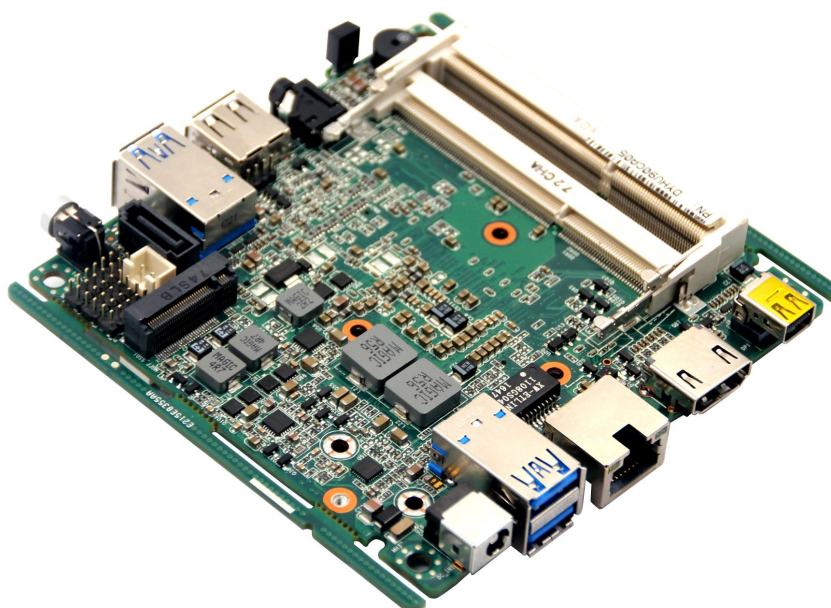


# HU90CA Motherboard

(PCB Rev:1.00)

Manual Version 1.00

2017.07.04



## 1 Introduction

HU90CA is our 10\*10 Industrial Motherboard, Adopt Intel 5<sup>th</sup> Mobile Broadwell-U single chip CPU.

### 1.1 Main Features

- 1.1.1 CPU Onboard, Support Intel Mobile 5<sup>th</sup> Broadwell-U/CPU (BGA1168)。
- 1.1.2 2 \*DDR3 SODIMM 204 Socket , maximum up to 16GB DDR3L Memory , 1066/1333/1600MHz。
- 1.1.3 Onboard 1\*Gigabit Ethernet.
- 1.1.4 Onboard HDA ALC662 , Provide 3.5mm pore size's Phonejack Support MIC/LINE-OUT
- 1.1.5 1\*Mini-PCIE socket, and 1\*Micro SIM card socket.
- 1.1.6 1\*NGFF card socket, Support SATA3.0(Support 42\*22mm)
- 1.1.7 Provide 1\*Serial port, RS232/TTL pin header.
- 1.1.8 1\*SATA 3.0 HDD interface.
- 1.1.9 4\*USB 3.0 interface, 3\*USB2.0 interface。
- 1.1.10 Support HDMI output, Support 4K Display.
- 1.1.11 Support Mini DP output,Support 4K Display.
- 1.1.12 1\*3-Pin FAN interface。
- 1.1.13 1\*IR port
- 1.1.14 1\*LPC expansion ports

### 1.2 Power Supply

Single input DC power,Support 12V-19V wide voltage power supply.

Support Power on automatic Starting up, jumper line selection;

### 1.3 Size

100 x 100 mm

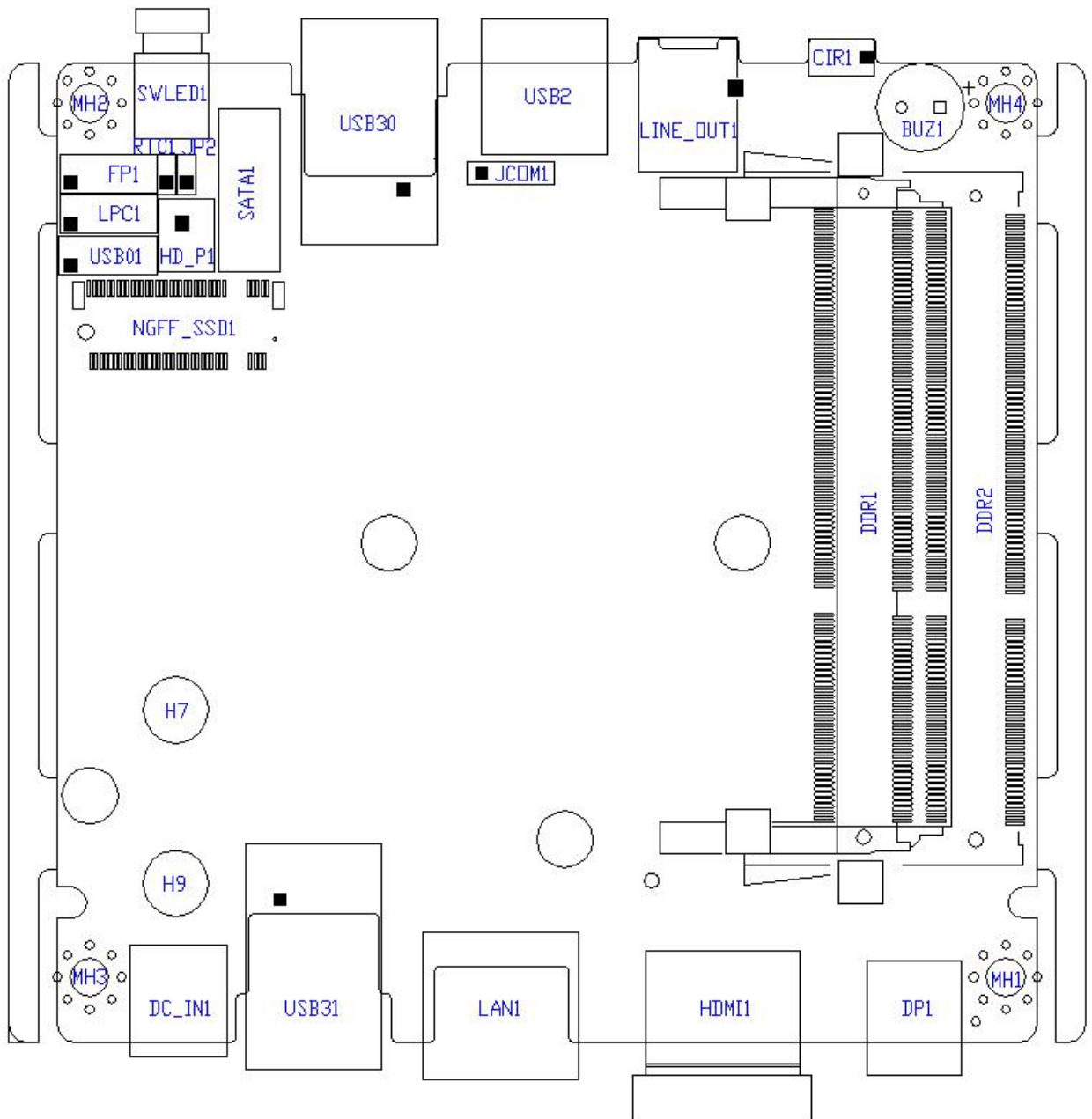
### 1.4 Working Environment

Working Temp: -20°C~60°C (-32°F~140°F)

Storage Temp: -40°C~85°C (-104°F~185°F )

## 2 HU90CA Front side interfaces layout

Motherboard TOP floor layout as below:



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

## 2.1 DC\_IN1

DC\_IN1 is Standard DC-JACK ports, Central post 2.5mm

## 2.2 HDMI1

HDMI1 is standard HDMI output interface.

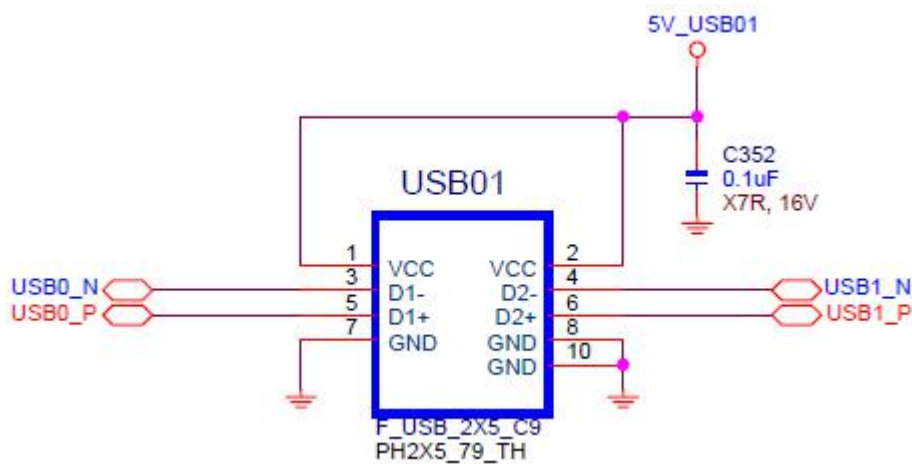
## 2.3 DP1

DP1 is Mini DPoutput interface.

## 2.4 USB30, USB31, USB01

4×USB3.0 ports,support 4×USB3.0 devices, it is Compatible with USB 1.0/1.1/2.0 devices.

USB01 is USB2.0, adopt 2x5、2mm pin header, definition as below:

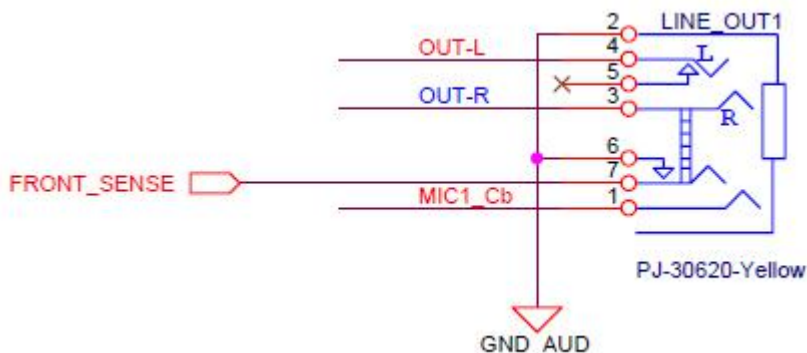


## 2.5 LAN1

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

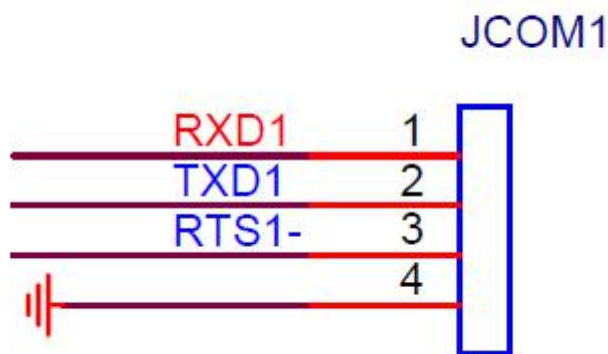
## 2.6 LINE\_OUT1

Adopt 3.5mm pore size's Phonejack Support MIC/LINE-OUT interfaces,According to CTIA International standard design , definition as below:



## 2.7 JCOM1

RSR232 pin header, adopt 1x4、2mm pin header (can choose serial port,TTL electrical level)

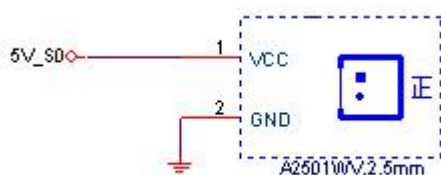


## 2.8 SATA1

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

## 2.9 HD\_P1

1\*SATA power interface,adopt CJT A2501WV-2P device or other compatible devices,definition as below:



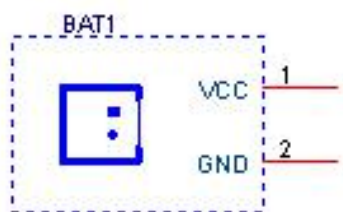
## 2.10 RTC1

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

RTC1	Function introduction
Close	Clear RTC CMOS
Open	default setting

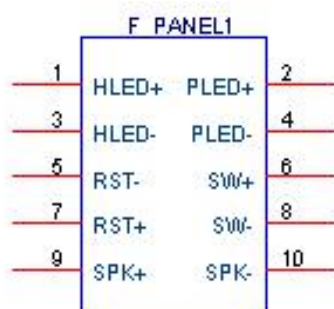
## 2.11 BAT1

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



## 2.12 FP1

Control panel 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	Motherboard reset positive and negative signal pins.
6, 8	Motherboard on/off positive and negative signal pins.
9, 10	Spare buzzer connector.

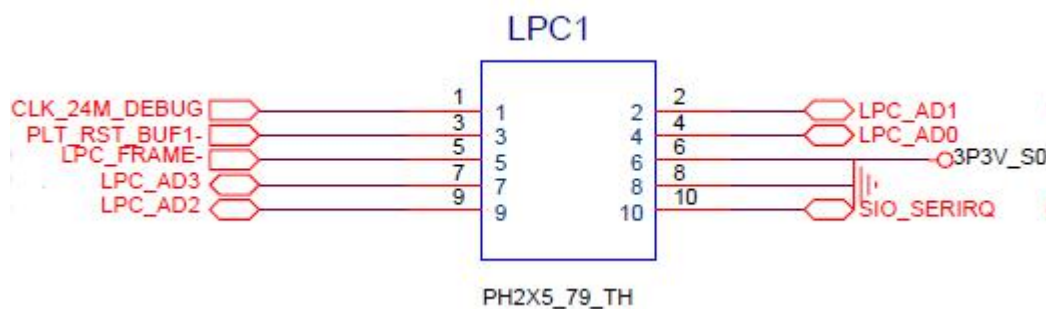
## 2.13 JP2

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

## 2.14 LPC1

LPC pin expansion interface, adopt 2x5、2mm pin header, definition as below:



## 2.15 MPCIE1

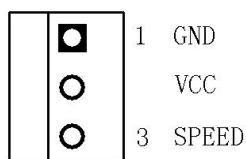
MPCIE1 is standard Mini-PCIE socket,suit for full-size card.The half-size card Mini-PCIE card,must be fixed with a extended card.

## 2.16 SIM1

Onboard Micro SIM card socket, support 3G/4G Micro SIM card ( need on Mini-PCIE card socket use corresponding Module) 。

## 2.17 CPU\_FAN1

FAN interface support 5V Fan,adopt PWM manual,rotational speed adjust automatically,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.

## 3 Rear Side Interface Layout

Motherboard rear side layout as below:

