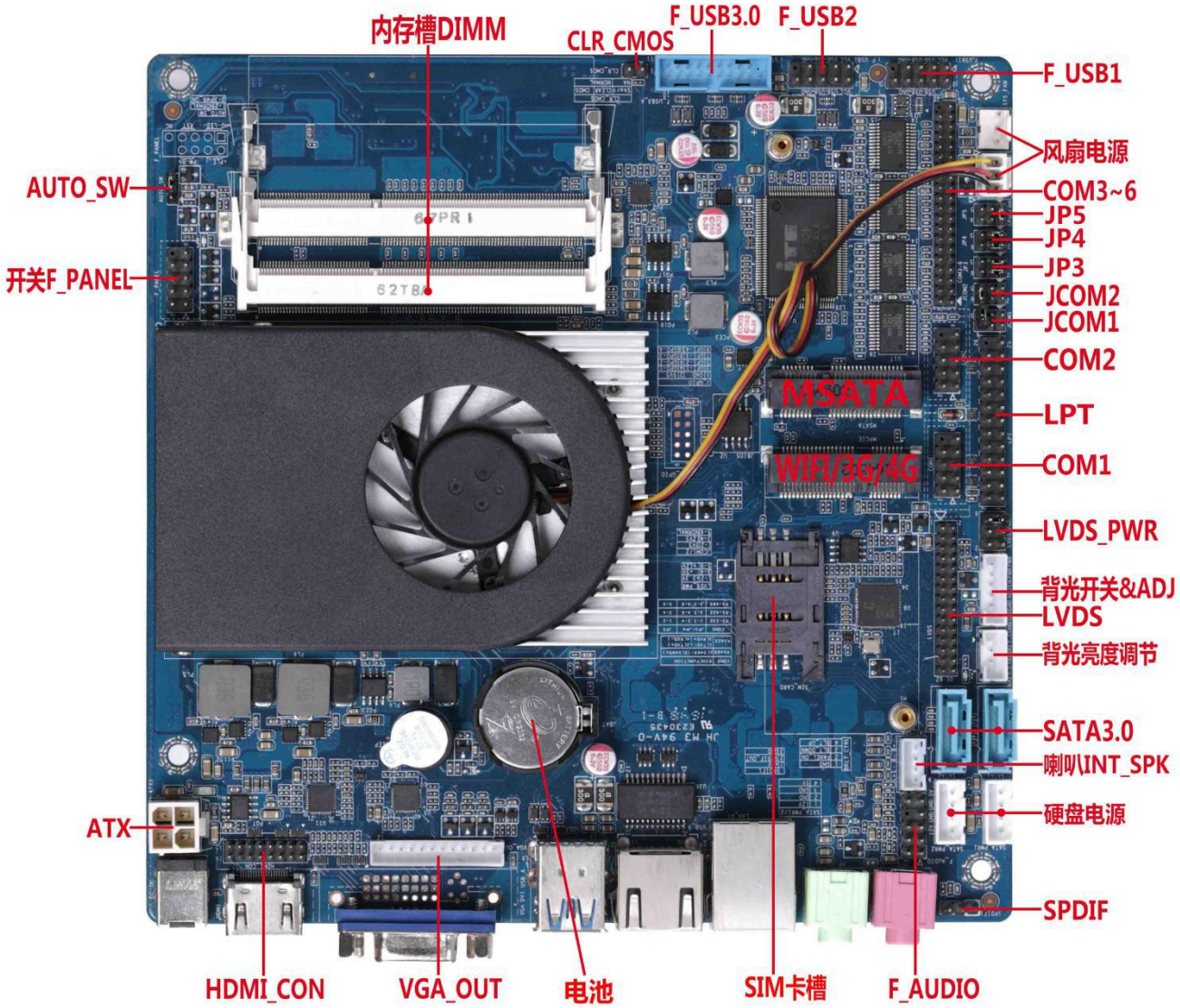
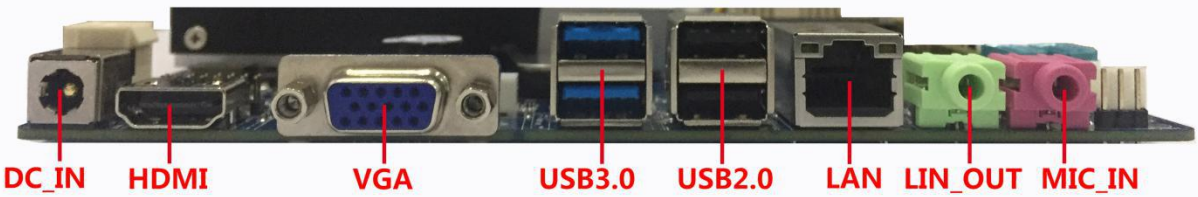
QM9600,QM9700 Motherboard Spec.

Pictures:





Main Features:

1. Supporting 6th Gen.processors,Intel Skylake platform,Celeron 3855U,3955U,Core i3/i5/i7;
2. Supporting 7th Gen.processors,Intel Kaby lake platform, Celeron 3865U,3965U,Core i3/i5/i7;
3. HDMI 1.4 output support 4K display;
4. High speed,supports 2*DDR3 1600/1866 low voltage(1.35V) dual memories;
5. Supporting HDMI+VGA (or DVI)+LVDS three screens display, also supports synchronous,asynchronous display;
6. On-board 6*COM interfaces,support to take the electric 5V,12V from COM interface, also supports 1*RS485;
7. On-board 1*Mini-PCIE,supports Wifi/3G/4G,1*MSATA,supports MSATA hard disk;
8. 1*1000M LAN(RJ45),or choosing 2*1000M LAN;
9. Supporting dual 8,24 bit LVDS.

QM9600 Motherboard Series				
Model	LAN(RJ45)	COM	USB2.0	USB3.0
QM9600-2C	1	2	6	4
QM9600-2L2C	2	2	4	4
QM9600-6C	1	6	6	4
QM9600-2L6C	2	6	4	4

QM9700 Motherboard Series				
Model	LAN(RJ45)	COM	USB2.0	USB3.0
QM9700-2C	1	2	6	4
QM9700-2L2C	2	2	4	4
QM9700-6C	1	6	6	4
QM9700-2L6C	2	6	4	4

QM9600 motherboard supports SSD interfaces	
CPU	SSD Interfaces
3855U	1*SATA3.0 , 1*MSATA3.0
3955U	1*SATA3.0 , 1*MSATA3.0
I3-6100U	2*SATA3.0 , 1*MSATA3.0
I5-6200U	2*SATA3.0 , 1*MSATA3.0
I7-6500U	2*SATA3.0 , 1*MSATA3.0

QM9700 motherboard supports SSD interfaces	
CPU	SSD Interfaces
3865U	1*SATA3.0 , 1*MSATA3.0
3965U	1*SATA3.0 , 1*MSATA3.0
I3-7100U	2*SATA3.0 , 1*MSATA3.0
I5-7200U	2*SATA3.0 , 1*MSATA3.0
I7-7500U	2*SATA3.0 , 1*MSATA3.0

QM9600,QM9700 motherboard Spec.	
Intel Processors	QM9600 motherboard supports 3855U,3955U,I3-6100U,I5-6200U,I7-6500U,etc.
	QM9700 motherboard supports 3865U,3965U,I3-7100U,I5-7200U,I7-7500U,etc.
Form Factor(Size)	Mini-ITX,170*170*18mm(L*W*H)
Chip set	Integrating Intel Soc chip set in CPU.
Memory	2*SO-DDR3L 1600/1866 low voltage(1.35V) dual memories,supports Max.16GB RAM.
Display Interfaces	Integrating HD510/HD610 GPU; Supporting Dynamic Memory Allocation(DVMT); Supporting HDMI,VGA,LVDS display interfaces; Supporting three screens to display; HDMI display interfaces support 4K resolution display; Supporting dual 8,24 bit LVDS.
Hard Disk interfaces	2*SATA3.0 , 1*MSATA3.0
Network Interface	1*Realtek8111F 1000M RJ45 LAN; Supporting Wake On LAN(WOL); Having 2*1000M LAN to choose.
Audio Interface	Integrating Realtek ALC662 HD digital audio decoder; Supporting Line-Out,Mic-In interfaces,and have front pin on board; Supporting 3W/5W power amplifier speaker.
I/O Expansion	4*USB3.0 , 6*USB2.0 , 6*RS232 COM , 1*RS485; Supporting to take the electric 5V/12V from COM interface.
Expansion Bus	2*Mini PCI-Express slots,supports optional WIFI/3G/GPS/MSATA.
System Monitor / Watch dog	Supporting CPU temperature monitor, fan speed,system temperature.
Operating Environment	Working temperature :-10~60℃ Relative humidity:5%~95%,non-condensation.
Power Supply	DC 12V or 19V power adapter.
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.
Chassis	HD4000,HD4001,IPC6000

QM9600 motherboard supports these processors:							
Processor Number	Intel Brand	Code Name	Cores	Threads	Processor Base Frequency (GHz)	Max. Turbo Frequency (GHz)	4K Support?
3855U	Celeron	Skylake	2	2	1.6		Yes, at 60Hz
3955U	Celeron	Skylake	2	2	2		Yes, at 60Hz
I3-6100U	6th Gen.Core i3	Skylake	2	4	2.3		Yes, at 60Hz
I5-6200U	6th Gen.Core i5	Skylake	2	4	2.3	2.8	Yes, at 60Hz
I7-6500U	6th Gen.Core i7	Skylake	2	4	2.5	3.1	Yes, at 60Hz

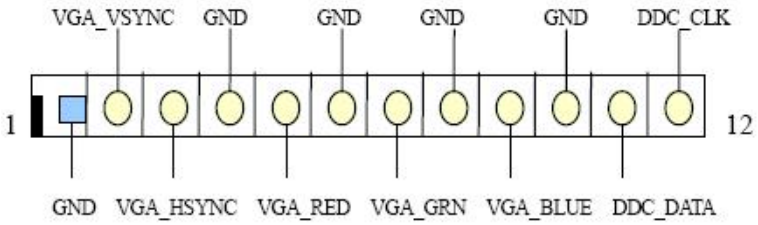
QM9700 motherboard supports these Intel processors:							
Processor Number	Intel Brand	Code Name	Cores	Threads	Processor Base Frequency (GHz)	Max. Turbo Frequency (GHz)	4K Support?
3865U	Celeron	Kaby Lake	2	2	1.8		Yes, at 60Hz
3965U	Celeron	Kaby Lake	2	2	2.2		Yes, at 60Hz
i3-7100U	7th Gen.Core i3	Kaby Lake	2	4	2.4		Yes, at 60Hz
i5-7200U	7th Gen.Core i5	Kaby Lake	2	4	2.5	3.1	Yes, at 60Hz
i7-7500U	7th Gen.Core i7	Kaby Lake	2	4	2.7	3.5	Yes, at 60Hz

Hardware Features:

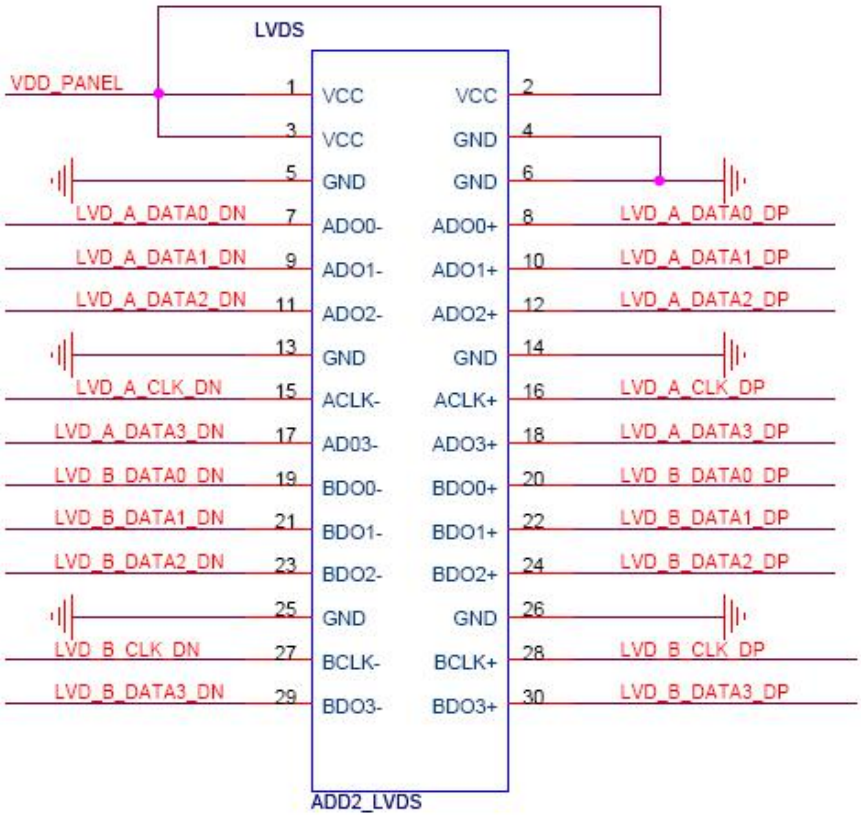
<table>
<tr><th colspan="2">Audio Description</th></tr>
<tr><td>Audio Decoder</td><td>Realtek ALC662</td></tr>
<tr><td>On-board Audio Pin</td><td>
<table>
<tr><th>Pin#</th><th>Signal</th><th>Pin#</th><th>Signal</th></tr>
<tr><td>1</td><td>MIC2_L</td><td>2</td><td>AGND</td></tr>
<tr><td>3</td><td>MIC2_R</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>
</table>
</td></tr>
<tr><td>Pin Type</td><td>2.54mm 2*5pin header</td></tr>
<tr><td>Built-in Power Amplifier Pin(JAMP)</td><td>
<table>
<tr><th>Pin</th><th>1</th><th>2</th><th>3</th><th>4</th></tr>
<tr><td>Signal</td><td>L+</td><td>L-</td><td>R-</td><td>R+</td></tr>
</table>
1■ 2● 3● 4●
</td></tr>
</table>

LAN Description	
Network Card Chip	Realtek RTL8111F
Function	10/100/1000Mbps self-adaptive,supports PXE boot and remote wake on Internet.
Interface type	RJ45
Network adapter led definition	self-defined

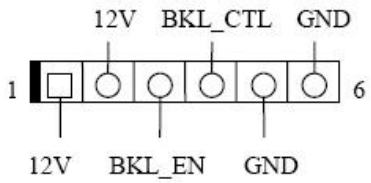
Graphics Card Description	
GPU	HD Graphics (Sandy Bridge)
Interface types	VGA(DB15 Port),HDMI,LVDS(1*30 pin socket,24 bit dual channels).
Display	Supporting dual displays (copy mode,expansion mode),DOS single display.
Interface Definition	**1*12PIN VGA Pin Header Definition:**



1*30 PIN LVDS Connector Pin Definition:

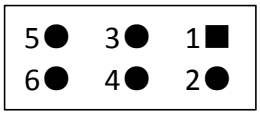


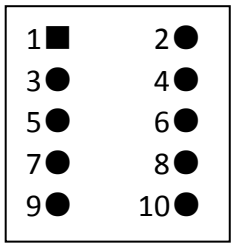
Backlight Power Interface Definition:



Working voltage selects pin(VCC_SEL):

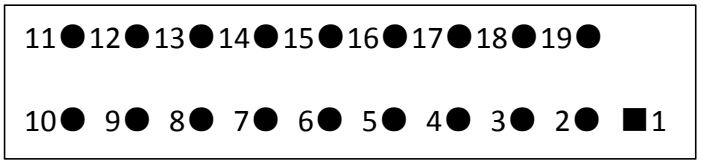
Pin	Define
1-2	3.3V
3-4	5V
5-6	12V



USB2.0 Description	
Interface Type	USB2.0/1.1 interface
Rear interface	2
Front pin	USB PIN Definition： 1. VCC 2. VCC 3. DATA0- 4. DATA1- 5. DATA0+ 6. DATA1+ 7. GND 8. GND 9. NC(CUT) 10. GND 
Interface&Pin Type	2*5Pin header/2.54mm

USB3.0 Description	
Interface Type	USB3.0 Interface
Rear interface	2
Front pin	

Pin#	Signal	Pin#	Signal
1	USB3.0_VCC	20	NC
2	USB3_RX4N	19	USB3.0_VCC
3	USB3_RX4P	18	USB3_RX3N
4	GND	17	USB3_RX3P
5	USB3_TX4N	16	GND
6	USB3_TX4P	15	USB3_TX3N
7	GND	14	USB3_TX3P
8	USBPN3	13	GND
9	USBPP3	12	USBPN2
10	NC	11	USBPP2



Hard Disk Interface Description	
Interface Type	1*SATA3.0 Port
HDD Power Supply Interface definition (SATA PWR)	

Pin#	Signal
1	12V
2	GND
3	GND
4	5V

COM Description

COM Function

6*COM.
The first 9 pin of COM1/2 can change the jumper cap setting through JCOM1/JCOM2,and selecting the ninth pin to output + 5V or + 12V voltage.

JPCOM1	The first 9 pin of COM1 (Charged)
1-2	5V
3-4	12V
5-6	Normal

JPCOM2	The first 9 pin of COM2 (Charged)
1-2	5V
3-4	12V
5-6	Normal

COM1/2 Pin definition

Full signals RS232,2* 5PIN (Standard RS232):

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	

COM 3-6 Pin definition

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

Power Supply Type&Mode

YES,it has.

Pin&Interface Type	2*5pin
COM 2-RS485 Setting	

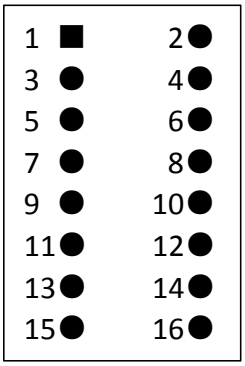
COM2	JP3	JP4	JP5
RS232	1-3 2-4	1-3 2-4	1-2
RS422	3-5 4-6	3-5 4-6	3-4
RS485	3-5 4-6	3-5 4-6	5-6

COM2	PIN	COM2
RS485	1(TXD) 2(RXD)	RS485
RS422	1(TXD-) 2(TXD+) 3(RXD+) 4(RXD-)	RS422

HDMI Pin Description

Pin Definition

Pin#	Signal	Pin#	Signal
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



Other On-board Pins Description

Front panel

Definition:

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	

HDD Active LED：1，3　　Power Button：　6，8
Power　LED：2，4　　Reset Button：　5，7

Pin Type	2.54mm /2*5Pin

<table>
<tr><td>BKLT - CTRL,
LVDS Brightness Adjustment Definition</td><td>
<table>
<tr><th>Pin#</th><th>Signal</th></tr>
<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>
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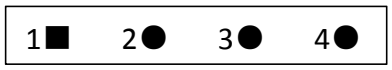
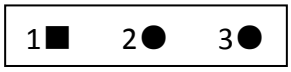
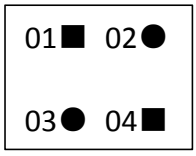


</td></tr>
<tr><td>Clear CMOS</td><td>Clear-CMOS jump wire & definition:
<table>
<tr><td>Pin</td><td>NA</td><td>Short</td></tr>
<tr><td>Define</td><td>Normal</td><td>Clear CMOS</td></tr>
</table>


</td></tr>
<tr><td>CPU-FAN Quantity</td><td>2 Pcs.</td></tr>
<tr><td>“Power ON” Pin AUIO-SW</td><td>Definition:
<table>
<tr><td>Pin</td><td>1-2</td><td>2-3</td></tr>
<tr><td>Define</td><td>Normal</td><td>Power ON</td></tr>
</table>


</td></tr>
<tr><td>Power Supply Interface(4 Pins)</td><td>1/2 GND
3/4 12V/19V


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