BT19NE4L 主板

（**PCB Rev:1.00**）

Manual Version 1.00

2017.12.26

1 Introduction

The BT19NE4L is our standard low-power Nano-ITX (12*12cm) industrial motherboard with Baytrail-D/I/M series processors. The main features are as follows.

1.1 Main features
1.1.1 Onboard CPU, supporting Baytrail-I/D/M series processors.
1.1.2 1 DDR3 SODIMM 204 Socket, up to 8GB DDR3L memory.
1.1.3 Onboard 32/64/128G EMMC High Performance Flash Chip (optional).
1.1.4 Onboard 4 *Intel I211AT Gigabit LAN cards.
1.1.5 1* Mini-PCIE deck.
1.1.6 1 *Mini-SATA card holder.
1.1.7 1 *SATA 2.0 hard drive interface.
1.1.8 1 *USB 2.0 interface, 1 USB3.0 interface
1.1.9 Supports HDMI output.
1.1.10 1 *RJ45 interface RS232 or RS485 (choose one).
1.1.11 2* 3-Pin FAN interfaces.
1.1.12 1* power button with power indicator, 1 reset button

1.2 Power supply
Single input DC power supply, DC12V, +/-5% (if 12V is not used to power the hard disk, +/-10%).
        Support AT/ATX power on mode selection.

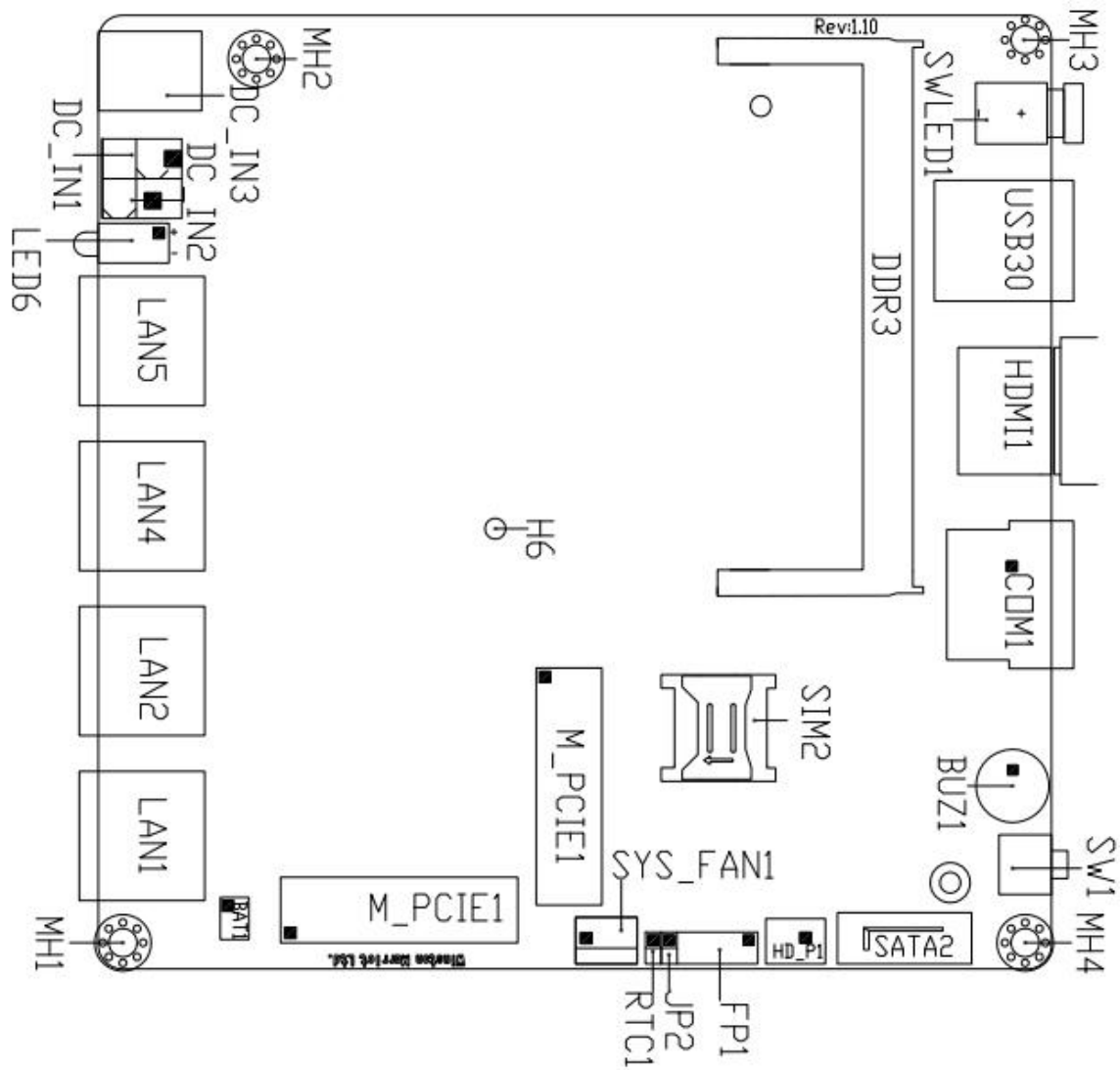1.3 Structure
        120 x 120 mm

1.4 Working environment
        Motherboard operating temperature: -20 ° C ~ +60 ° C
        Motherboard storage temperature: -40 ° C ~ +85 ° C

2 BT19NE4L - front interface layout

The TOP layer layout is shown below。

Note: The interface in the figure, the pin is square and is Pin 1。

2.1 DC_IN1 and DC_IN3

The same as the motherboard input power interface, only one interface can be selected during production, customers on demand.

DC_IN3 is the standard DC-JACK port, and DC_IN2 is the 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 they can be powered on.
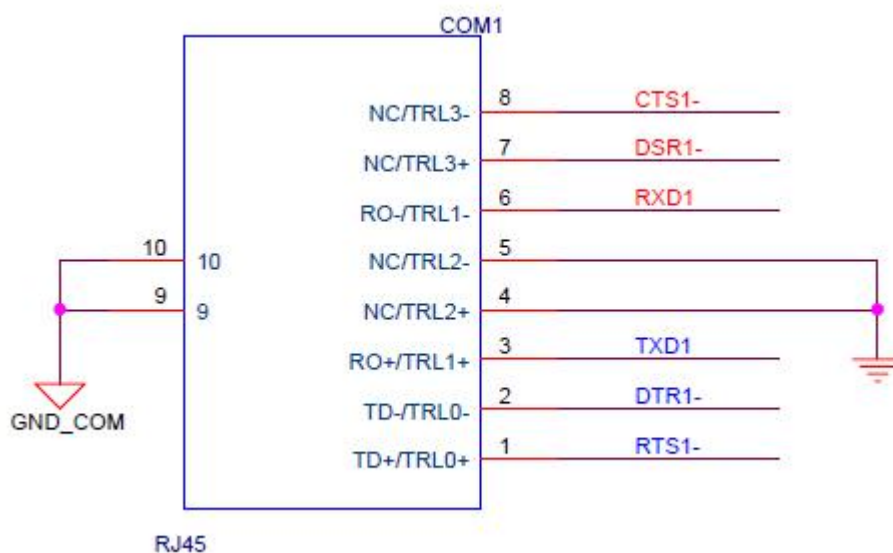
2.2 HDMI1
Standard HDMI output interface.

2.3 LAN1, LAN2, LAN3, LAN4
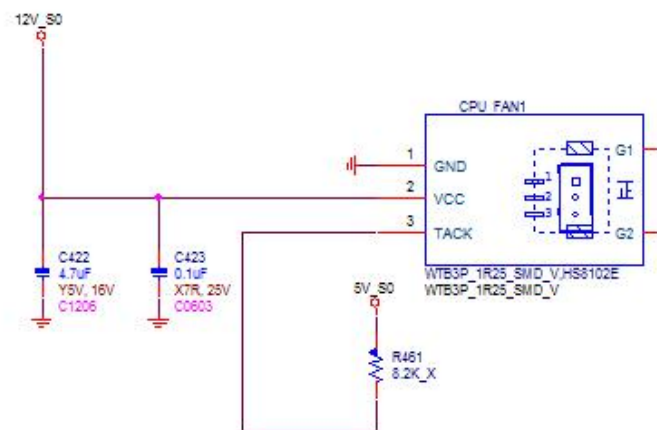10/100/1000 M LAN standard RJ45 interface, the main control chip is Intel I211AT.

2.4 COM1
COM1 uses RJ45 interface, which is RS232, defined as follows：
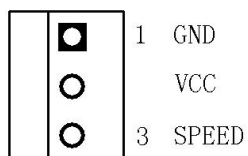

2.5　CPU_FAN1, SYS_FAN1
The CPU_FAN interface supports a maximum current of 0.3A, which is defined as follows。

SYS_FAN1 the definition as follows:

CPU fan interface, support 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, be careful to select the appropriate fan. The SYS fan does not support automatic speed adjustment.
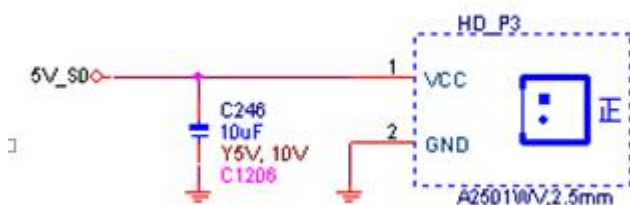
2.6 SATA1

Standard SATA device interface with SATA2.0 and below.

2.7 U19

The onboard 16G/32/64G EMMC is optional.

2.8 HD_P1

Two SATA device power connectors using CJT's A2501WV-2P device or other compatible devices. The definition is similar to the following figure.
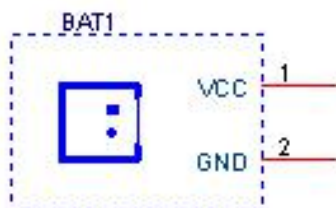

2.9 RTC1

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

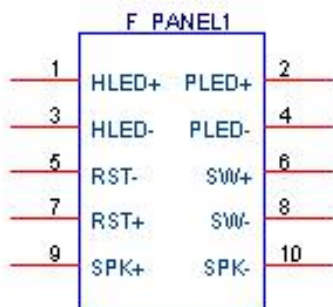| RTC1	Function Description
Close	Clear RTC CMOS
Open	Default setting

2.10 BAT1

Battery interface, using CJT company A1251WV-2P type interface or other compatible interface。

2.11 FP1

Interface for control panel, 2x5, 2mm pin header, integrated HDD_LED, PWR_LED, power switch, reset switch, SPEAKER function. The pin definition is as follows。

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

2.12 JP2

AT power-on mode selects the jumper. When Close is selected, the DC power is turned on and the motherboard is powered.。

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

2.13 MPCIE1

The MPCIE1 is a standard Mini-PCIE deck that accepts full-length cards. The half-length card Mini-PCIE card must be attached to the extension card.

2.14 DDR3

Standard DDR3 memory socket, up to 8GB DDR3L (1366/1066MHz).
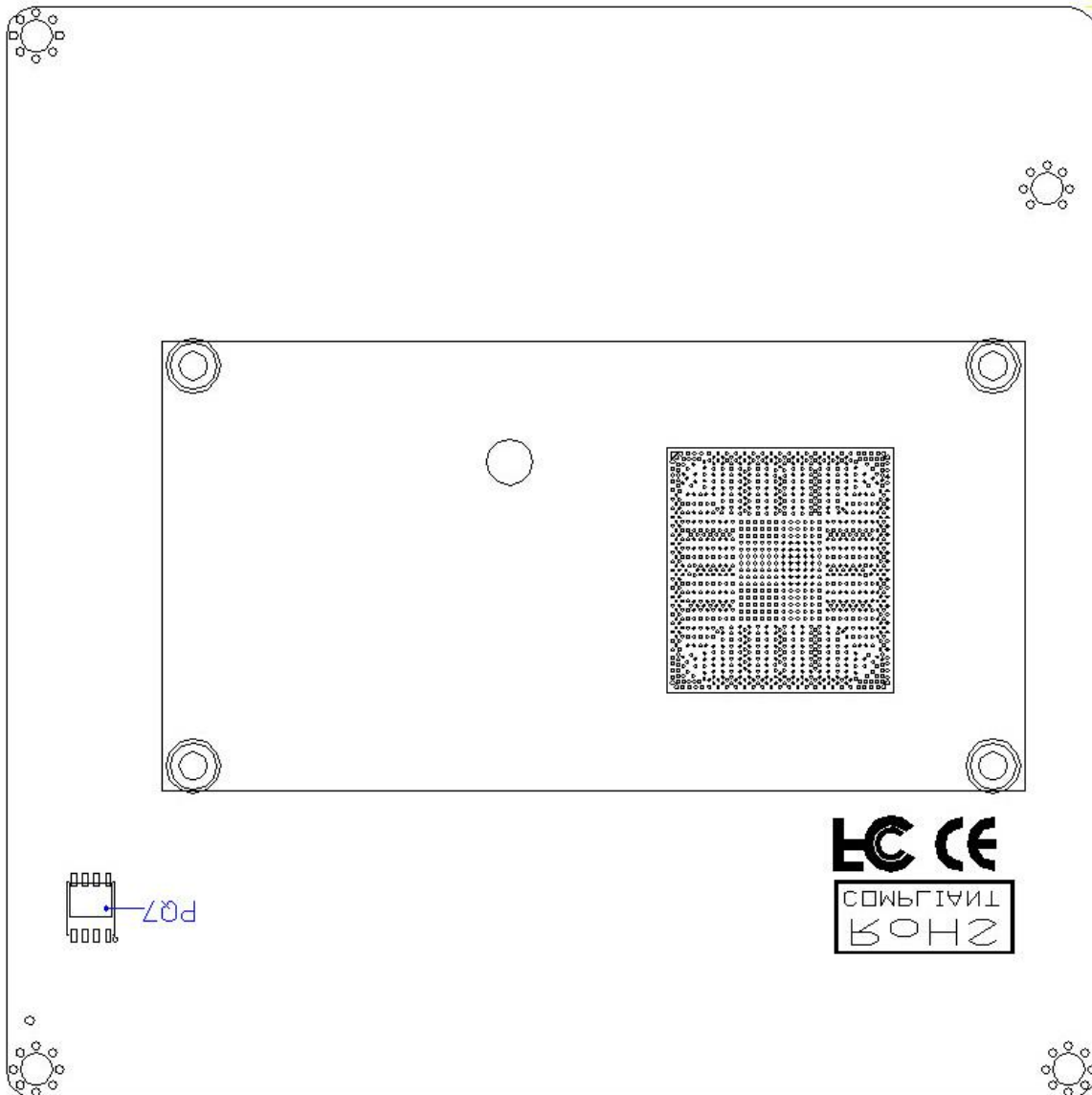
2.15 SIM1

MPCIE1 accessory SIM card holder.

2.16 EMMC Installation Mode and System Support Description

    EMMC supports UEFI mode installation system, supports Windows8 Windows8.1 Windows 10 64-bit operating system

3 back interface layout

The reverse layout of the motherboard is shown below.

3.1 M_SATA

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