ITX37C motherboard

（PCB Rev:1.00）

Manual Version 1.00

2018.03.14

1　Introduction

ITX37C is our standard low-power MINI-ITX industrial motherboard with Braswell series processors. Its main features are as follows:

1.1　main features

1.1.1　Onboard CPU supporting Braswell series processors.

1.1.2　Onboard 2/4GB DDR3L 1066/1333/1600Mhz memory (optional)

1.1.3　1*DDR3 SODIMM 204 Socket, maximum support 8GB DDR3L memory, 1066/1333/1600MHz.

1.1.4　Onboard 16/32/64/128G EMMC (optional).

1.1.5　Onboard 2 RTL8111E Gigabit LAN.

1.1.6　Onboard HDA ALC662 with LINE-OUT and on-board dual channel amplifiers supporting 3-Pin SPDIF.

1.1.7　Onboard dual channel amplifier with 6W/8Ω speaker per channel (optional).

1.1.8　1* Mini-PCIE socket.

1.1.9　1*Mini-SATA socket.

1.1.10　1*NGFF socket.

1.1.11　1*SATA 3.0 hard disk interface.

1.1.12　5*USB 2.0 interface.

1.1.13　2*USB3.0 interface.

1.1.14　6*RS232 or 4*RS232, 2*RS422/RS485 (two alternatives, COM1, COM2, and COM3 are pin connectors, and COM4, COM5, and COM6 are standard DB9 connectors)

1.1.15　Support HDMI output.

1.1.16　Supports RGB CRT output.

1.1.17　2*3-Pin FAN interfaces.

1.1.18　Provide 8 GPIOs for users to choose.

1.1.19　Support 255 watchdog.

1.2　power supply

Single-input, DC-powered 12V supply, +/- 5% (+/- 12% if you don't use 12V for hard drives).

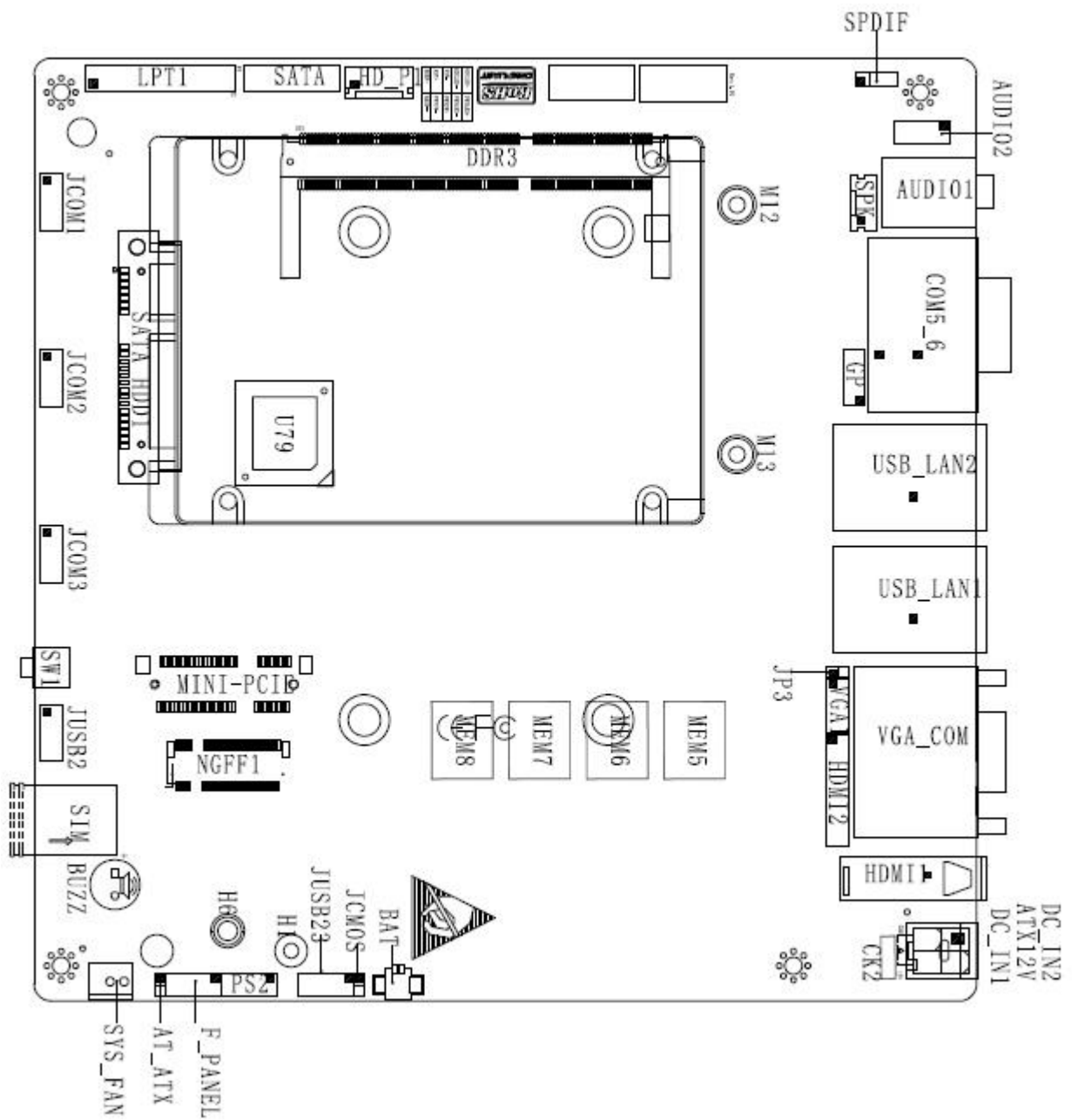Support AT/ATX power boot mode selection.

1.3 Size

170*170mm

1.4　Working Environment

Working Temp：−20℃ ~ +60℃

Storage Temp：−40℃ ~ +85℃

2 ITX37C-Front side interfaces layout

TOP floor layout as below:

Remark:Interfaces in the above picture,**Pin 1** are in square shape。

2.1 DC_IN & DC_IN3

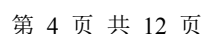Motherboard input power connectors, the same application can only choose to plug one input power.

DC _IN3 is standard DC-JACK Ports,DT-126RP-02P Terminal Blocks interface.Please pay attention to the Positive/Negative electrode of power.

Remark:(please input the power,after devices,cables all installed.)

2.2 CRT1& VGA1

CRT is a standard CRT monitor output interface。

VGA1 is 2×5,2mm expansion header,can not use at the same time。

2.3 HDMI1&HDMI2

HDMI is standard HDMI output，

HDMI2 is a 2x10, 2mm pin header connector, which cannot be used simultaneously.

2.4 USB2、USB_LAN1、USB_LAN2、JUSB23

　　All are USB ports，support USB 1.0/1.1/2.0/3.0 devices.

　　USB2 is standard USB T ype A ports , which is USB3.0 ports ； USB_LAN1 、 USB_LAN2 is standard USB Type A ports，which is USB2.0 ports，JUSB23 is 2x5、2mm pin header，definition as below:
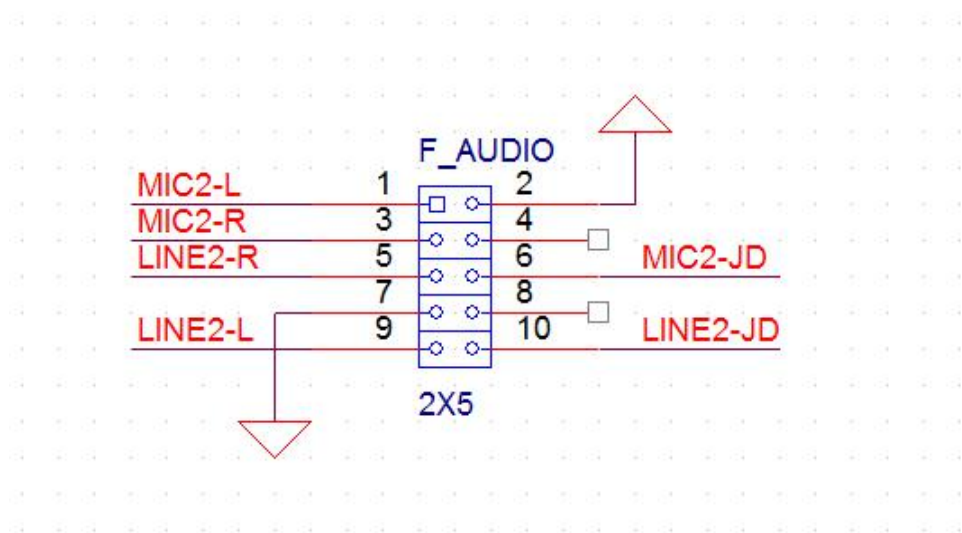

2.5 USB_LAN1、USB_LAN2

10/100/1000 M LAN Standard RJ45 Interface, Master Chips are RTL8111E

2.6 MIC_IN、LINE_OUT&AUDIO2

　　The MIC_IN is a MICPHONE input connector with a universal connector.

　　LINE_OUT is an audio output connector with a universal connector.

　　The AUDIO2 uses a 2x5, 2mm pin header and is defined as follows:

2.7 **SPDIF**（Optional）

Adopt 1x3、2.54mm pin headers(Optional)
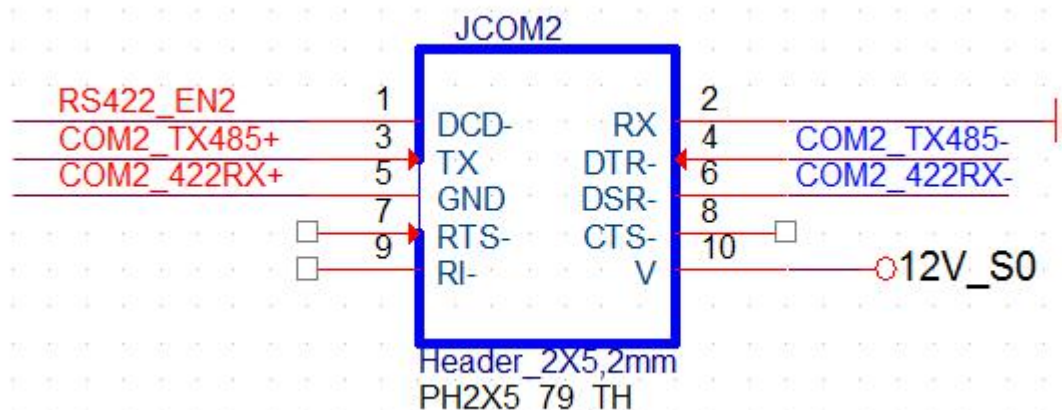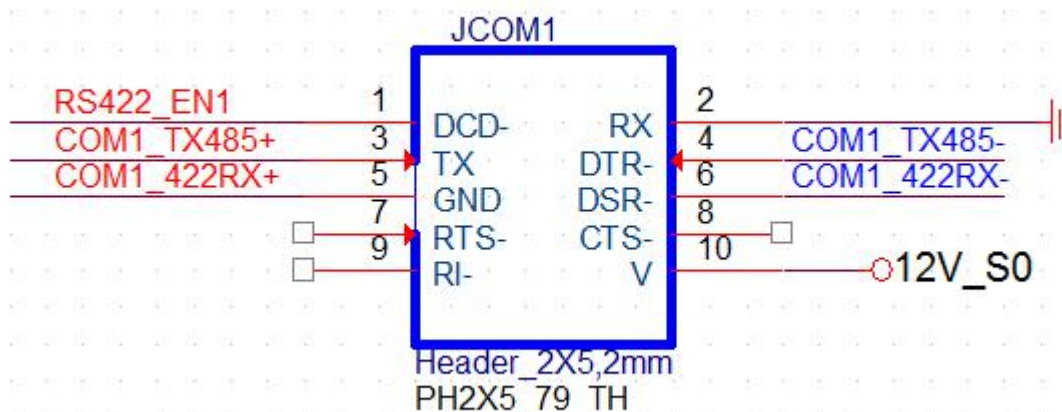
Pin1----5V;

Pin2----SPDIF;

Pin3----GND。

2.8 **CPU_FAN1、SYS_FAN**

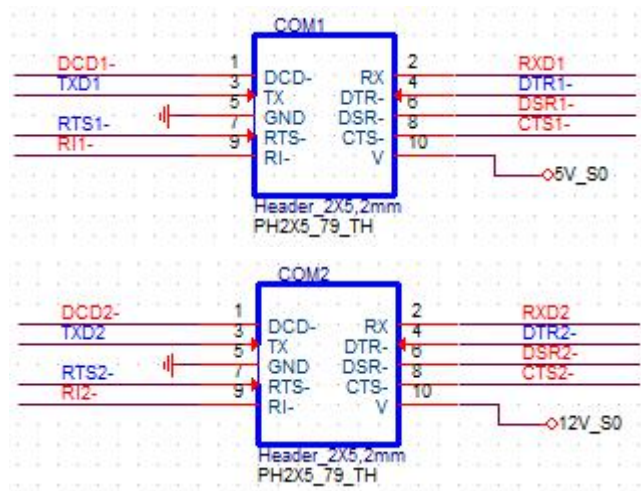FAN interface support maximum current 0.3A,definition as below:

CPU fan connector,rotational speed adjust automatically.The maximum voltage is the power input voltage.Please choose a suitable fan,when the input voltage is higher.SYS fan does not support adjust automatically.

2.9 JCOM1、JCOM2(Optional RS232 or RS485/RS422 option 1)

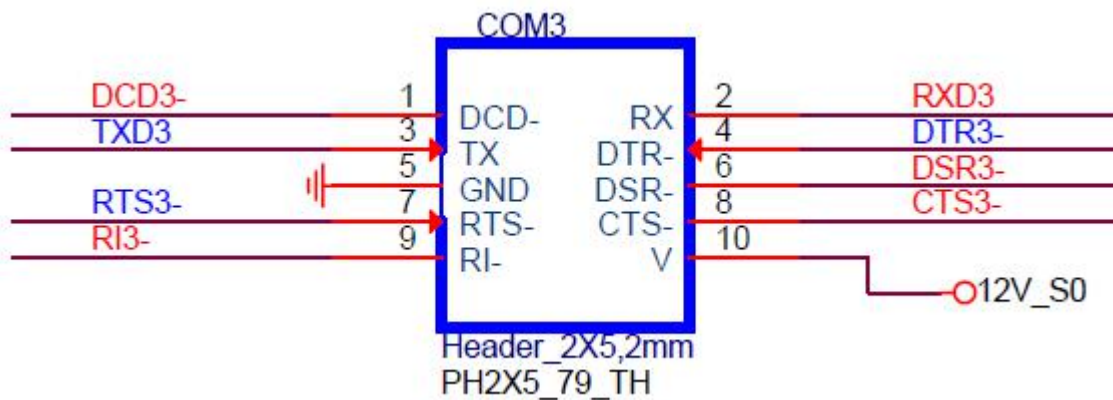The use of row pin interface, 2x5, 2mm pin header, COM1, COM2 when RS422/RS485 is defined as follows:

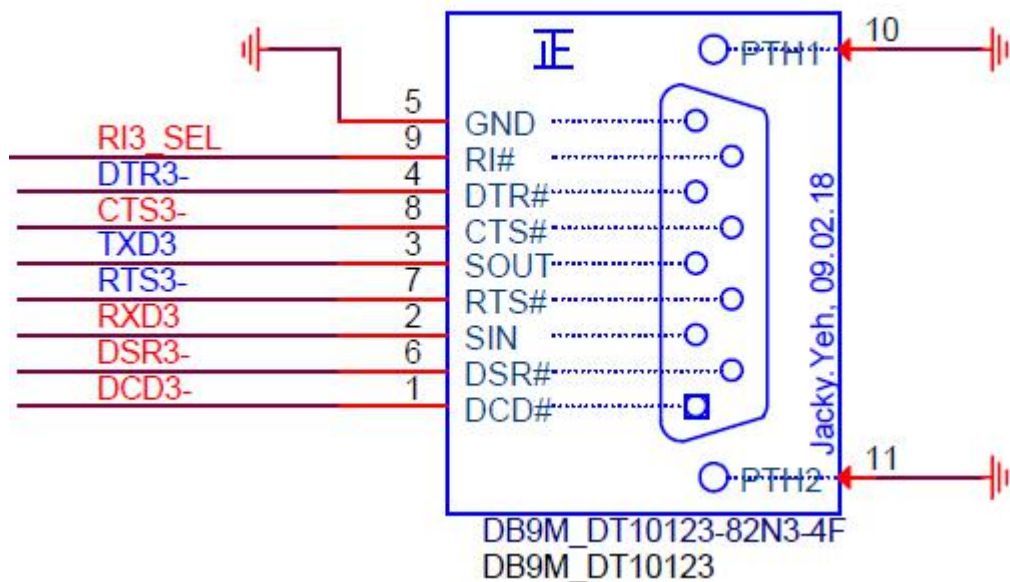The definition of JCOM1 and JCOM2 for RS232 is as follows:

2.10 JCOM3

When COM3 is RSR232 pin header, it adopts 2x5, 2mm pin header and Pin10 is 12V power supply.
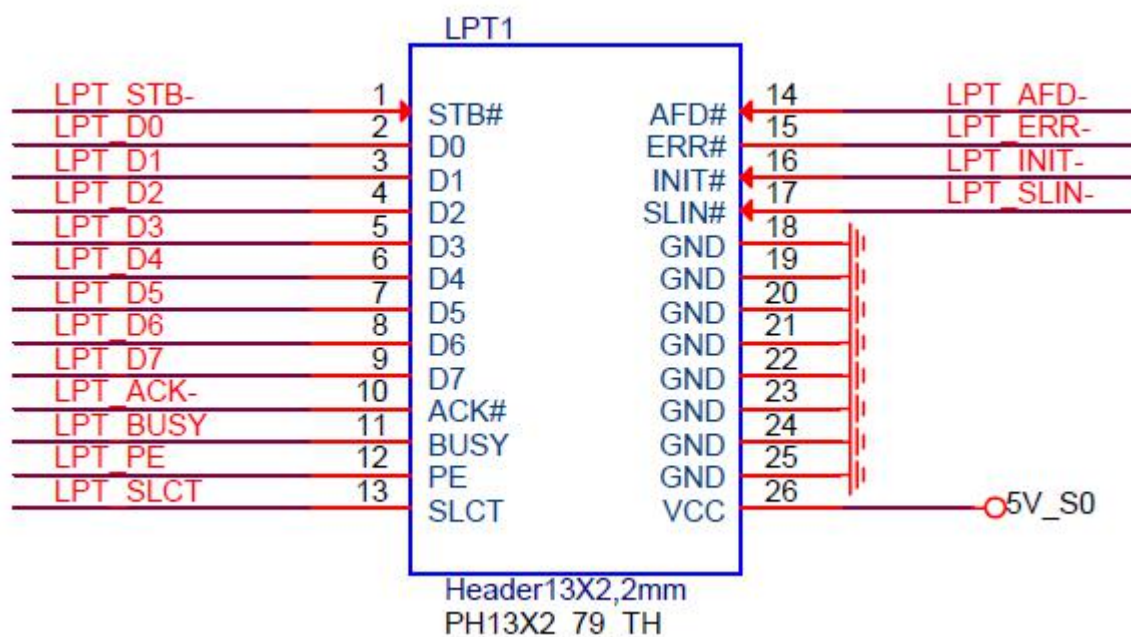
2.11 COM4、COM5、COM6

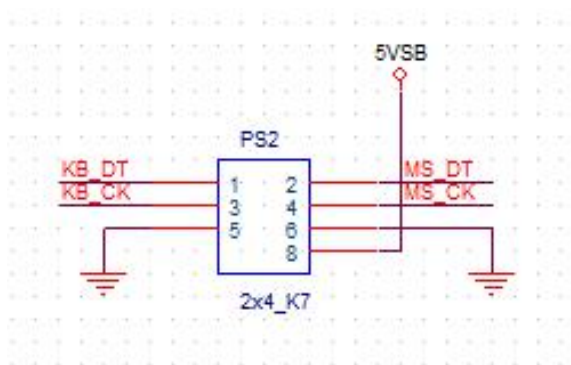RS232 for the standard DB9 interface is defined as follows:

2.12 LPT1

LPT1 uses a 2×5 2mm pin header and is defined as follows:

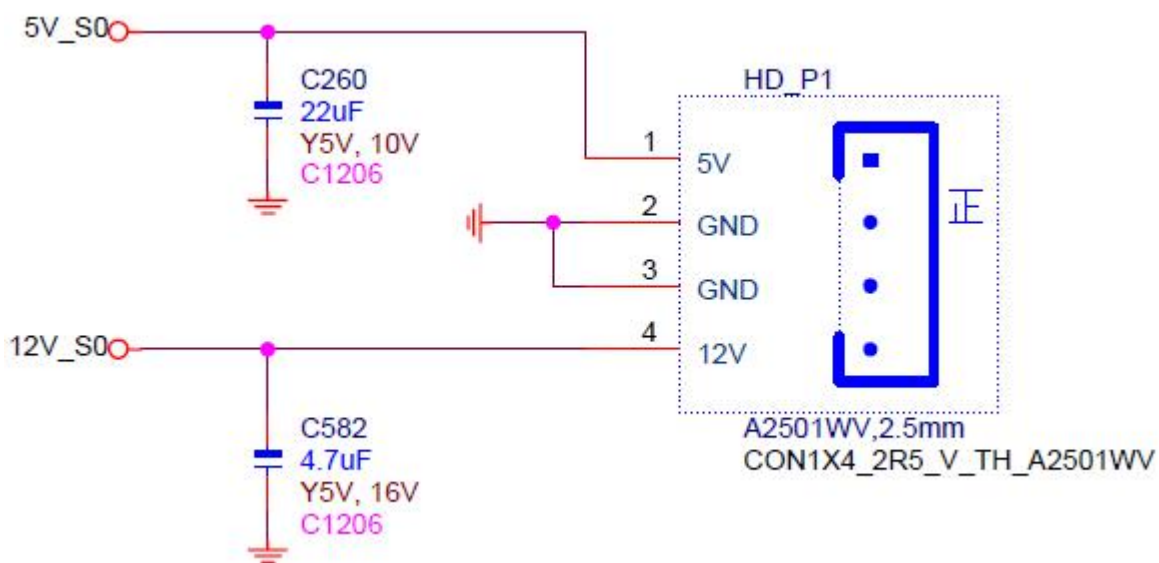2.13　The PS2 interface is a 2×5 2mm pin header and is defined as follows:

2.14　SATA

Standard SATA device interface, supports SATA3.0 and below.

2.15　HD_P1

One SATA device power connector, using CJT A2501WV-4P devices or other compatible devices. The definition is similar to the following figure。
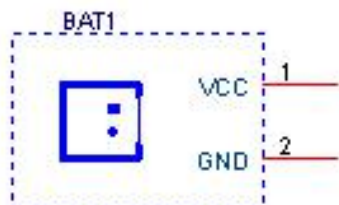

2.16　JCMOS

JCMOS clears jumpers for RTC and uses 1x3 and 2mm pin headers.

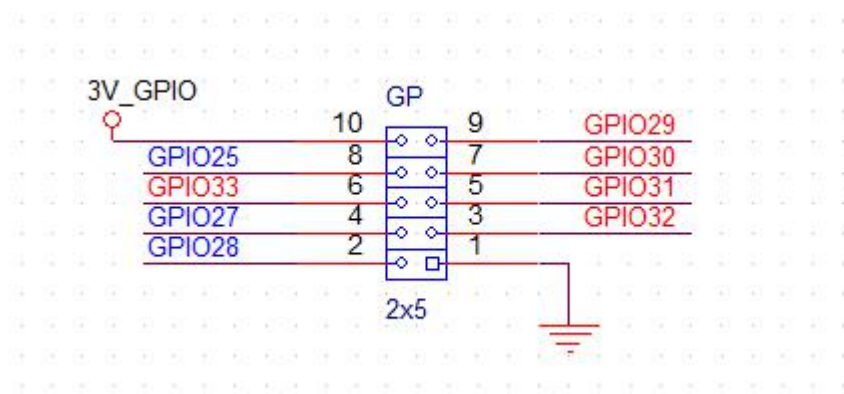| JCMOS1	Function Description
1，2	Noraml
2，3	Clear RTC CMOS

2.17 BAT

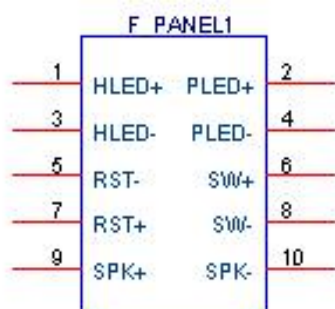Battery interface,Adopt CJT A1251WV-2P connector or other compatible connector.

2.18　GP

Spare GPIO interface,adopt 2×5,2mm pin,definition as below:The I/O features of GPIO can be amend through BIOS.For GPIO address entry please contact FAE.

2.19　F_FANEL

Mainboard control interfaces,adopt 2×5,2mm pin,integrated HDD_LED、PWR_LED、on/off、reset switch、SPEAKER function.Pin definition as below:

F_PANEL1	Pin Definition
1，3	Hard disk access lamp positive and negative signal pins.
2，4	Main power indicator light positive and negative signal pins
5，7	Mainboard reset positive and negative signal pins.
6，8	Mainboard on/off positive and negative signal pins.
9，10	Spare buzzer connector.

2.20 **AT_ATX**

AT starting mode jumper line.When you choose "Close"，the DC power plug,then the board electrify at the same time.

AT_ATX1	Starting Mode Selection
1，2	AT power starting mode
2，3	ATX power starting mode

2.21 MINI-PCIE

MPCIE1 is standard Mini-PCIE socket,suit for full-size card.The half-size card Mini-PCIE card,must be fixed with a extended card.
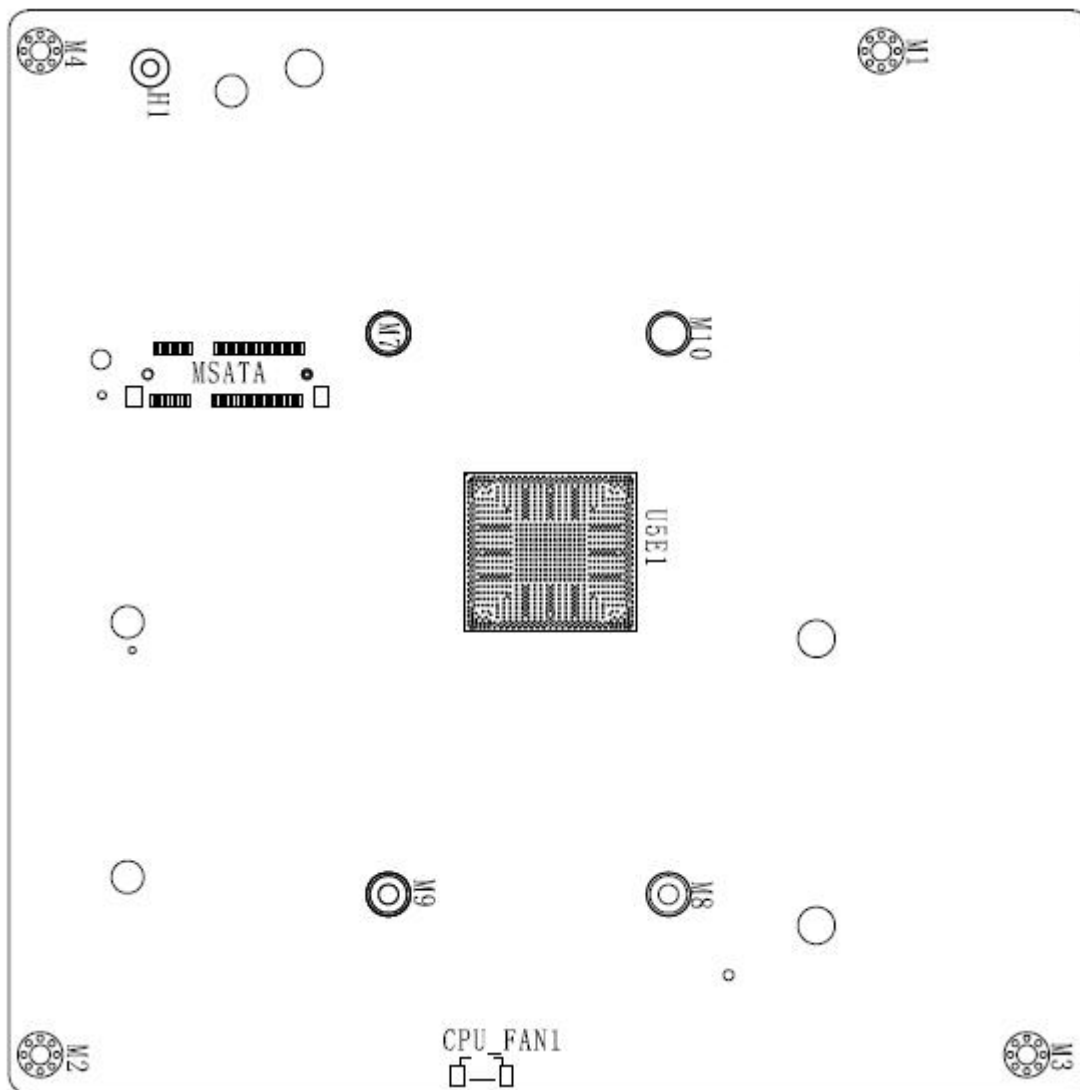
2.22 DDR3L

Standard DDR3 RAM socket，Maximum up to 4GB DDR3L（1366/1066MHz）.

2.23 SIM

MPCIE1 affiliated SIM card holder.

3 **Rear Side Interface Layout**

Mainboard rear side layout as below:

3.1 M_SATA

Support Mini-SATA SSD.This motherboard support most of the large company's Mini-SATA card.For detailed informations.please contact with our salesman and technician.