SU200NA6L motherboard

（PCB Rev:1.00）

Manual Version 1.00

2020.05 .25

1 Introduction

SU200NA6L is our company's standard low-power Nano-ITX (12 * 12) industrial motherboard. It uses Intel's 7th generation mobile Kaby lake-U single-chip CPU. The main features are as follows.

1.1 Main features

1.1.1 CPU onboard, support Intel Mobile 7th Kaby lake-U CPU (BGA1356).

1.1.2 2 * DDR4 SODIMM 260 Socket, maximum support 32GB DDR4 memory, 2133MHz.

1.1.3 Onboard 6 Intel I211 or I210 Gigabit network cards (choose one)

1.1.4 1 Mini-PCIE card socket (only supports USB signal devices)

1.1.5 One Mini-SATA card holder.

1.1.6 One SATA 3.0 hard disk interface.

1.1.7 4 USB 3.0, 2 USB2.0 interfaces (USB2.0 is a pin header interface)

1.1.8 1 * RJ45 interface RS232 or RS485 (485 is the pin header, select RS232 or RS485 through jumper cap and BIOS)

1.1.9 Support HDMI output and 4K display output.

1.1.10 Two 3-Pin FAN interfaces.

1.1.11 Provide 8 GPIOs for users to choose

1.1.12 1 quick button switch with indicator light

1.1.13 1 reset button

1.1.14 1 hard disk indicator and 1 power indicator

1.1.15 Support 255 level watchdog.

1.2 Power

    Support DC 12V power supply.

    Support automatic power-on function after power-on, jumper selection.
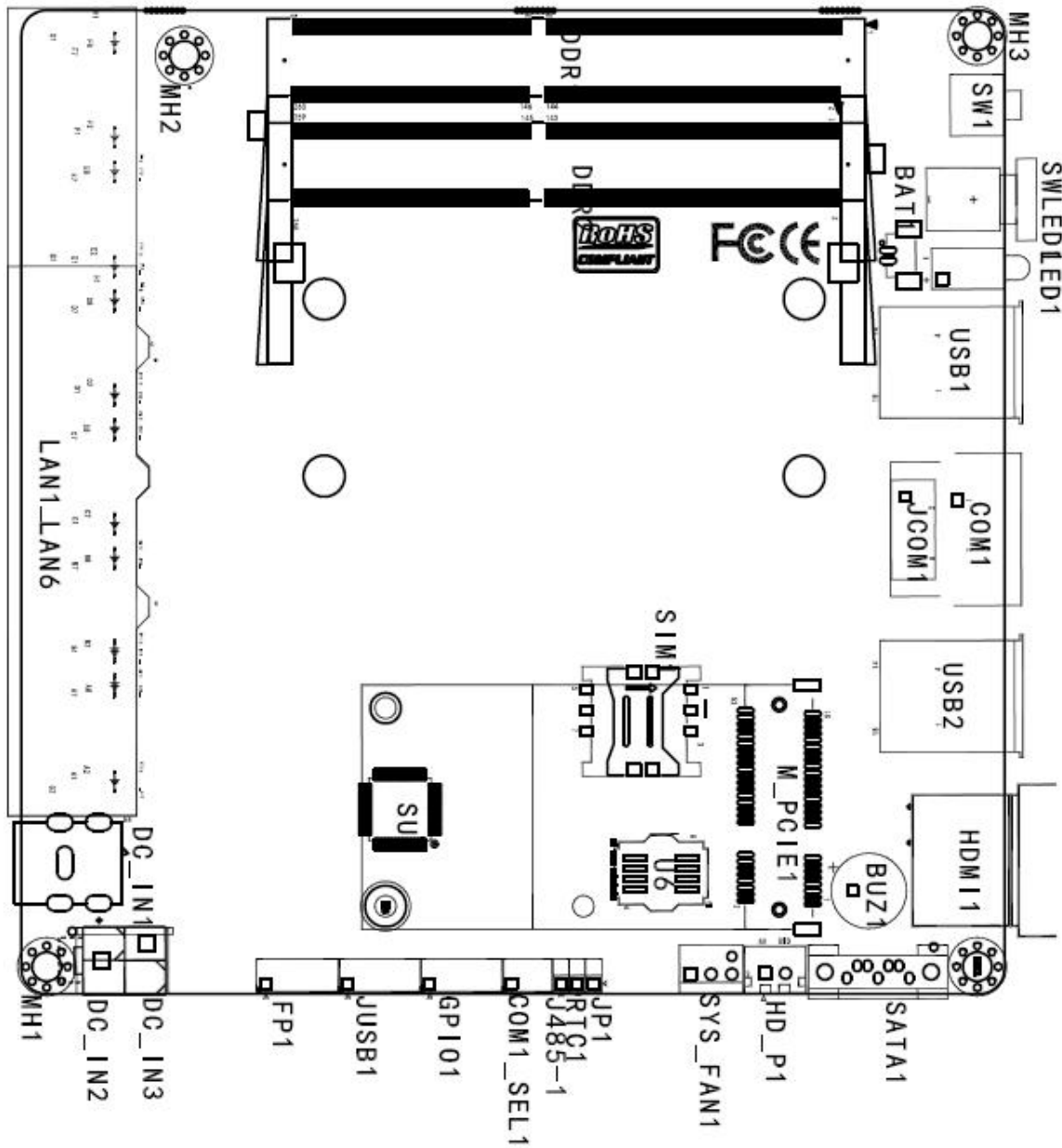
1.3 structure

    120 x 120 mm

1.4 working environment

    Motherboard working temperature: –20 ℃ ~ + 60 ℃

    Mainboard storage temperature: –40 ℃ ~ + 85 ℃

2 SU200NA6L front interface layout

The layout of the TOP layer is shown below.

Note: The interface in the picture ,The pin is square as Pin 1.,

2.1　DC_IN1 and DC_IN2

The same is the main board input power interface. Only one interface can be selected during production.

DC_IN1 is a standard DC-JACK port, and DC _IN2 is a DT-126RP-02P type Terminal Blocks interface. Pay special attention to the positive and negative poles of the power supply.

Note: When assembling, testing, and using, the equipment and cables must be installed before powering on.
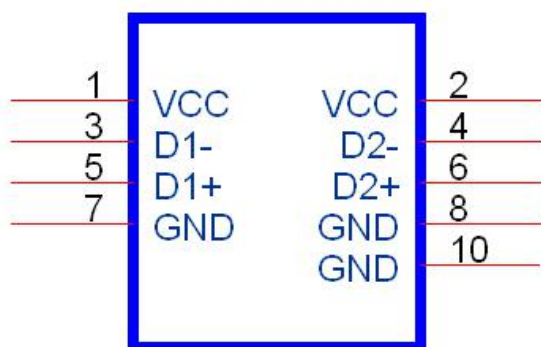
2.2　HDMI1

HDMI1 standard HDMI output interface

2.3　USB1，USB2

USB1, USB2 are 4 standard USB3.0 interfaces, can support 4 USB3.0 devices, and are compatible with USB 1.0 / 1.1 / 2.0 devices.

2.4　JUSB1

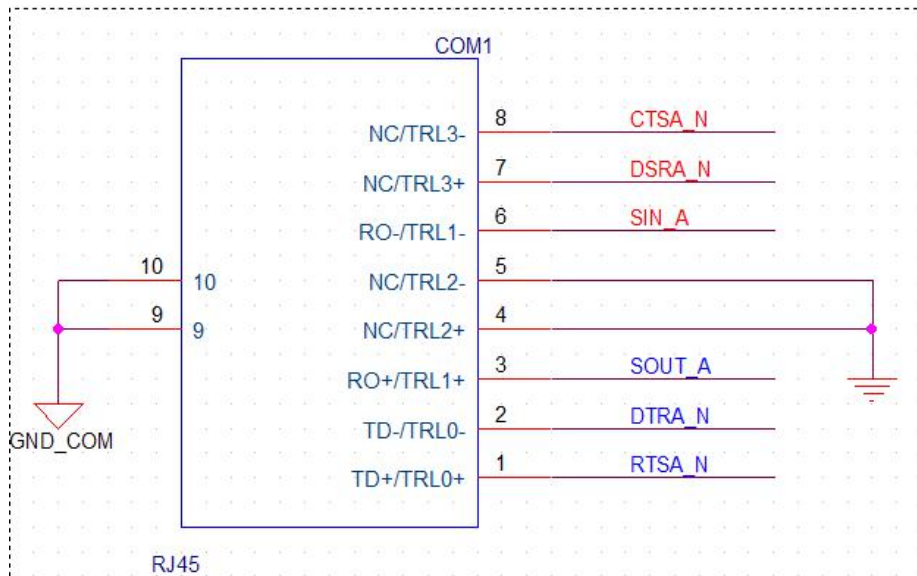JUSB1 is a 2x5, 2mm pin header interface that supports USB 1.0 / 1.1 / 2.0 devices, defined as follows:

2.5 LAN1, LAN2, LAN3, LAN4, LAN5, LAN6 (When the I / O interface is 4 USB, there is only 1 Intel I211AT)
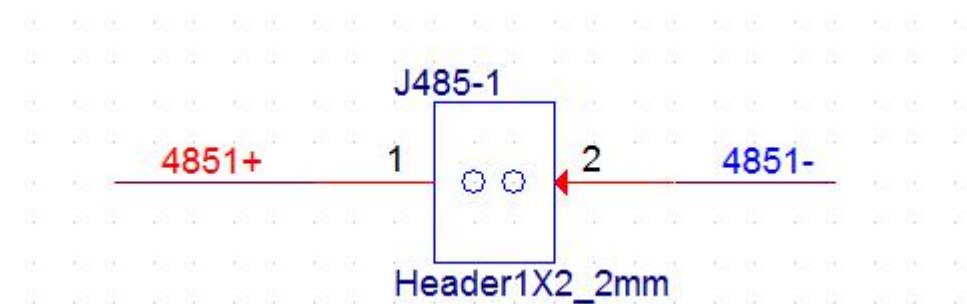10/100/1000 M LAN standard RJ45 interface

2.6 COM1 and J485 (choose one, choose RS232 or RS485 through jumper cap and BIOS)
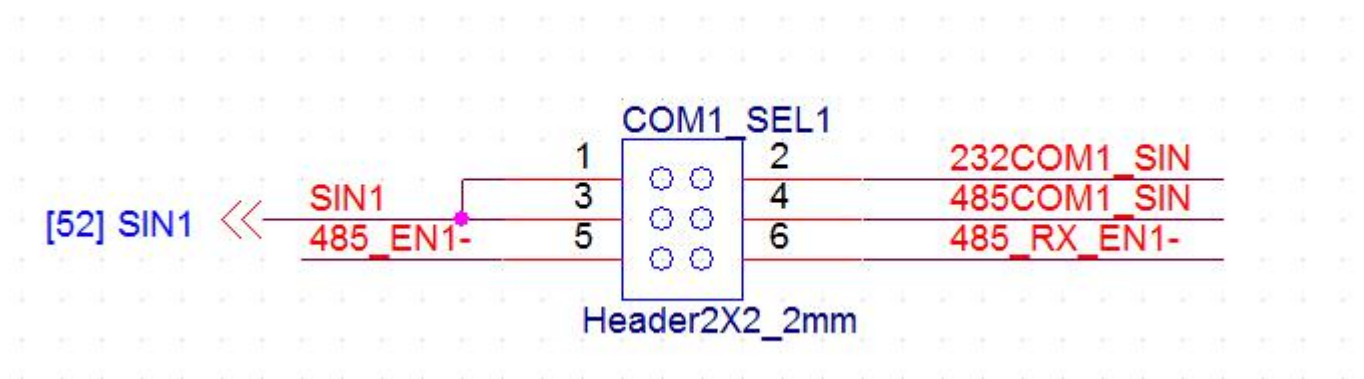COM1 is an RS232 RJ45 interface interface, defined as follows

J485 is a pin header, using a 1 * 2 2mm pin header interface, defined as follows:

2.7 COM1_SEL1
COM1_SEL1 selects the pin header for RS232 and RS485, using 2 * 3 2mm pin header, defined as follows:
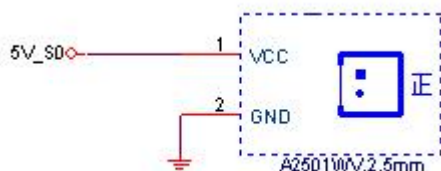

1.2 Short-circuit selection is RS232
3.4 and 5.6 short circuit selection is RS485

2.8　SATA1

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

2.9　HD_P1

SATA device power interface, using CJT A2501WV-2P device or other compatible devices. The definition is similar to the figure below.
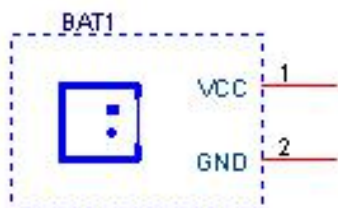

2.10　RTC1

RTC1 is the RTC clear jumper, using 1x2, 2mm header.

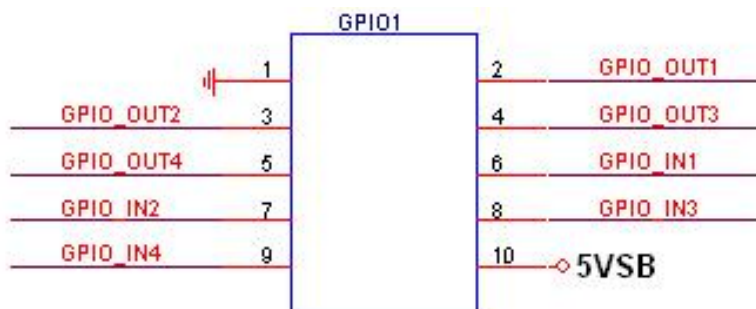| RTC1	Function Description
Close	Clear RTC CMOS
Open	Default setting

2.11　BAT1

Battery interface for easy battery replacement. Use CJT A1251WV-2P type interface or other compatible interface.
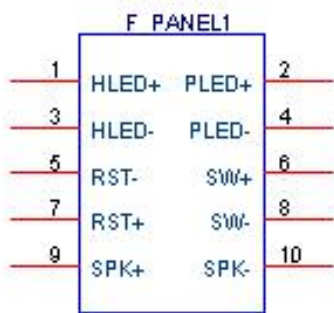

2.12　GPIO1

The spare GPIO interface uses 2x5, 2mm pin headers, defined as follows. GPIO input and output characteristics can be modified by BIOS. Please contact FAE for the GPIO address entrance.

2.13　FP1

Interface for control panel, using 2x5, 2mm pin header, integrated HDD_LED, PWR_LED, boot switch, reset switch, SPEAKER function. The pins are defined as follows.

F_PANEL1	Pin definition
1，3	Hard disk read-write indicator positive and negative signal pins.
2，4	The positive and negative signal pins of the main power indicator.
5，7	Positive and negative signal pins of the reset signal of the motherboard.
6，8	The positive and negative signal pins of the motherboard switch signal.
9，10	Spare buzzer interface.

2.14 JP1

AT Select the jumper for the power-on mode. When you select Close, the DC power supply is powered on and the motherboard is powered on.

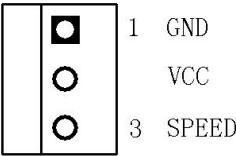| PS_ON	Boot mode selection
Close	AT power on mode
Open	ATX power on mode

2.15 MPCIE1、

MPCIE1 is a standard Mini-PCIE card holder that can be inserted into a full-length card. The half-length card Mini-PCIE card must be fixed with an extension card.

2.16 SIM1

3G / 4G SIM card holder。
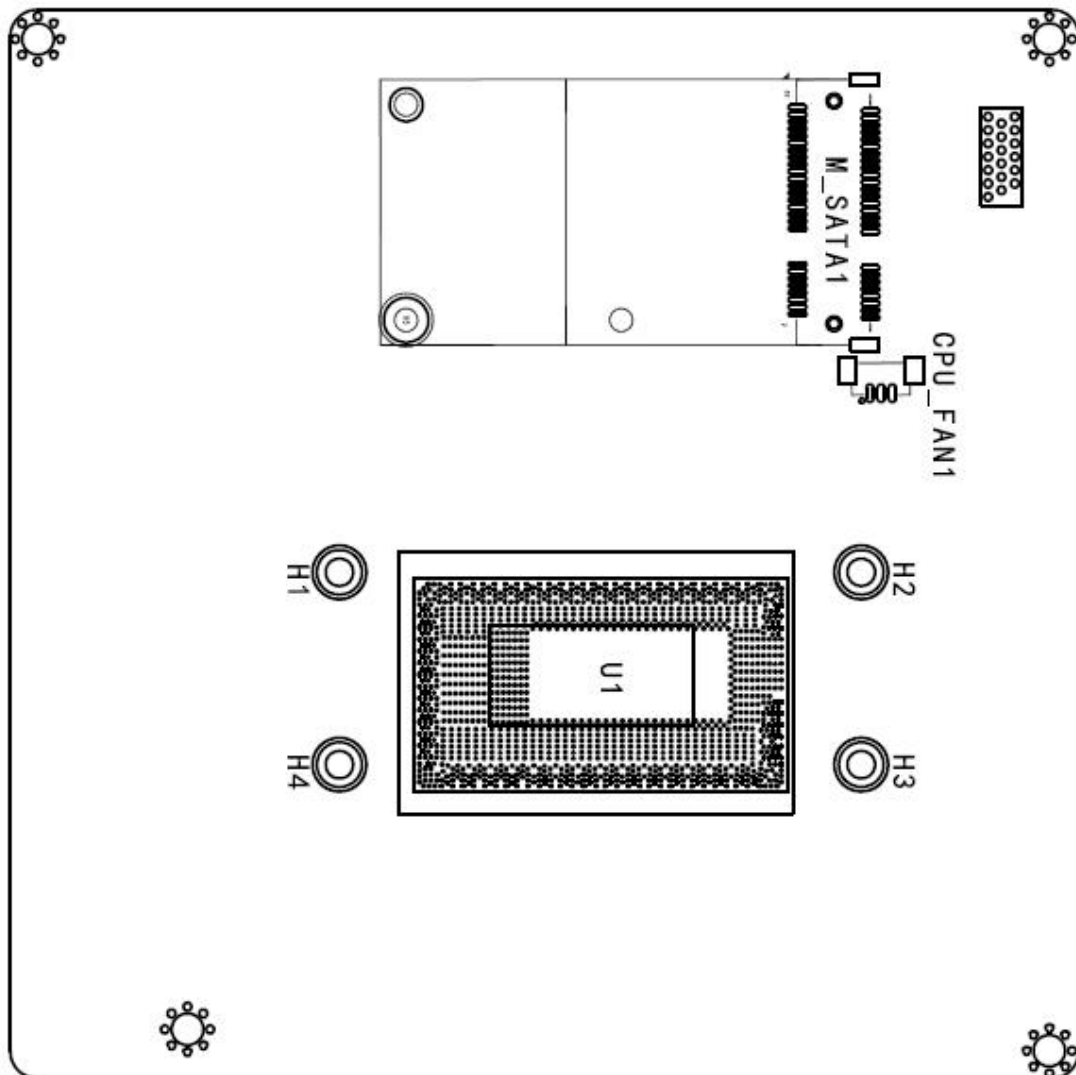
2.17 CPU_FAN1、SYS_FAN1

The FAN interface supports a maximum current of 0.3A, which is defined as follows.

CPU fan interface supports automatic speed adjustment. The maximum voltage of the fan is equal to the input power supply voltage. When the input power supply voltage is high, please pay attention to choose the appropriate fan. SYS fans do not support automatic speed adjustment.

3 Rear interface layout

The reverse layout of the motherboard is shown in the figure below

3.1 M_SATA

Support Mini-SATA memory card. Because the industry standard is not clear, this board supports the MINI-SATA card defined by some large companies. For specific models, please consult our company's business and support staff.