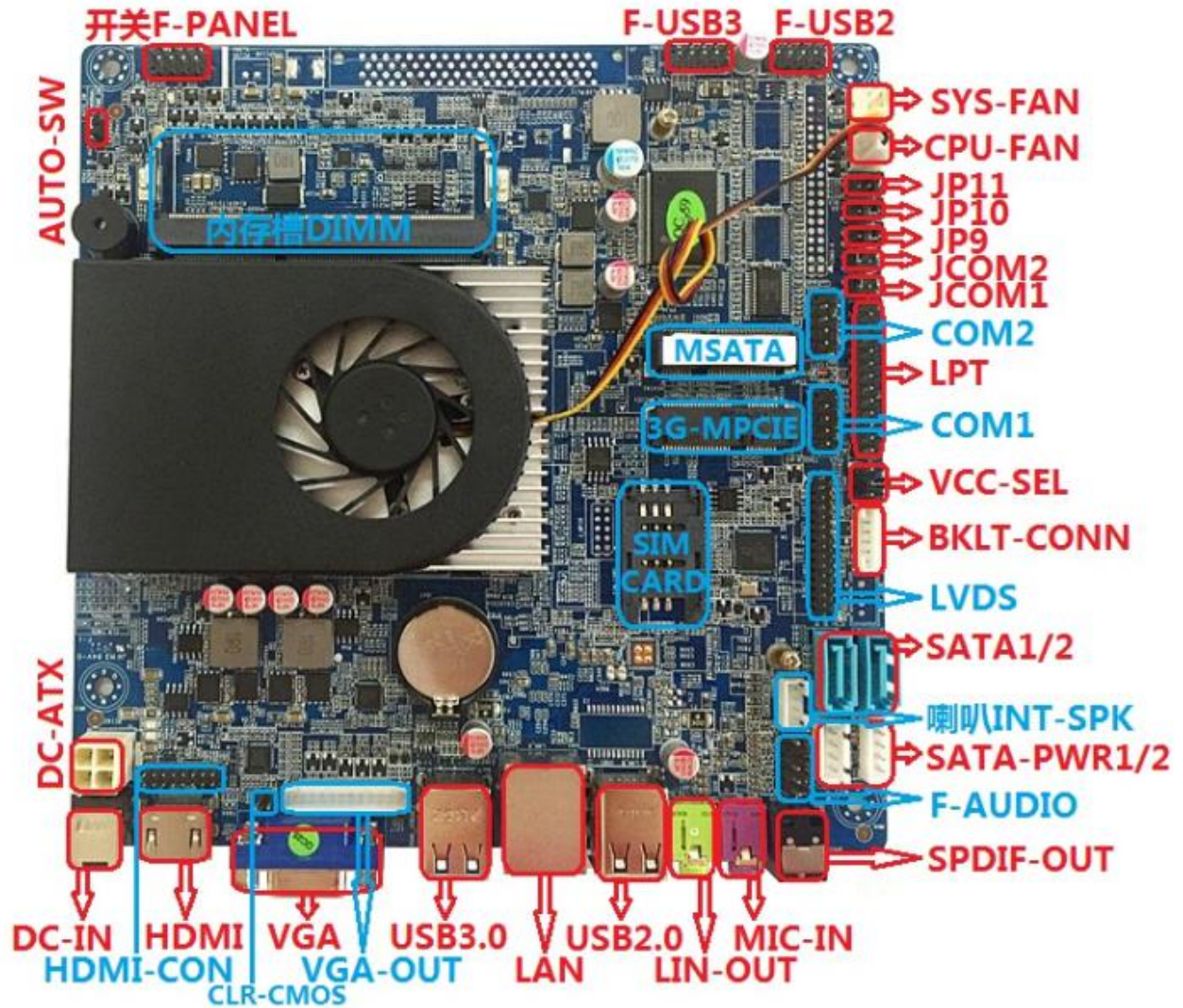


QM9400,QM9500 Motherboard Spec.

Pictures:



## Introduction:

QM9400/QM9500 is a DC power, ultra thin, high speed motherboard. It is based on the Intel Haswell-U platform.

It supports 4th Gen., 5th Gen. I3/i5/i7 processors.

It is mainly used in finance, retail, all-in-one machines, advertising machines, industrial computers and other fields.

## Main features of the motherboard:

1. It supports Intel Haswell 4th Gen. processors: I3-4005U, I5-4210U, I7-4510U, etc;
2. It supports Intel Broadwell 5th Gen. processors: I3-5005U, I5-5200U, I7-5500U, etc;
3. HDMI output supports 4K display;
4. The motherboard is high speed, and it supports DDR3 1600 low voltage (1.35V) memory channel;
5. Supporting HDMI+VGA+LVDS three screens display, it can also synchronous display, asynchronous display;
6. It has on-board 6\*COM pins, supports to take the electric 5V/12V from COM, also supports 1\*RS485;
7. It has on-board 1\*Mini PCI-E slot, supports WIFI/3G/4G, 1\*MSATA, also supports MSATA hard disk;
8. It has 1\*1000Mbps RJ45 LAN port, you can choose 2\*LAN ports;
9. It supports dual 8 24bit LVDS;
10. You can choose OPS expansion.

**Supporting these Intel processors:**

Motherboard Model	Processor Number	Intel Brand	Code Name	Cores	Threads	Processor Base Frequency (GHz)	Max. Turbo Frequency (GHz)
QM9400	I3-4005U	Core	Haswell	2	4	1.7	
	I3-4010U	Core	Haswell	2	4	1.7	
	I3-4030U	Core	Haswell	2	4	1.9	
	I5-4200U	Core	Haswell	2	4	1.6	2.6
	I5-4210U	Core	Haswell	2	4	1.7	2.7
	I7-4500U	Core	Haswell	2	4	1.8	3
	I7-4510U	Core	Haswell	2	4	2	3.1
QM9500	I3-5005U	Core	Broadwell	2	4	2	
	I5-5200U	Core	Broadwell	2	4	2.2	2.7
	I5-5250U	Core	Broadwell	2	4	1.6	2.7
	I7-5500U	Core	Broadwell	2	4	2.4	3

**QM9400/QM9500 Motherboard Spec.**

Form Factor(Size)	Mini-ITX,(L*W*H)170*170*18mm
Processor	Intel 4th Gen./5th Gen. i3/i5/i7 CPU
Chip set	Intel Haswell-U high speed chip set.
Memory	1*SO-DDR3L 1600 memory channel,Max.RAM 8GB.
Graphics Card	Integrating Intel HD4400 GPU; Supporting Dynamic Memory Allocation(DVMT); Supporting HDMI,VGA,LVDS display interfaces; Supporting 3 screens display; The HDMI output supports 4K super HD display; Supporting dual 8 24bit LVDS.
Hard Disk(Storage)	2*SATA3.0 , 1*MSATA3.0 interfaces.
Network Card	1*Realtek 8111F network chip,1000Mbps RJ45 LAN port; It supports Wake on LAN(WOL); It has 2*LAN ports to choose.
Audio	Integrating Realtek ALC662 HD digital audio decoder; Supporting Line-out,Line-in,Mic-in interfaces; It has on-board front pin; It also has on-board 3W/5W power amplifier.
I/O Expansion	2*USB3.0 , 6*USB2.0; 6*RS232 COM,1*RS485; Supporting to take the electric 5V/12V from COM; Supporting OPS expansion slot(It can add OPS sub card).
Expansion Bus	2*Mini PCI-E expansion slots,support WIFI/3G/MSTA/GPS.
System Monitor / Watch dog	Supporting CPU temperature monitor, fan speed,system temperature.
BIOS	AMI BIOS,support read only;Power switch,timer switch,remote switch equipment Intelligent identification.
Operating System	Windows 7(64bit,32bit),Windows 8,Windows 10,Linux.
Operating Environment	Working temperature: -10℃~60℃; Relative humidity:5%~95%,non-condensation.
Power Supply	DC 12V/19V power adapter
Chassis	HD4006,IPC6000,OPS-6600,OPS1000

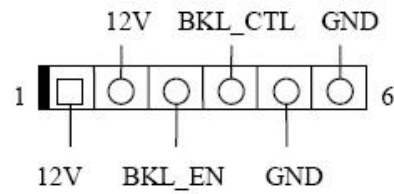
**Hardware Features:**

Network description	
Network Card Chip	Realtek RTL8111F
Function	10/100/1000Mbps self-adaptive,supports PXE boot and remote wake on Internet.
Interface Type	RJ45
Network card's light definition	Self-defined

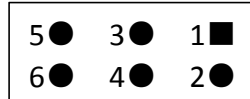


## Graphics Card description

Graphics Chip&GPU	HD Graphics (Sandy Bridge).
Interface Type	<b>VGA</b> :DB15 interface;
	<b>LVDS</b> :1*30pin socket,24bit dual channels;
	<b>HDMI</b> :Yes,it has.
Display Mode	Supporting dual displays(Copy mode,Expansion mode),DOS single display.
Interface Definition	<p><b>1*12 pin VGA,pin header definition:</b></p> <p><b>1*30 pin LVDS connector, pin definition:</b></p>

**Interface definition of the backlight power(BKLT-CON):**

**Working voltage selects pin(VCC\_SEL):**

Pin	Define
1-2	3.3V
3-4	5V
5-6	12V


**Audio description**

Audio Decoder	Realtek ALC662																								
On-board Audio Pin	<table border="1"> <thead> <tr> <th>Pin#</th> <th>Signal</th> <th>Pin#</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>MIC2_L</td> <td>2</td> <td>AGND</td> </tr> <tr> <td>3</td> <td>MIC2_R</td> <td>4</td> <td>-ACZ_DET_F</td> </tr> <tr> <td>5</td> <td>LINE2_R</td> <td>6</td> <td>Mic2-JD</td> </tr> <tr> <td>7</td> <td>FAUDIO_JD</td> <td>8</td> <td></td> </tr> <tr> <td>9</td> <td>LINE2_L</td> <td>10</td> <td>Line2-JD</td> </tr> </tbody> </table>	Pin#	Signal	Pin#	Signal	1	MIC2_L	2	AGND	3	MIC2_R	4	-ACZ_DET_F	5	LINE2_R	6	Mic2-JD	7	FAUDIO_JD	8		9	LINE2_L	10	Line2-JD
Pin#	Signal	Pin#	Signal																						
1	MIC2_L	2	AGND																						
3	MIC2_R	4	-ACZ_DET_F																						
5	LINE2_R	6	Mic2-JD																						
7	FAUDIO_JD	8																							
9	LINE2_L	10	Line2-JD																						
Pin Type	2.54mm 2*5pin header																								
Internal power amplifier pin(JAMP)	<table border="1"> <thead> <tr> <th>Pin</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>Signal</td> <td>L+</td> <td>L-</td> <td>R-</td> <td>R+</td> </tr> </tbody> </table> 	Pin	1	2	3	4	Signal	L+	L-	R-	R+														
Pin	1	2	3	4																					
Signal	L+	L-	R-	R+																					

**Hard Disk Interface description**

Interface Type	1*SATA3.0 Port										
Interface definition of the hard disk power supply(SATA PWR)	<table border="1"> <thead> <tr> <th>Pin#</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>12V</td> </tr> <tr> <td>2</td> <td>GND</td> </tr> <tr> <td>3</td> <td>GND</td> </tr> <tr> <td>4</td> <td>5V</td> </tr> </tbody> </table>	Pin#	Signal	1	12V	2	GND	3	GND	4	5V
Pin#	Signal										
1	12V										
2	GND										
3	GND										
4	5V										

COM description																																																																																					
COM Function	<p>6*COM. The first 9 pin of COM1/COM2 can change the jumper setting through JPCOM1 /JPCOM2,and selecting the ninth pin to output + 5V or + 12V voltage.</p> <table border="1" style="display: inline-table; margin-right: 20px;"> <thead> <tr> <th>JPCOM1</th> <th>The first 9 pin of COM1 with electric</th> </tr> </thead> <tbody> <tr> <td>1-2</td> <td>5V</td> </tr> <tr> <td>3-4</td> <td>12V</td> </tr> <tr> <td>5-6</td> <td>NORMAL</td> </tr> </tbody> </table> <table border="1" style="display: inline-table;"> <thead> <tr> <th>JPCOM2</th> <th>The first 9 pin of COM2 with electric</th> </tr> </thead> <tbody> <tr> <td>1-2</td> <td>5V</td> </tr> <tr> <td>3-4</td> <td>12V</td> </tr> <tr> <td>5-6</td> <td>NORMAL</td> </tr> </tbody> </table>	JPCOM1	The first 9 pin of COM1 with electric	1-2	5V	3-4	12V	5-6	NORMAL	JPCOM2	The first 9 pin of COM2 with electric	1-2	5V	3-4	12V	5-6	NORMAL																																																																				
JPCOM1	The first 9 pin of COM1 with electric																																																																																				
1-2	5V																																																																																				
3-4	12V																																																																																				
5-6	NORMAL																																																																																				
JPCOM2	The first 9 pin of COM2 with electric																																																																																				
1-2	5V																																																																																				
3-4	12V																																																																																				
5-6	NORMAL																																																																																				
COM1/COM2 Pin Definition	<p><b>All signals RS232 2*5 Pin (Standard RS232):</b></p> <table border="1"> <thead> <tr> <th>Pin#</th> <th>Signal</th> <th>Pin#</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>DCD1_R</td> <td>2</td> <td>RXD1_R</td> </tr> <tr> <td>3</td> <td>TXD_R</td> <td>4</td> <td>DTR1_R</td> </tr> <tr> <td>5</td> <td>GND</td> <td>6</td> <td>DSR1_R</td> </tr> <tr> <td>7</td> <td>RTS1_R</td> <td>8</td> <td>CTS1_R</td> </tr> <tr> <td>9</td> <td>RI1_R</td> <td>10</td> <td></td> </tr> </tbody> </table>	Pin#	Signal	Pin#	Signal	1	DCD1_R	2	RXD1_R	3	TXD_R	4	DTR1_R	5	GND	6	DSR1_R	7	RTS1_R	8	CTS1_R	9	RI1_R	10																																																													
Pin#	Signal	Pin#	Signal																																																																																		
1	DCD1_R	2	RXD1_R																																																																																		
3	TXD_R	4	DTR1_R																																																																																		
5	GND	6	DSR1_R																																																																																		
7	RTS1_R	8	CTS1_R																																																																																		
9	RI1_R	10																																																																																			
COM3~COM6 Pin Definition	<table border="1"> <thead> <tr> <th>PIN</th> <th>Signal</th> <th>PIN</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>COM3_DCD</td> <td>2</td> <td>COM3_RXD</td> </tr> <tr> <td>3</td> <td>COM3_TXD</td> <td>4</td> <td>COM3_DTR</td> </tr> <tr> <td>5</td> <td>GND</td> <td>6</td> <td>COM3_DSR</td> </tr> <tr> <td>7</td> <td>COM3_RTS</td> <td>8</td> <td>COM3_CTS</td> </tr> <tr> <td>9</td> <td>COM3-RI</td> <td>10</td> <td>NC</td> </tr> <tr> <td>11</td> <td>COM4_DCD</td> <td>12</td> <td>COM4_RXD</td> </tr> <tr> <td>13</td> <td>COM4_TXD</td> <td>14</td> <td>COM4_DTR</td> </tr> <tr> <td>15</td> <td>GND</td> <td>16</td> <td>COM4_DSR</td> </tr> <tr> <td>17</td> <td>COM4_RTS</td> <td>18</td> <td>COM4_CTS</td> </tr> <tr> <td>19</td> <td>COM4-RI</td> <td>20</td> <td>NC</td> </tr> <tr> <td>21</td> <td>COM5_DCD</td> <td>22</td> <td>COM5_RXD</td> </tr> <tr> <td>23</td> <td>COM5_TXD</td> <td>24</td> <td>COM5_DTR</td> </tr> <tr> <td>25</td> <td>GND</td> <td>26</td> <td>COM5_DSR</td> </tr> <tr> <td>27</td> <td>COM5_RTS</td> <td>28</td> <td>COM5_CTS</td> </tr> <tr> <td>29</td> <td>COM5-RI</td> <td>30</td> <td>NC</td> </tr> <tr> <td>31</td> <td>COM6_DCD</td> <td>32</td> <td>COM6_RXD</td> </tr> <tr> <td>33</td> <td>COM6_TXD</td> <td>34</td> <td>COM6_DTR</td> </tr> <tr> <td>35</td> <td>GND</td> <td>36</td> <td>COM6_DSR</td> </tr> <tr> <td>37</td> <td>COM6_RTS</td> <td>38</td> <td>COM6_CTS</td> </tr> <tr> <td>39</td> <td>COM6-RI</td> <td>40</td> <td>NC</td> </tr> </tbody> </table>	PIN	Signal	PIN	Signal	1	COM3_DCD	2	COM3_RXD	3	COM3_TXD	4	COM3_DTR	5	GND	6	COM3_DSR	7	COM3_RTS	8	COM3_CTS	9	COM3-RI	10	NC	11	COM4_DCD	12	COM4_RXD	13	COM4_TXD	14	COM4_DTR	15	GND	16	COM4_DSR	17	COM4_RTS	18	COM4_CTS	19	COM4-RI	20	NC	21	COM5_DCD	22	COM5_RXD	23	COM5_TXD	24	COM5_DTR	25	GND	26	COM5_DSR	27	COM5_RTS	28	COM5_CTS	29	COM5-RI	30	NC	31	COM6_DCD	32	COM6_RXD	33	COM6_TXD	34	COM6_DTR	35	GND	36	COM6_DSR	37	COM6_RTS	38	COM6_CTS	39	COM6-RI	40	NC
PIN	Signal	PIN	Signal																																																																																		
1	COM3_DCD	2	COM3_RXD																																																																																		
3	COM3_TXD	4	COM3_DTR																																																																																		
5	GND	6	COM3_DSR																																																																																		
7	COM3_RTS	8	COM3_CTS																																																																																		
9	COM3-RI	10	NC																																																																																		
11	COM4_DCD	12	COM4_RXD																																																																																		
13	COM4_TXD	14	COM4_DTR																																																																																		
15	GND	16	COM4_DSR																																																																																		
17	COM4_RTS	18	COM4_CTS																																																																																		
19	COM4-RI	20	NC																																																																																		
21	COM5_DCD	22	COM5_RXD																																																																																		
23	COM5_TXD	24	COM5_DTR																																																																																		
25	GND	26	COM5_DSR																																																																																		
27	COM5_RTS	28	COM5_CTS																																																																																		
29	COM5-RI	30	NC																																																																																		
31	COM6_DCD	32	COM6_RXD																																																																																		
33	COM6_TXD	34	COM6_DTR																																																																																		
35	GND	36	COM6_DSR																																																																																		
37	COM6_RTS	38	COM6_CTS																																																																																		
39	COM6-RI	40	NC																																																																																		

COM2(RS485) setting	<table border="1"> <thead> <tr> <th>COM2</th> <th colspan="2">JP9</th> <th colspan="2">JP10</th> <th>JP11</th> </tr> </thead> <tbody> <tr> <td>RS232</td> <td>1-3</td> <td>2-4</td> <td>1-3</td> <td>2-4</td> <td>1-2</td> </tr> <tr> <td>RS422</td> <td>3-5</td> <td>4-6</td> <td>3-5</td> <td>4-6</td> <td>3-4</td> </tr> <tr> <td>RS485</td> <td>3-5</td> <td>4-6</td> <td>3-5</td> <td>4-6</td> <td>5-6</td> </tr> </tbody> </table>	COM2	JP9		JP10		JP11	RS232	1-3	2-4	1-3	2-4	1-2	RS422	3-5	4-6	3-5	4-6	3-4	RS485	3-5	4-6	3-5	4-6	5-6
	COM2	JP9		JP10		JP11																			
	RS232	1-3	2-4	1-3	2-4	1-2																			
RS422	3-5	4-6	3-5	4-6	3-4																				
RS485	3-5	4-6	3-5	4-6	5-6																				
<table border="1"> <thead> <tr> <th>COM2</th> <th colspan="2">PIN</th> </tr> </thead> <tbody> <tr> <td>RS485</td> <td>1(TXD)</td> <td>2(RXD)</td> </tr> <tr> <td>RS422</td> <td>1(TXD-)</td> <td>2(TXD+)</td> </tr> <tr> <td></td> <td>3(RXD+)</td> <td>4(RXD-)</td> </tr> </tbody> </table>	COM2	PIN		RS485	1(TXD)	2(RXD)	RS422	1(TXD-)	2(TXD+)		3(RXD+)	4(RXD-)													
COM2	PIN																								
RS485	1(TXD)	2(RXD)																							
RS422	1(TXD-)	2(TXD+)																							
	3(RXD+)	4(RXD-)																							
Supply Power Type&Mode	Yes,it has.																								
Pin&Interface Type	2*5pin																								

HDMI Pin description				
Pin Definition	<b>Pin#</b>	<b>Signal</b>	<b>Pin#</b>	<b>Signal</b>
	1	TMDS_TX2P	2	TMDS_TX1P
	3	TMDS_TX2N	4	TMDS_TX1N
	5	GND	6	GND
	7	TMDS_TX0P	8	TMDS_TXCP
	9	TMDS_TX0N	10	TMDS_TXCN
	11	GND	12	HDMI_5V
	13	DDC_CLK_HDMI	14	HDMI_5V
	15	DDC_DATA_HDMI	16	HPD_HDMI

USB2.0 description											
Interface Type	USB2.0/1.1 interface										
Rear interface	4										
Front pin	<b>USB pin definition:</b> 1. VCC                    2. VCC 3. DATA0-            4. DATA1- 5. DATA0+            6. DATA1+ 7. GND                 8. GND 9. NC(CUT)        10. GND <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>1 ■</td> <td>2 ●</td> </tr> <tr> <td>3 ●</td> <td>4 ●</td> </tr> <tr> <td>5 ●</td> <td>6 ●</td> </tr> <tr> <td>7 ●</td> <td>8 ●</td> </tr> <tr> <td>9 ●</td> <td>10 ●</td> </tr> </table>	1 ■	2 ●	3 ●	4 ●	5 ●	6 ●	7 ●	8 ●	9 ●	10 ●
1 ■	2 ●										
3 ●	4 ●										
5 ●	6 ●										
7 ●	8 ●										
9 ●	10 ●										
Interface&Pin Type	2*5Pin header/2.54mm										

### Other on-board Pins description:

Front Panel description																									
Definition	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Pin#</th> <th>Signal</th> <th>Pin#</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+HDLED (VCC)</td> <td>2</td> <td>+PLED (VCC)</td> </tr> <tr> <td>3</td> <td>GND</td> <td>4</td> <td>GND</td> </tr> <tr> <td>5</td> <td>RST_SW</td> <td>6</td> <td>PW_BN</td> </tr> <tr> <td>7</td> <td>GND</td> <td>8</td> <td>GND</td> </tr> <tr> <td>9</td> <td>NC</td> <td>10</td> <td></td> </tr> </tbody> </table> <p>HDD Active LED: 1, 3      Power Button: 6, 8            Power LED: 2, 4        Reset Button: 5, 7</p>	Pin#	Signal	Pin#	Signal	1	+HDLED (VCC)	2	+PLED (VCC)	3	GND	4	GND	5	RST_SW	6	PW_BN	7	GND	8	GND	9	NC	10	
Pin#	Signal	Pin#	Signal																						
1	+HDLED (VCC)	2	+PLED (VCC)																						
3	GND	4	GND																						
5	RST_SW	6	PW_BN																						
7	GND	8	GND																						
9	NC	10																							
Pin Type	2.54mm /2*5pin																								

LVDS Lightness Adjustment description															
Definition of the LVDS Lightness Adjustment( <b>BKLT - CTRL</b> )	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>1 ■</td> <td>2 ●</td> <td>3 ●</td> <td>4 ●</td> </tr> </table> <table border="1" style="margin-top: 10px; width: 100%; text-align: center;"> <thead> <tr> <th>Pin#</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>GND</td> </tr> <tr> <td>2</td> <td>SW</td> </tr> <tr> <td>3</td> <td>DOWN</td> </tr> <tr> <td>4</td> <td>UP</td> </tr> </tbody> </table>	1 ■	2 ●	3 ●	4 ●	Pin#	Signal	1	GND	2	SW	3	DOWN	4	UP
1 ■	2 ●	3 ●	4 ●												
Pin#	Signal														
1	GND														
2	SW														
3	DOWN														
4	UP														



**Clear CMOS description**

Definition

Clear-CMOS patch cord & Clear-CMOS definition:

Pin	NA	Short
Define	Normal	Clear CMOS



**CPU-FAN description**

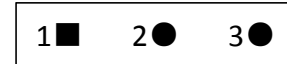
Quantity

2 pieces

**“Power On” pin description**

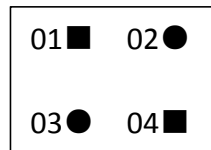
Definition of the “Power On” pin(AUIO-SW)

Pin	1-2	2-3
Define	Normal	Power On



**Power Supply Interface description**

4 PIN Power Supply Interface Definition



1/2 GND

3/4 12V/19V

**OPS Expansion description**

You can choose OPS Expansion slot,if you need,please tell us.