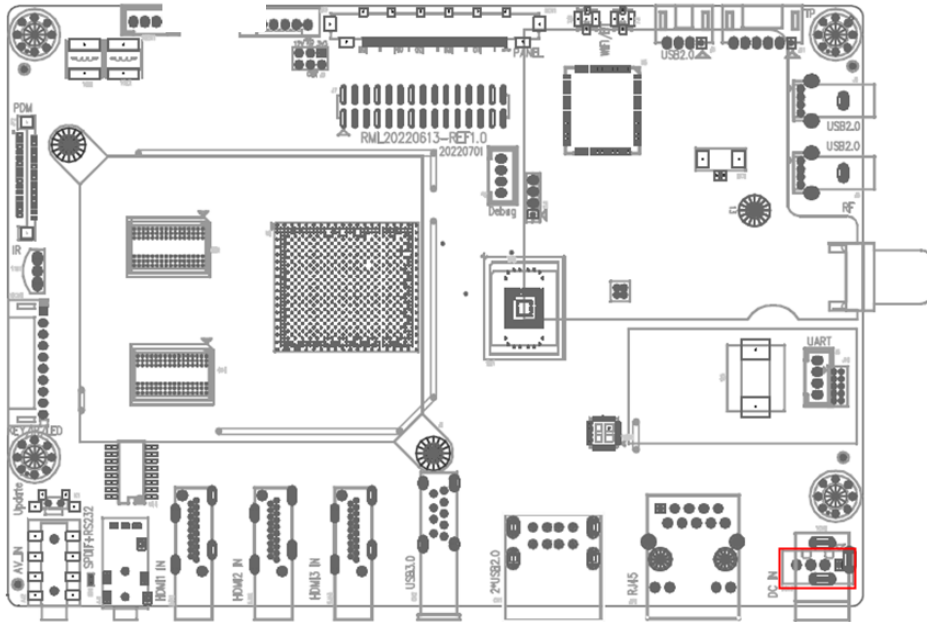


4.2 Internal Connectors, Headers & Jumpers

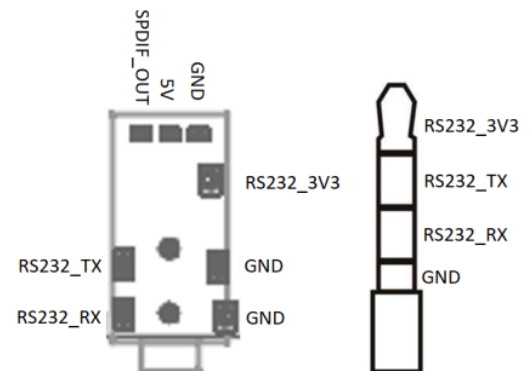
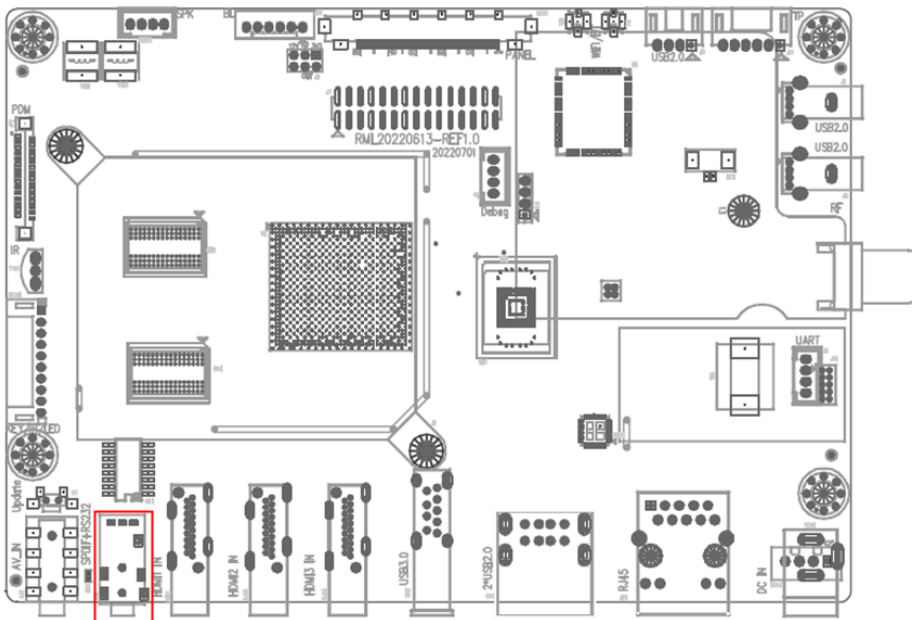


No	Name	Description
1	DC IN	1*4Pin2.0mm
2	RS232&SPDIF	1*3.5mm Jack
3	AV_IN	1*3.5mm Jack
4	Update key	1* key (AV_IN back)
5	Other connector	1*10Pin2.0mm
6	PDM	1*30Pin0.5mm FPC
7	SPK	1*4Pin2.0mm
8	Backlight	1*6Pin2.0mm
9	LCD Voltage	1*(2*2pin 2.0mm)
10	LVDS	1*(2*15Pin2.0mm)
11	V by one(VX1)	1*51Pin0.5mm
12	Debug	1*4pin 2.0mm
13	USB Tuner port	1*4pin 2.0mm
14	WIFI ANT	1*IPXE Connector
15	WIFI/BT ANT	1*IPXE Connector
16	USB2.0-3	1*4pin 2.0mm
17	RTC battery port	1*2Pin1.25mm
18	I2C(TP)	1*6Pin2.0mm
19	UART	1*4Pin2.0mm
20	GTiot	1*(2x5Pin1.27mm)

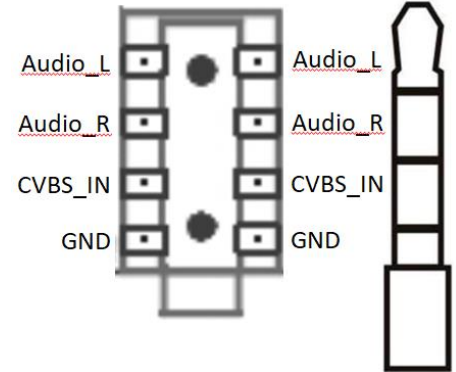
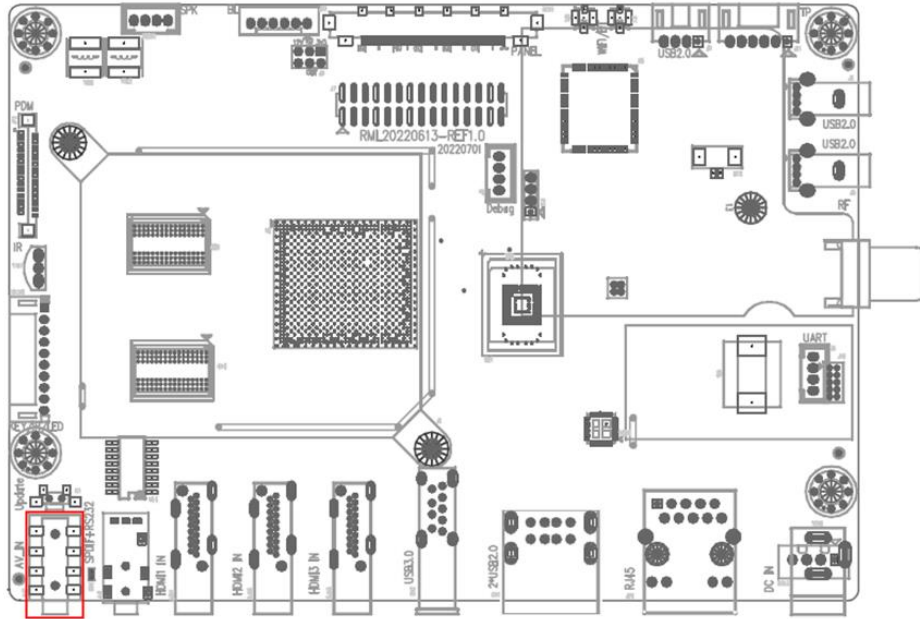
4.2.1 DC IN (1CN3)



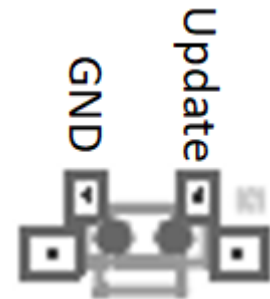
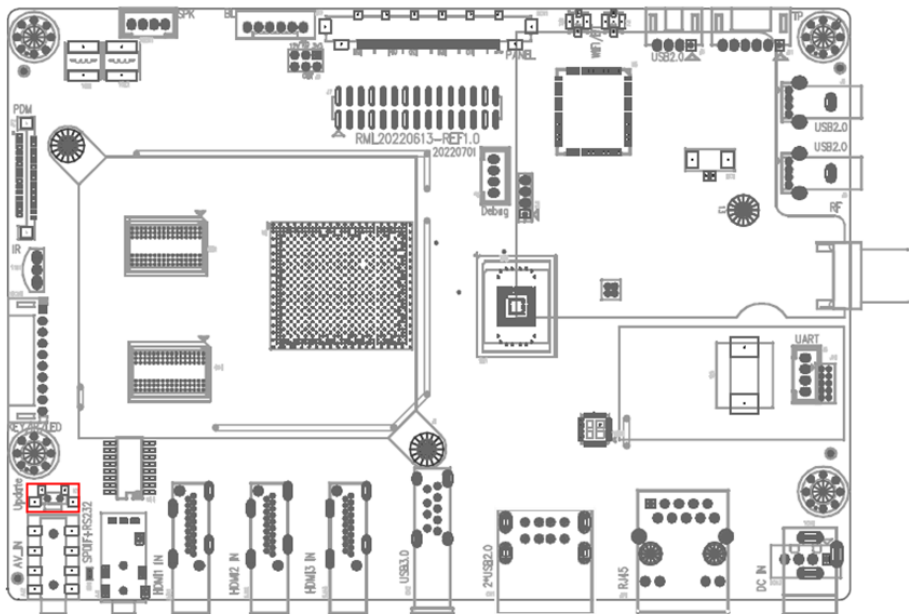
4.2.2 RS232&SPDIF (AJ1)



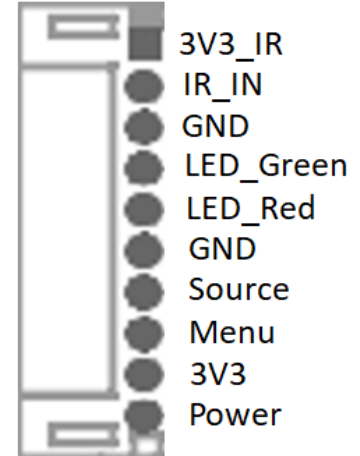
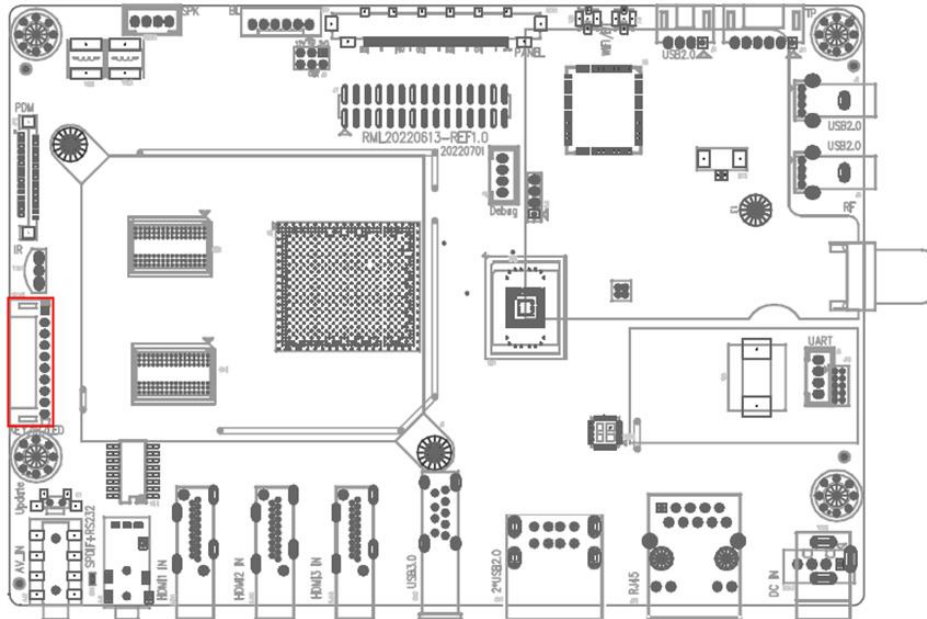
4.2.3 AV_IN (AJ2)



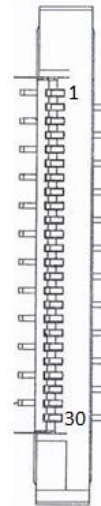
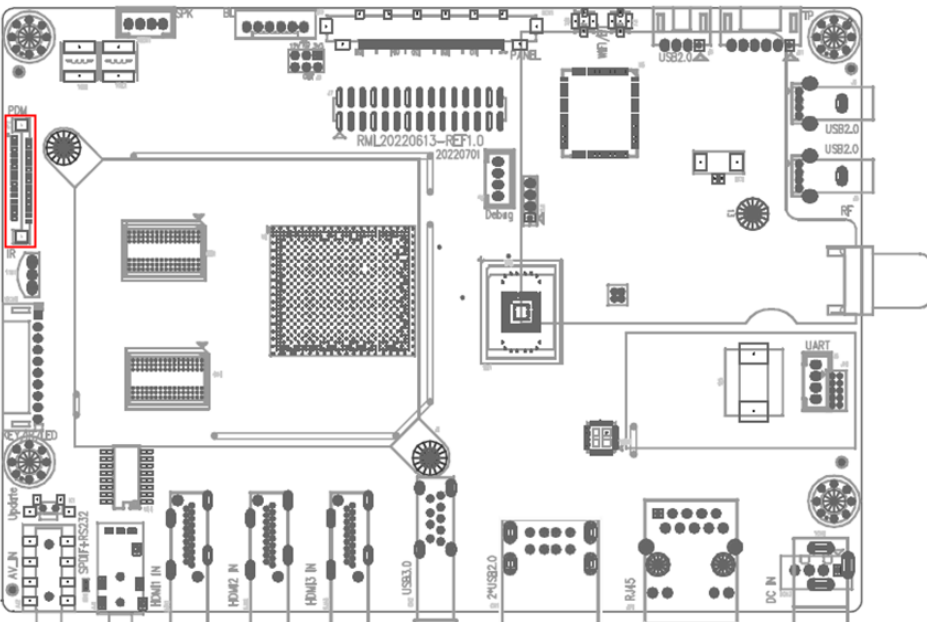
4.2.4 Update key (K1)



4.2.5 Other Connector (11CN1)

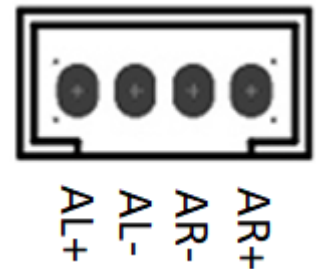
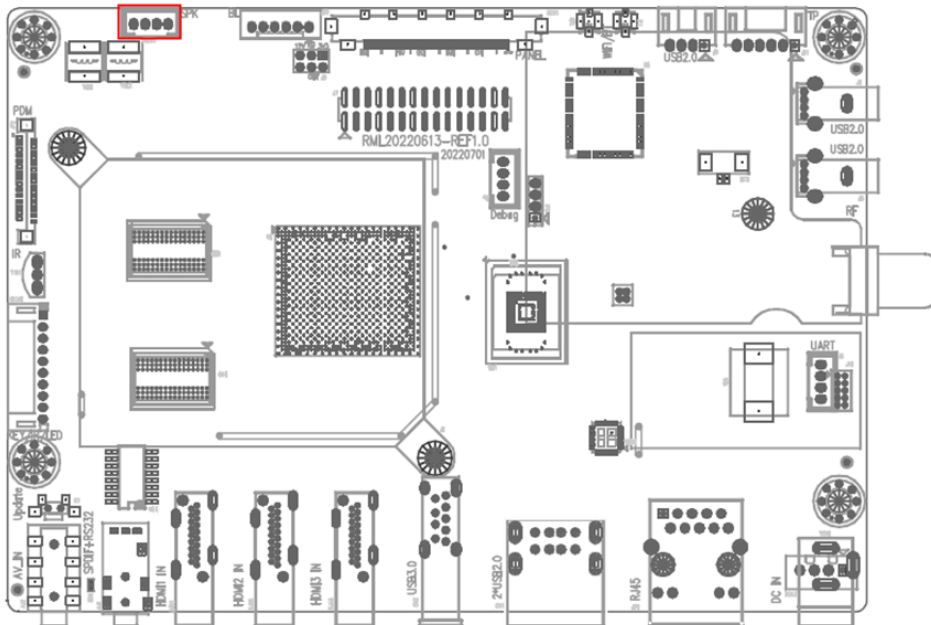


4.2.6 PDM (JP2)

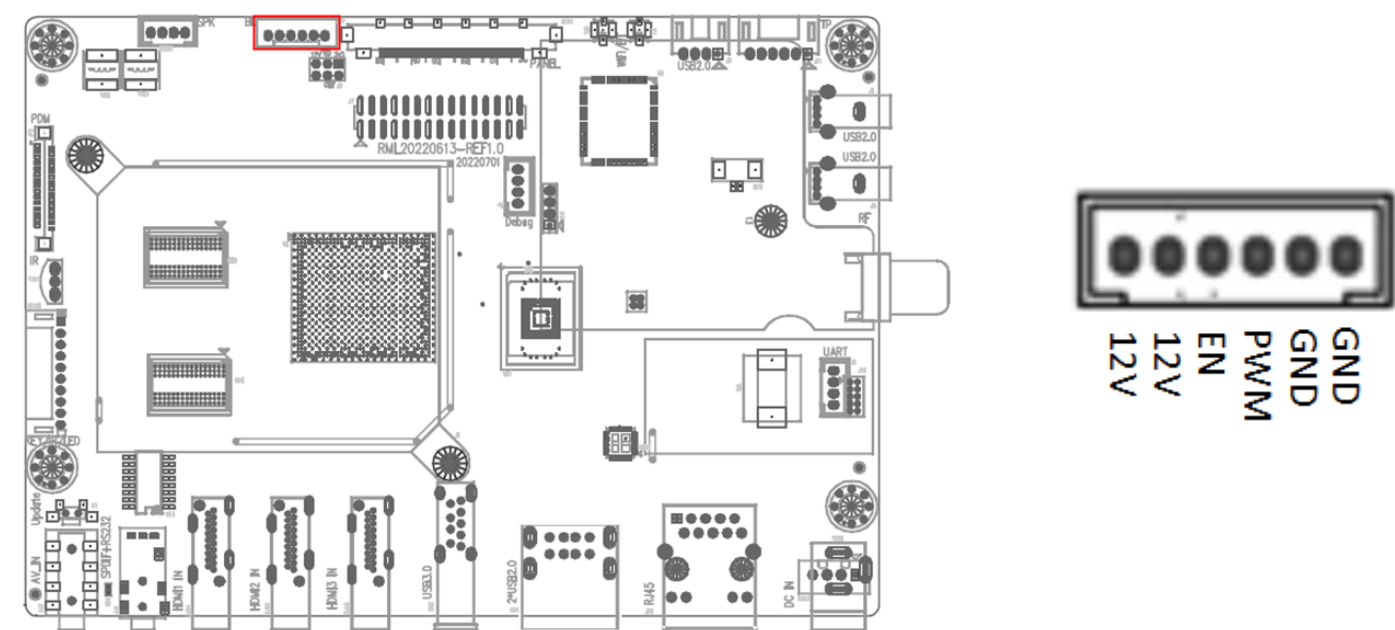


Pin Name	Pin No.	Pin No.	Pin Name
VCC_5V_0	1	2	VCC_5V_1
VCCIO	3	4	GND0
GND1	5	6	VDDAO_3.3V
GND2	7	8	NC
GND3	9	10	NC
GND4	11	12	PDM_CLK
GND5	13	14	NC
GND6	15	16	NC
GND7	17	18	NC
NC	19	20	PDM_IN0
PDM_IN1	21	22	PDM_IN2
NC	23	24	PDM_IN0
PDM_IN1	25	26	PDM_IN2
GND8	27	28	NC
SPK_SDA_2	29	30	SPK_SCL_2

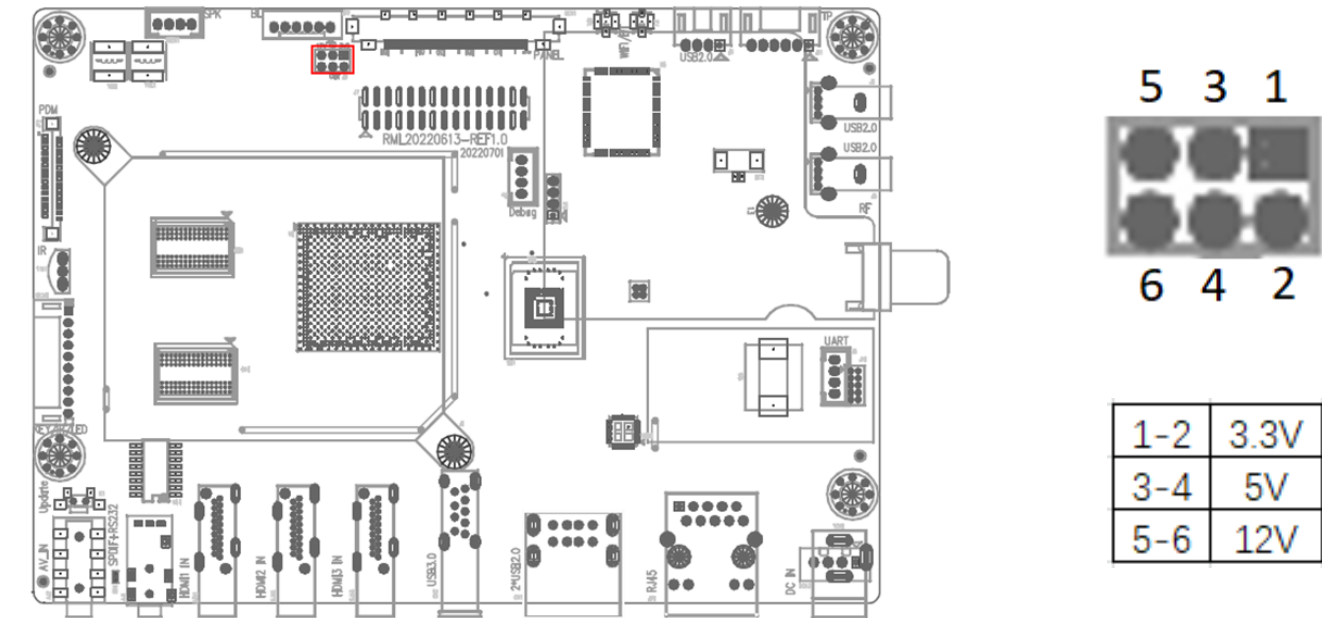
4.2.7 SPK (10CN1)



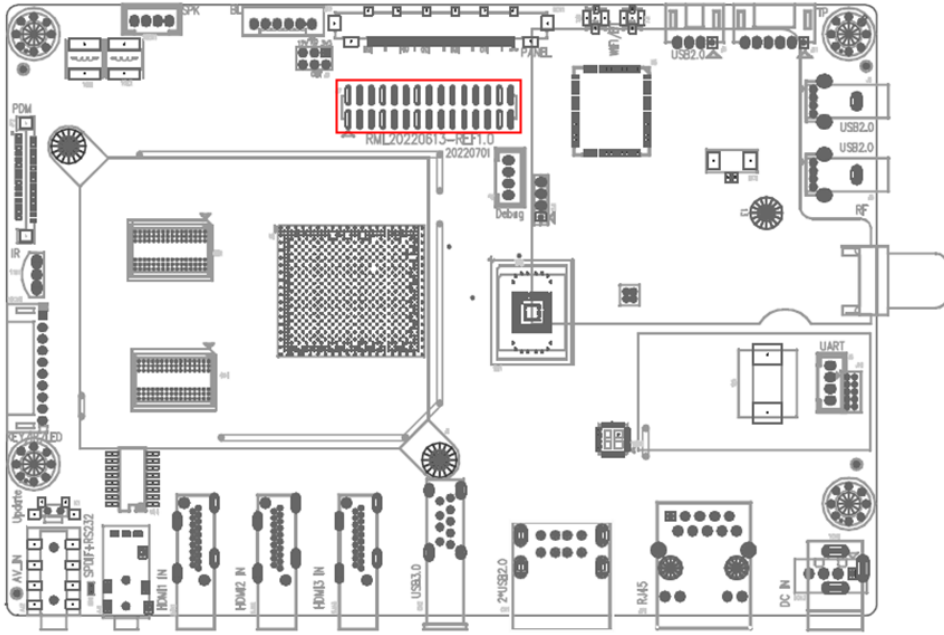
4.2.8 Backlight (J12)



4.2.9 LCD Voltage (J9)

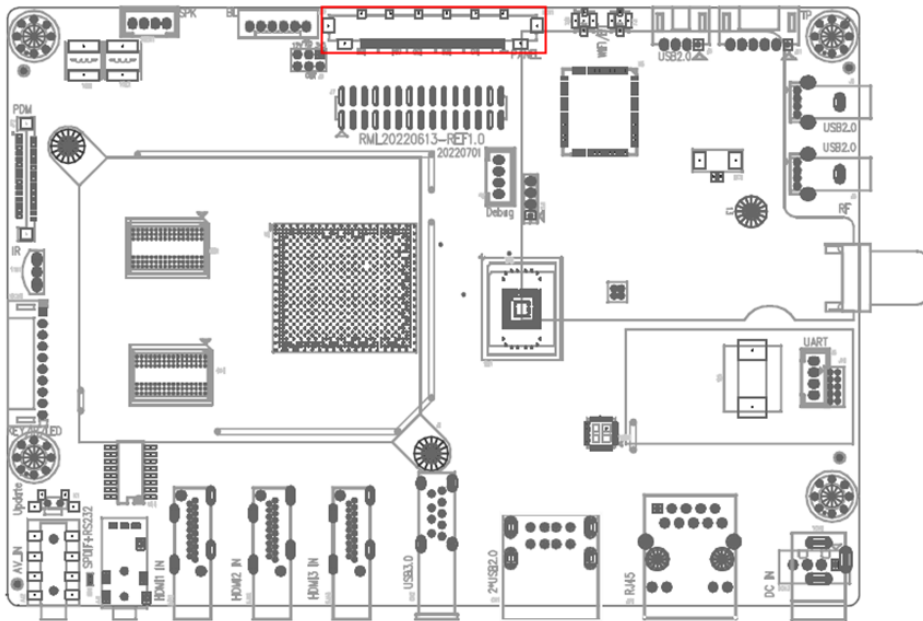


4.2.10 LVDS (J7)



Pin Name	Pin No.	Pin No.	Pin Name
VCC_PANEL	1	2	VCC_PANEL
VCC_PANEL	3	4	GND
GND	5	6	GND
LVDS_A0_N	7	8	LVDS_A0_P
LVDS_A1_N	9	10	LVDS_A1_P
LVDS_A2_N	11	12	LVDS_A2_P
GND	13	14	GND
LVDS_ACLK_N	15	16	LVDS_ACLK_P
LVDS_A3_N	17	18	LVDS_A3_P
LVDS_B0_N	19	20	LVDS_B0_P
LVDS_B1_N	21	22	LVDS_B1_P
LVDS_B2_N	23	24	LVDS_B2_P
GND	25	26	GND
LVDS_BCLK_N	27	28	LVDS_BCLK_P
LVDS_B3_N	29	30	LVDS_B3_P

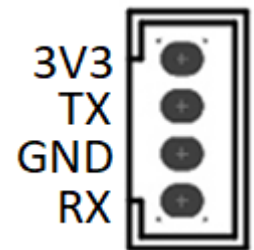
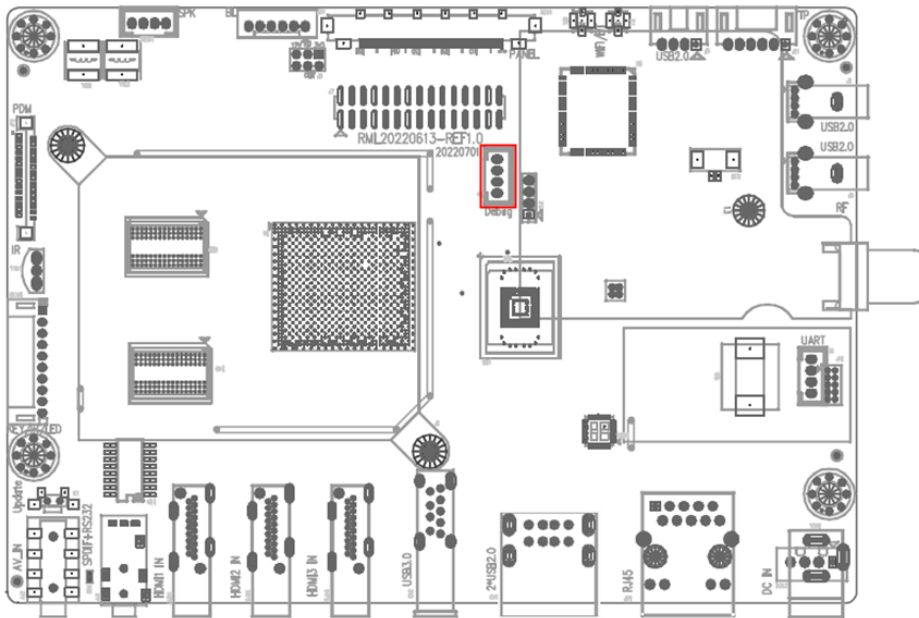
4.2.11 V by one (9CN1)



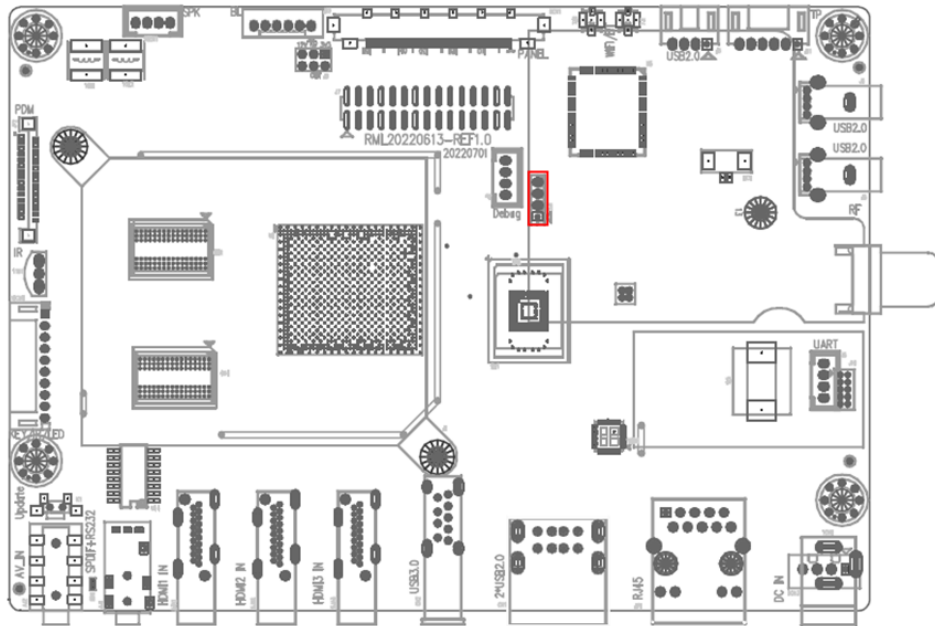
Pin Name	Pin No.	Pin No.	Pin Name
GND	1	2	VBX1_7P
VBX1_7N	3	4	GND
VBX1_6P	5	6	VBX1_6N
GND	7	8	VBX1_5P
VBX1_5N	9	10	GND
VBX1_4P	11	12	VBX1_4N
GND	13	14	VBX1_3P
VBX1_3N	15	16	GND
VBX1_2P	17	18	VBX1_2N
GND	19	20	VBX1_1P
VBX1_1N	21	22	GND
VBX1_0P	23	24	VBX1_0N
GND	25	26	LOCKN_OUT
HTPDN	27	28	SEL_LVDS
AGP	29	30	TCON_CK1
Bit_SEL1	31	32	TCON_LC
BOE_SCL	33	34	BOE_SDA

2D/3D	35	36	TCON_SIV
L/R_OUT	37	38	NC
GND	39	40	GND
GND	41	42	GND
NC	43	44	VCC_VX1
VCC_VX1	45	46	VCC_VX1
VCC_VX1	47	48	VCC_VX1
VCC_VX1	49	50	VCC_VX1
VCC_VX1	51	/	/

4.2.12 Debug (J2)



4.2.13 USB Tuner Port (2J1)



GND

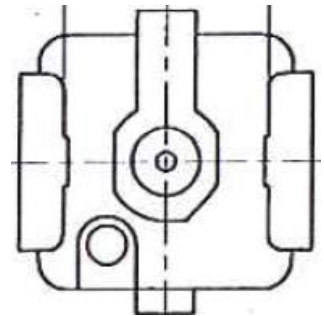
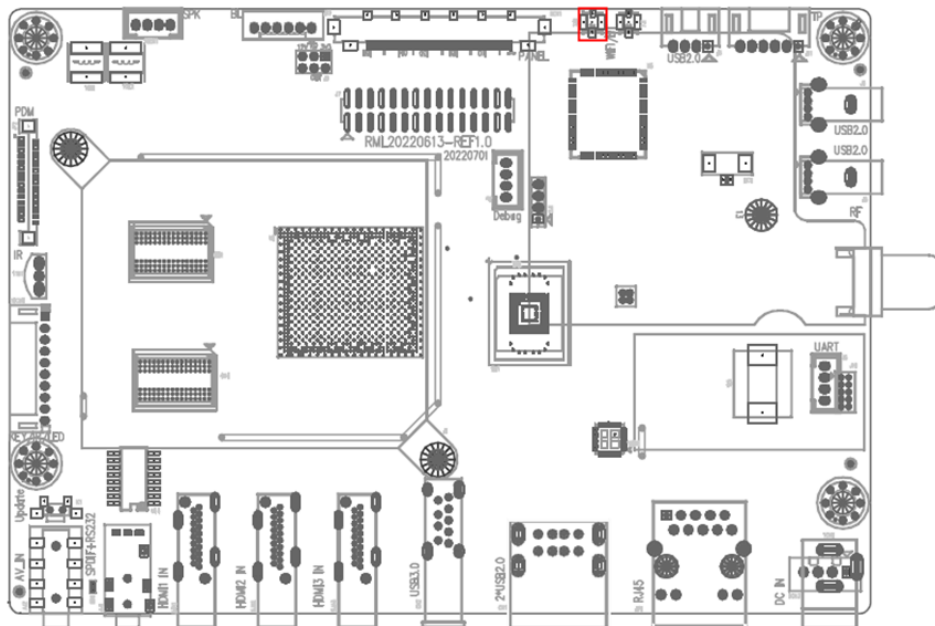
DP

DM

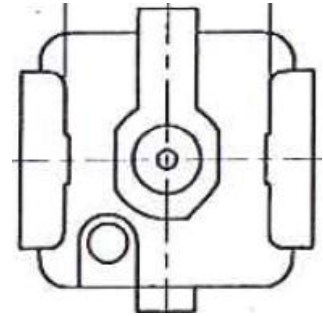
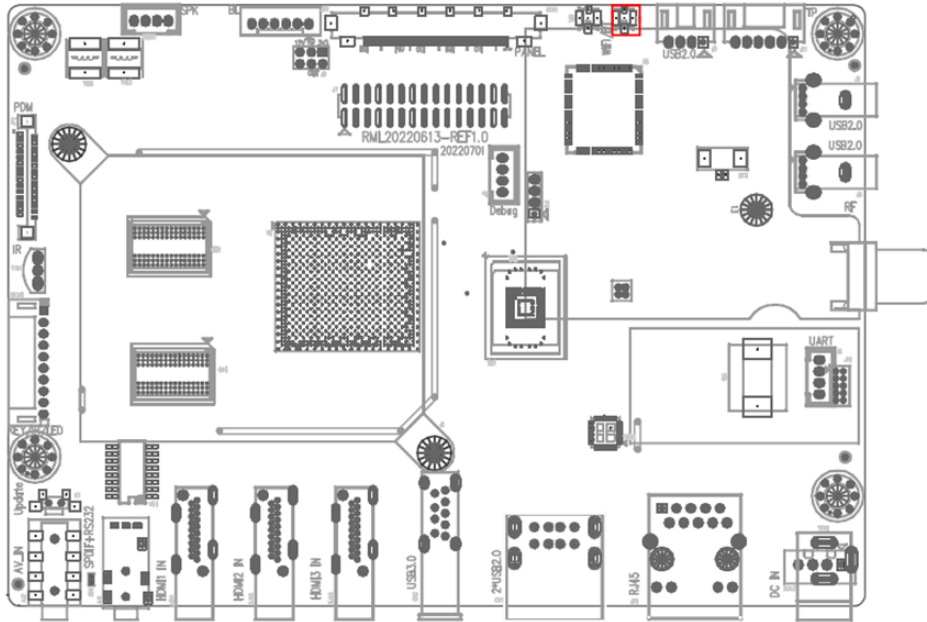
3.3V



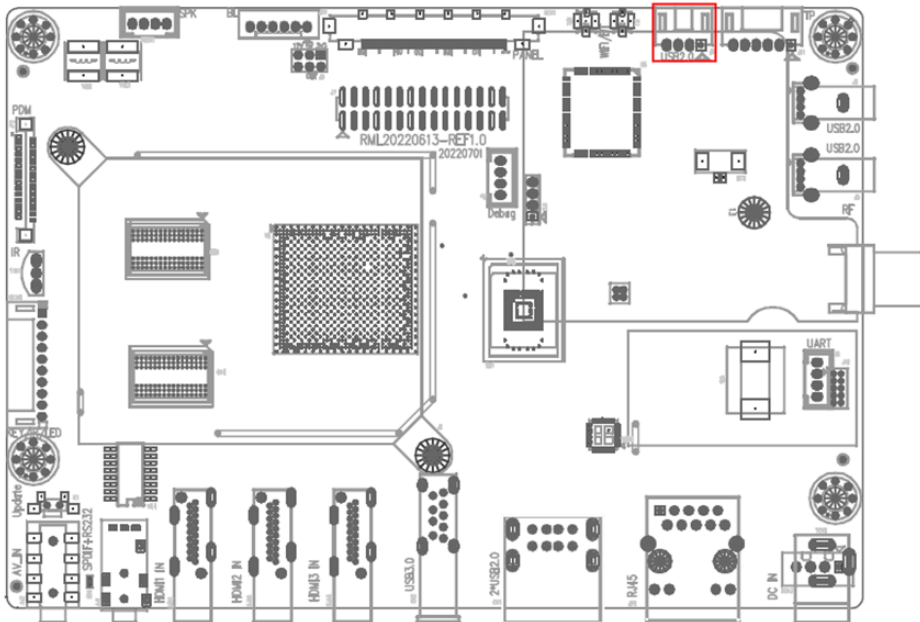
4.2.14 WIFI ANT (7J2)



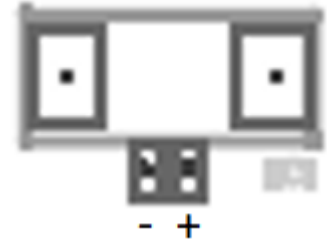
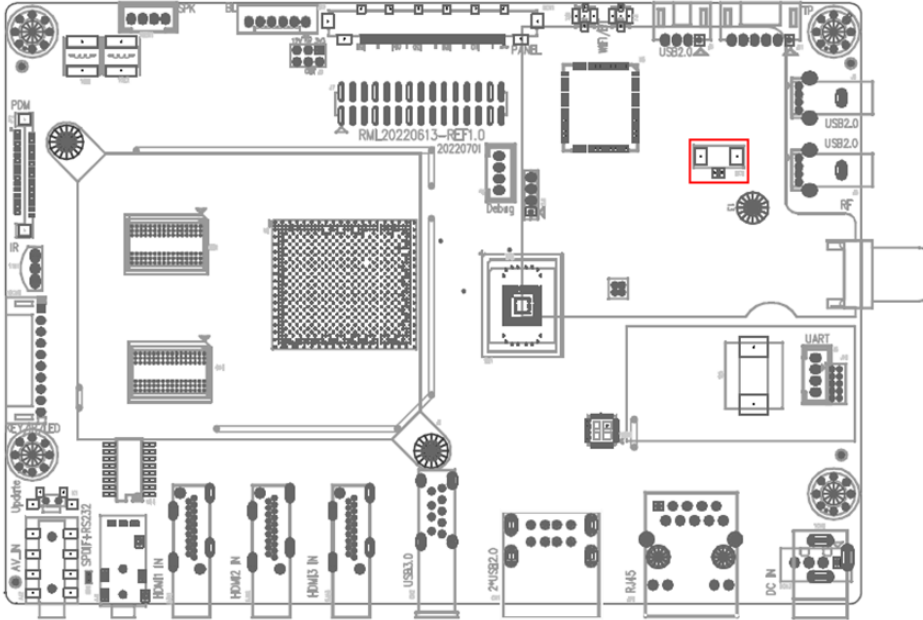
4.2.15 WIFI/BT ANT (7J1)



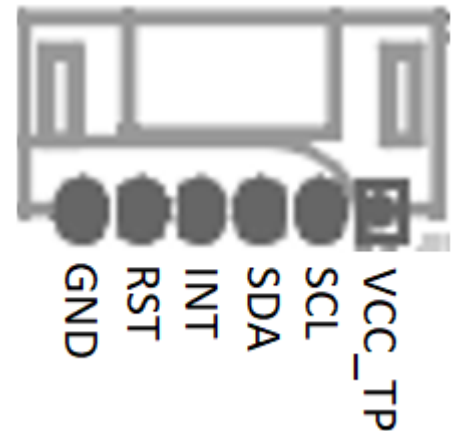
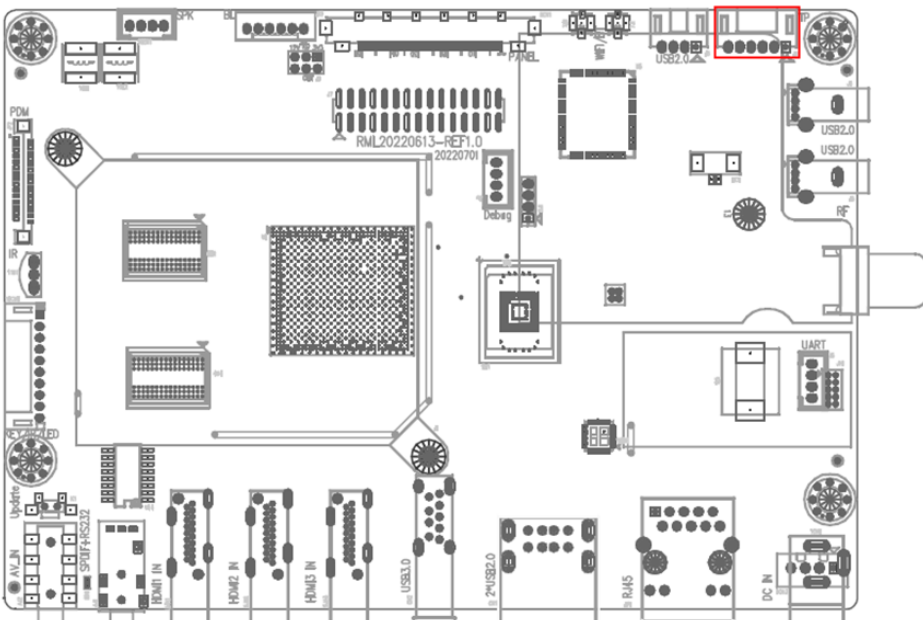
4.2.16 USB2.0-3 (J3)



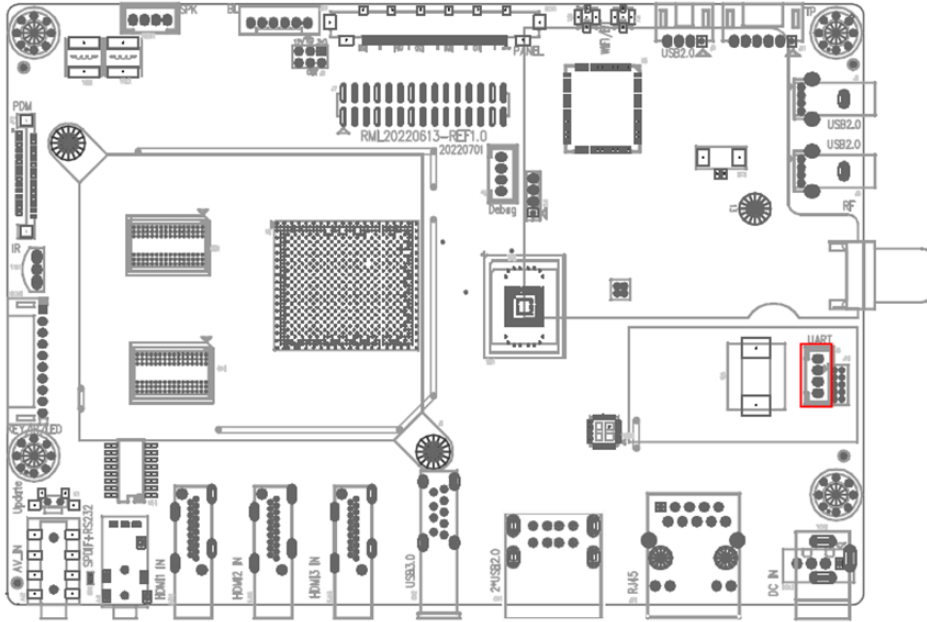
4.2.17: RTC Battery Port (GC1)



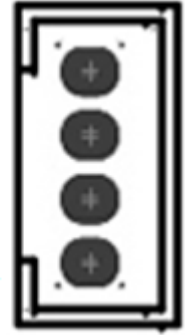
4.2.18 I2C (TP) (J11)



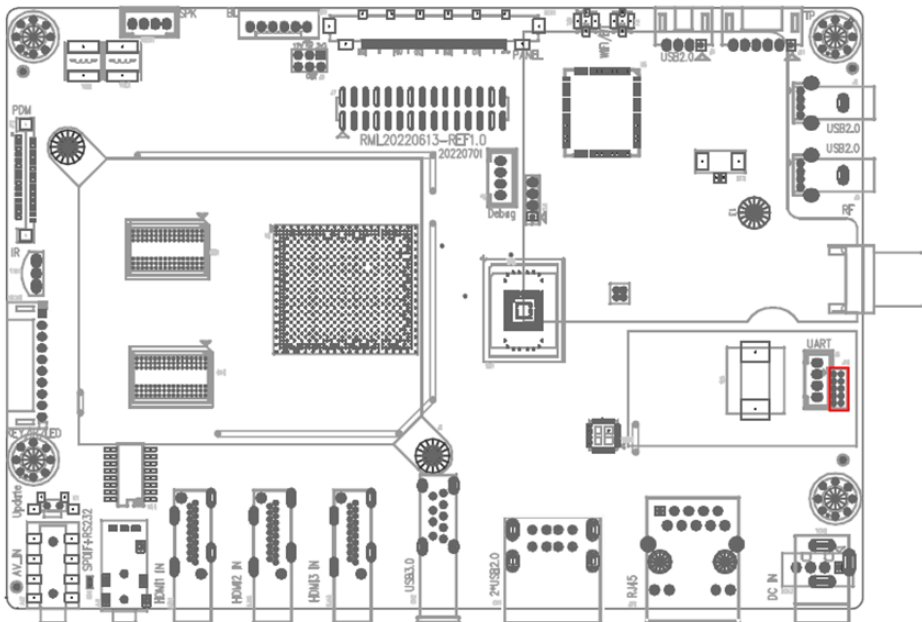
4.2.19 UART (J6)



3V3
TX
GND
RX



4.2.20 GTiot (J10)



Reset
GND
TX_OUT
RX_OUT
VAD_3.3V



4.3 System Block Diagram

