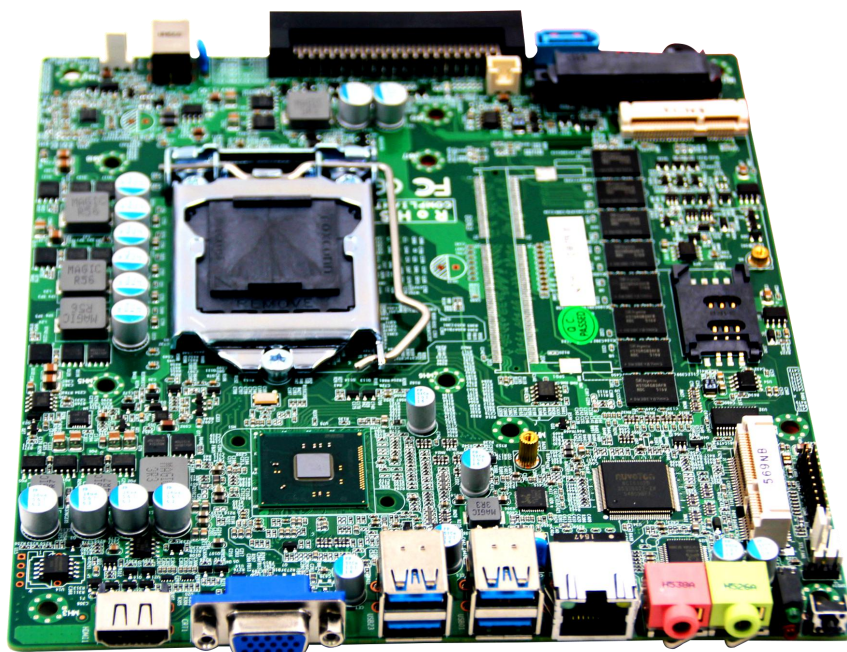


OPS81 Motherboard

(PCB Rev:1.00)

Manual Version 1.00

2016.06.29



1 Introduction

OPS81 motherboard is 17x17 industrial motherboard. Adopt Intel® H81 or H87 chipsets, Support Socket LGA1150 Intel 4th i3-i5-i7 CPU.

1.1 Main Features

1.1.1 Support LGA1150 processor, Intel 4th i3-i5-i7 CPU (optional)

1.1.2 1*DDR3 SODIMM 204 Socket(optional), maximum up to 12GB DDR3 memory, 1066/1333/1600MHz.

1.1.3 Onboard 2GB/4GB DDR3L(optional)

1.1.4 Onboard 1*Gigabit Ethernet

1.1.5 Onboard HDA ALC662, provide LINE-OUT interface, support LINE-OUT 和 MIC pin header.

1.1.6 Support 3-pin SPDIF

1.1.7 2*Mini-PCIE socket(short card)

1.1.8 1*Mini-SATA socket(SATA 3.0)

1.1.9 4*SATA 3Gb/s connector.(2*SATA 3.0, H81 chipset only support 2*SATA(1*SATA 3.0))

1.1.10 4*USB 3.0/2.0 ports.

1.1.11 2*USB 2.0 ports (pin header, Exceed H81 chipset can use).

1.1.12 Provide 1*RS232 pin header

1.1.13 Support HDMI output.

1.1.14 Support RGB & CRT output.

1.1.15 Provide 2 FAN connectors.

1.1.16 Support 225 watch dog

1.1.17 1*OPS socket (Optional).

1.2 Power Supply

1.2.1 Single input DC power, DC12V (+/-5%) .

(If don't use 12V for the HDD, +/-10%) .

Support AT/ATX starting mode.

1.2.2 If board with OPS, support OPS power first

1.3 Size

170x170mm

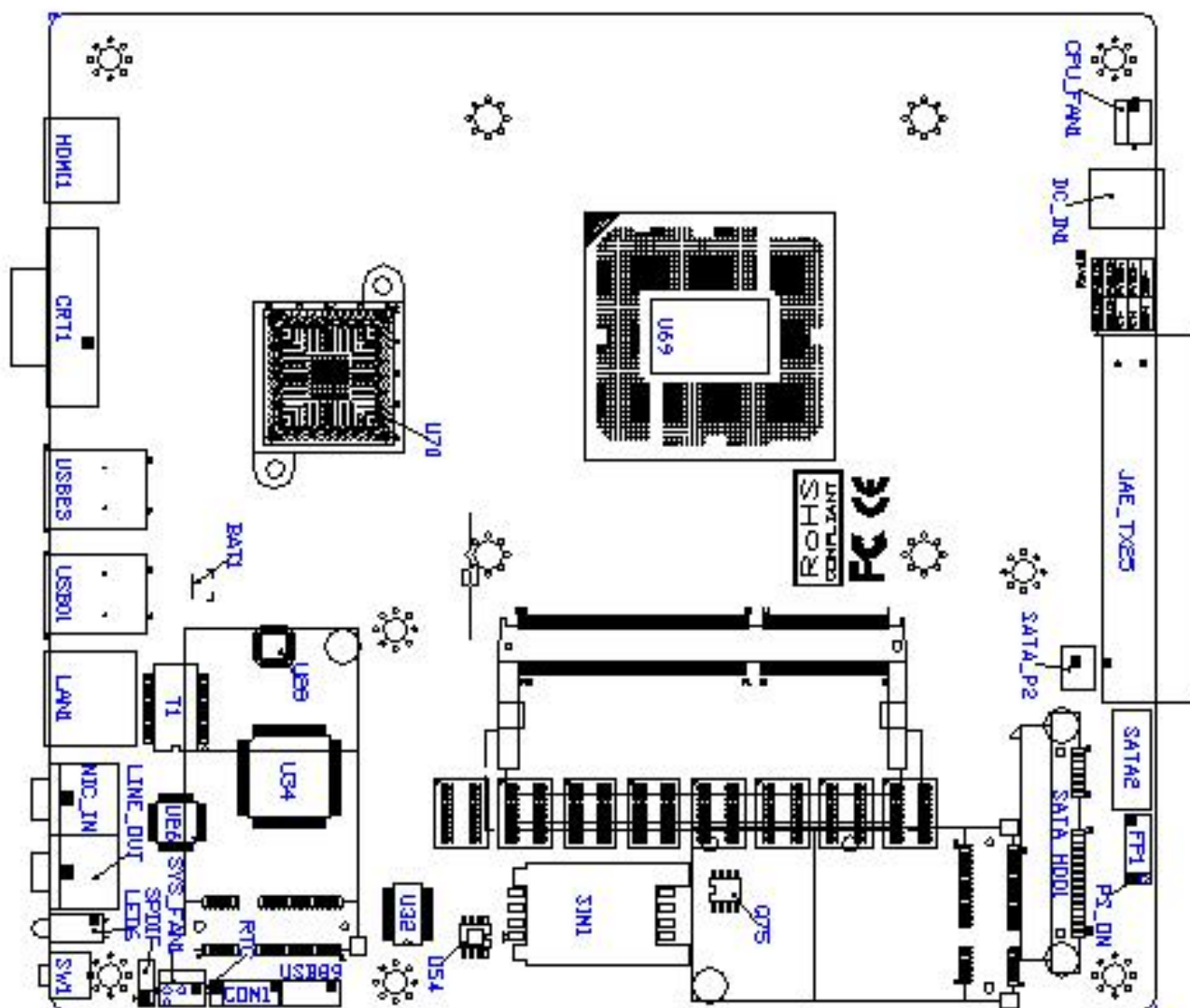
1.4 Working Environment

Working Temp: -20°C ~ +60°C (-4°F ~ 140°F)

Storage Temp: -40°C ~ +85°C (-40°F ~ 185°F)

2 OPS81 Front side interfaces layout

TOP floor layout as below:



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

2.1 DC_IN1 & DC_IN2

Motherboard input power connectors,DC_IN1 adopt DC-JACK interface, Center is 2.5mm.

DC_IN2 is DT-126RP-02P Terminal Blocks interface.Please pay attention to the Positive/Negative electrode of power.

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

2.2 CRT1 & VGA1

CRT1 is a standard CRT monitor output interface.

VGA1 is 2×5,2.0mm expansion header,can not use at the same time.



2.3 HDMI1

HDMI1 is standard HDMI output interface.

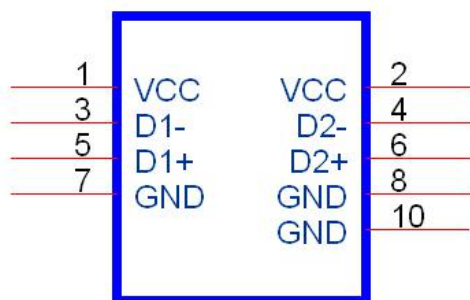
2.4 USB01 & USB23

All are USB3.0 standard interfaces, It can be compatible with USB1.0/1.1/2.0 device.

2.5 USB89 (Exceed H81chipset can use)

USB2.0 ports are 2x5、2.0mm expansion headers.Can be compatible with USB1.0/1.1 device.

Definition as below:



2.6 LAN1

10/100/1000 M LAN is standard RJ45 port,chipset is Realtek RTL8111E.

2.7 MIC_IN、LINE_OUT and AUDIO1

LINE_OUT is audio output port,adopt general connector.

MIC_IN is Microphone input port,adopt general connector.

2.8 SPDIF (optional)

Adopt 1×3,2.54mm expansion header,interface optional.

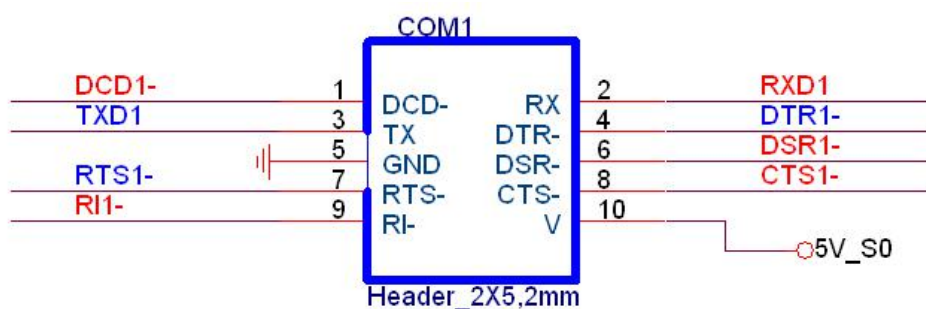
Pin1----5V;

Pin2----SPDIF;

Pin3----GND。

2.9 COM1

RSR232 pin header,adopt 2×5,2.0mm pin, Pin10 power is 5V.

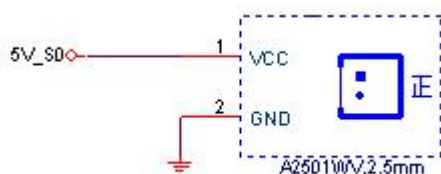


2.10 SATA1、SATA2

Standard SATA device port,Support SATA3.0/2.0 (When adopt H81chipsets,Only SATA1 Support SATA3.0).

2.11 SATA_P1

SATA power interface , Adopt CJT A2501WV-2P device or other compatible devices,definition as below:



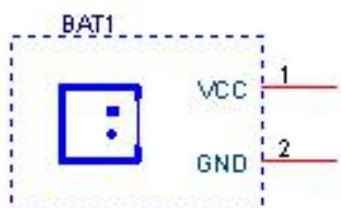
2.12 PS_ON

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

PS_ON	Starting Mode Selection
Close	AT power starting mode
Open	ATX power starting mode

2.13 BAT1

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



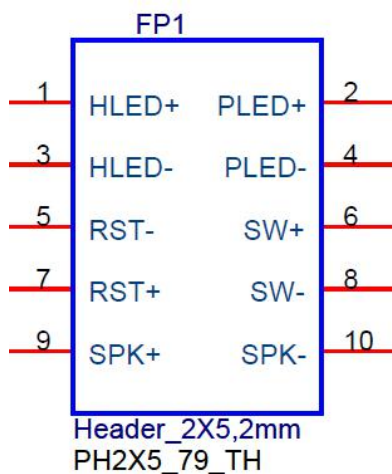
2.14 RTC

RTC1 is RTC clear jumper line, adopt 1×2, 2.54mm pin, definition as below:

RTC1	Function introduction
Close	Clear RTC CMOS
Open	default setting

2.15 FP1

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



FP1	Pin Definition
1, 3	Hard disk access lamp positive and negative signal pins.
2, 4	Main power indicator light positive and negative signal pins.

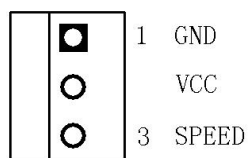
5, 7	Mainboard reset positive and negative signal pin
6, 8	Mainboard on/off positive and negative signal pins.
9, 10	Spare buzzer connector.

2.16 MPCIE1、MPCIE2

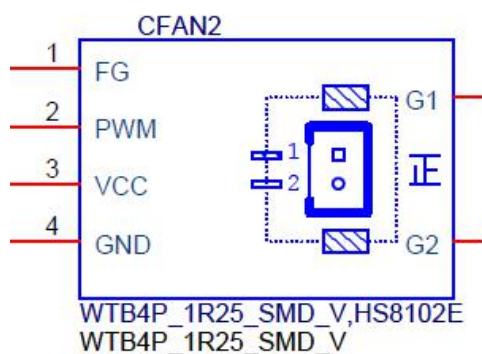
Standard Mini-PCIE socket,suit for full-size card.The half-size card Mini-PCIE card,must be fixed with a extended card.

2.17 CFAN1、CFAN2、SYS_FAN1

FAN interface support maximum current 0.3A,SYS_FAN1 interface definition as below:



CFAN1 and CFAN2 port 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.

2.18 DDR3L and Onboard DDR3L RAM

DDR3L is out put DDR3L RAM slot,Standard DDR3L SODIMM204 RAM Slot,Max support 8GB RAM (1066/1333/1600MHz.)

Onboard DDR3L RAM, 2GB/4GB(Optional)

When out put RAM and Onboard ram use the same, Pls choose the same chipset and volume RAM, If not maybe not stable.

2.19 JAE_TX25(Optional)

OPS port, Adopt TX25-80P-LT-H1E Port Pls refereec OPS specification,According to our company FAE recommandation choose OPS extension board.

If choose OPS with power(12V+/-10%) provid to boar, DC_IN1~3 port do not need to connect power supply.

When OPS board offer power as normal, The motherboard will automatic switchover POS supply. Will not conflict with DC_IN1~3 supply.

3.1 M_SATA1

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.