

Manual for Q3215UG4 Nano Motherboard v1.0

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I、 Product Description

1. Brief Introduction

Q3215UG4 is a 3.5 inch Mini-ITX motherboard designed based on the Intel Haswell/Broadwell Platform, with the size of 148mm x104mm.

2. Version Specification

Version NO.	Motherboard NO.	QTY of Network Card	QTY of USB Ports
V1.0	Q3XXG4-P V1.0	4	4

3. Characteristics & Performances

1) Great reliability

With the adoption of the Haswell/Broadwell ultra-low power consumption processor and switching mode power supply, Q3215UG4 motherboard can provide stable, sufficient and efficient power. The stability of the motherboard is further guaranteed with the switching mode of power supply applied in memory, too. All of the external devices of the motherboard is composed of some anti-static and jam-proof components which ensured the operation of a stable and efficient system.

2) High Performance

It considerably increases performance of the platform by employing the Haswell/Broadwell chipset of Intel and SATA3.0

3) Full Support of BIOS

Support Diskless booting and Wake on LAN

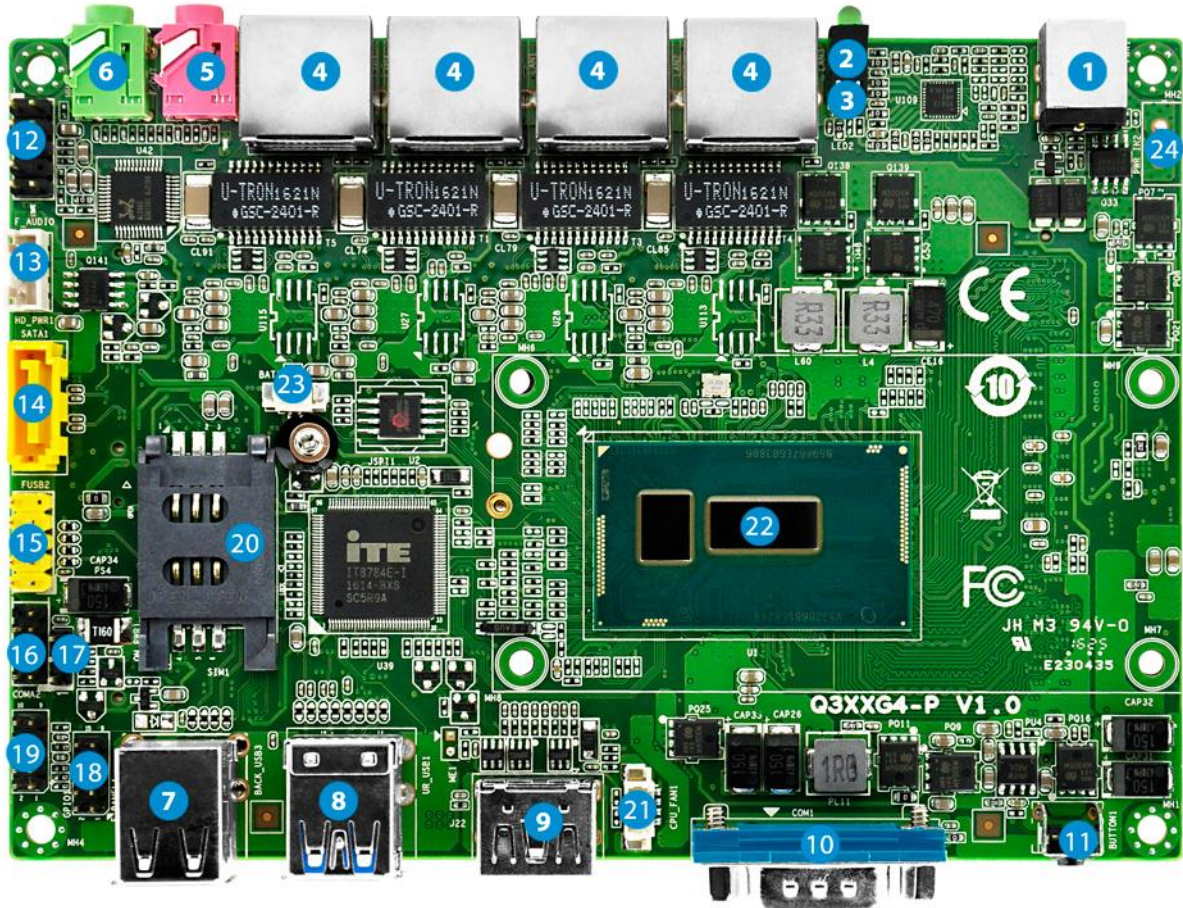
4) Working Condition

Working Temperature : -10°C ~ 50°C

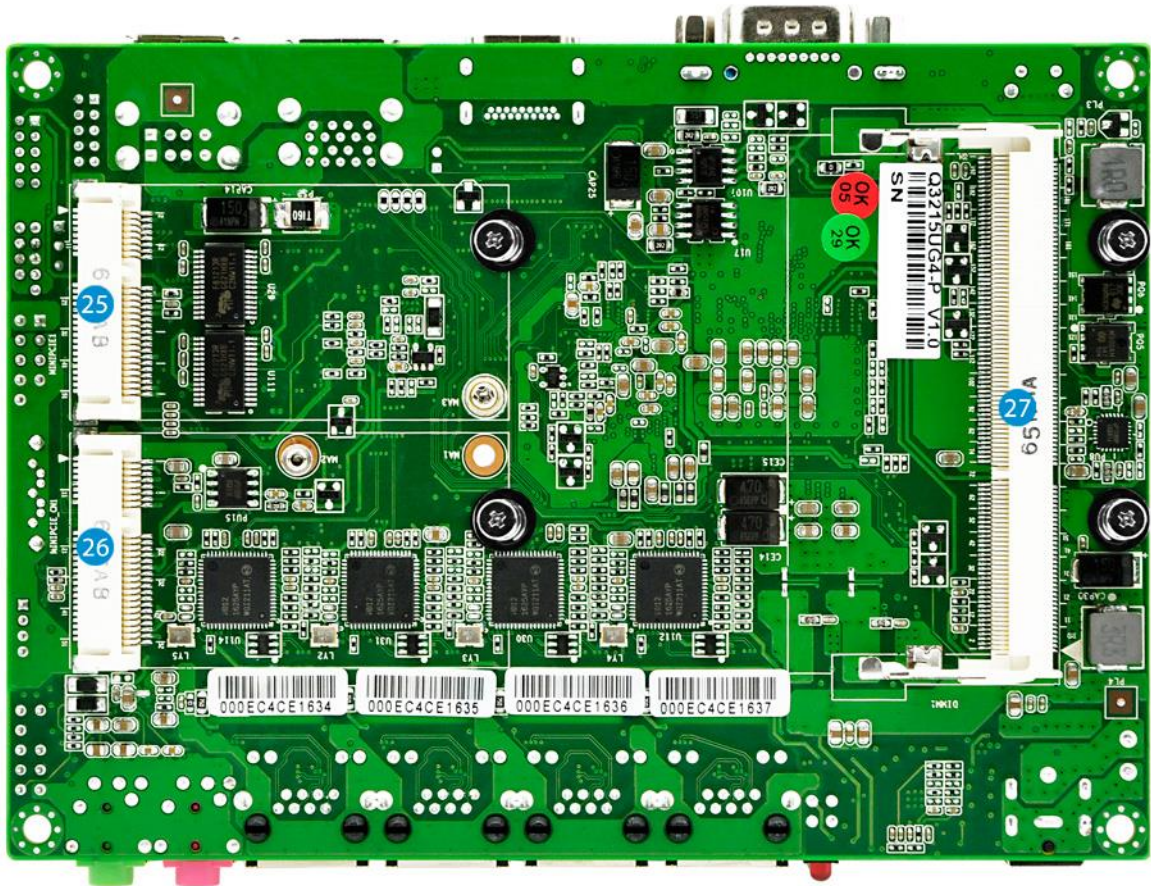
Working Humidity : 5% ~ 95% (Non-gel)

II、 Product Overview

1. Front View



2. Back View



3. Connectors and Headers

Pin#	Description	Signal Name
1	12V DC in connector	PWR1
2	HDD led	LED2
3	Power led	LED2
4	Lan connector	LAN3,LAN2,LAN1,LAN4
5	MIC: Connect to outside microphone	F_MIC
6	(Line out): Connect to outside audio device	F_OUT
7	2* USB 2.0 ports	BACK_USB3
8	2* USB 3.0 ports	UR_USB1
9	HDMI connector	/
10	Serial port	COM1
11	Power button	BUTTON1
12	Front panel audio header	F_AUDIO
13	SATA1 power connector	HD_PWR1

14	SATA1 port	SATA1
15	Front panel USB 2.0 header	FUSB2
16	Serial port expansion header (COM2)	COMA2
17	Automatically boot jumper	ON_PWR1
18	GPIO header	GPIO1
19	Front panel header	F_PANEL1
20	SIM card socket	SIM1
21	CPU fan header	CPU_FAN1
22	Processor (Support HASWELL and BROADWELL)	U1
23	Battery connector	BAT1
24	DC in header (optional)	PWR_IN2
25	Mini PCI Express connector for MSATA SSD	MINIPCIE_CN1
26	Mini PCI Express connector for WIFI,Bluetooth,3G module	MINIPCIE1
27	DDR3L SO-DIMM socket	DIMM1

III、 Detailed Description of Connection Ports

1. Power Input Port

Increased reliability with intensive electrical socket outlet.

12V power supply input. Suitable for power adapter (Internal: the positive pole, external: the negative pole) which has the outside diameter of 5.5mm and inside diameter of 2.5mm.

2. HDD led

Red color.

3. Power led

Green color.

4. 1000M LAN Port

Intel I211 gigabit network, support diskless booting and Wake on LAN.

5. Microphone Input

Universal microphone input port

6. Audi Output Port

Universal audio output port

7. USB 2.0 Ports

Universal USB2.0 port.

8. USB 3.0 Port

USB3.0 port (5.0Gbps, 640MB/s)

9. HDMI Connector

Standard HDMI port

10. Serial port

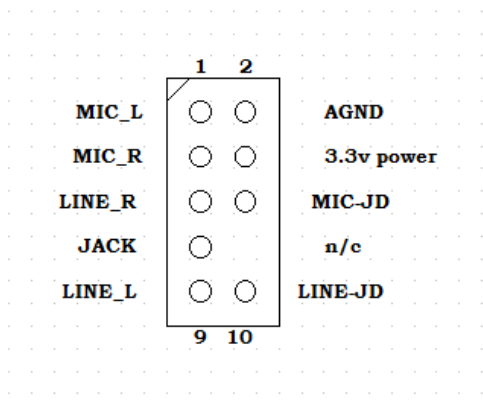
Standard serial port

11. Power Switch

Power switch button

12. Extended Audio Input and Output Pin

For accessing extended audio input and output pin

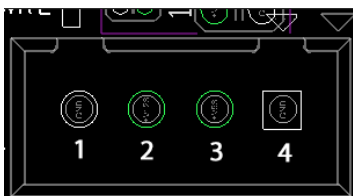


Pin spacing : 2.54mm

13. SATA Power Connector

Special power interface, please ask for matching wire from the distributor.

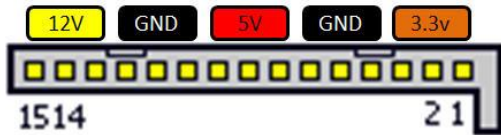
When Power adaptor is 12V, 3.5" HDD can be supported.



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

Pin spacing : 2.0mm

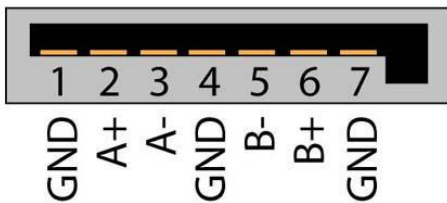
PS : Standard SATA Power Connector Definition



14. SATA 3.0 Port

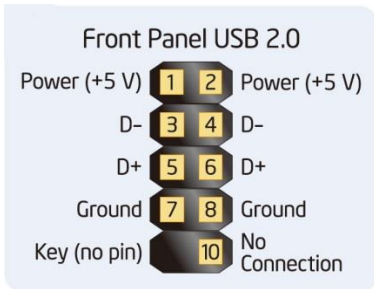
Universal SATA3.0 port

SATA Pinout - Plug



15. Extended USB Pin

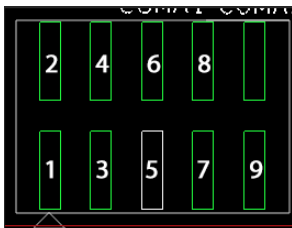
Pin for accessing extended USB2.0.



Pin#	Signal	Pin#	Signal
1	+5V DC	2	+5V DC
3	D-	4	D-
5	D+	6	D+
7	Ground	8	Ground
9	KEY (no pin)	10	No Connect

Pin spacing : 2.54mm

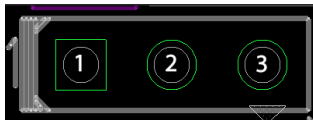
16. Serial port headers (COM2)



Pin#	Signal	Define	Note
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1	DCD	Data Carrier Detect	
2	RXD	Received Data	
3	TXD	Transmitted Data	
4	DTR	Data Terminal Ready	
5	GND	Signal Ground	
6	DSR	Data Send Ready	
7	RTS	Request to Send	
8	CTS	Clear to Send	
9	RI	Ring Indicator	

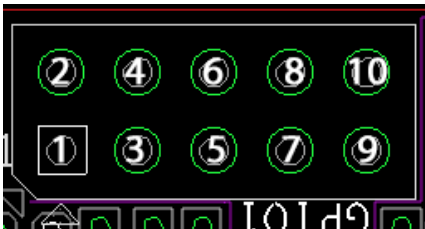
17. Automatically boot jumper



Functions	PIN#
Enable	2-3
Disable	1-2

Pin spacing : 2.54mm

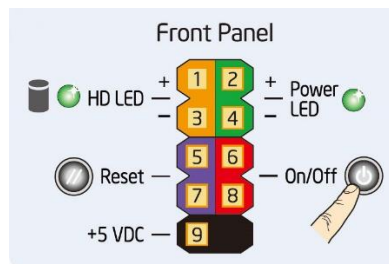
18. GPIO



Pin spacing : 2.0mm **Uncompleted**

19. Extended Pin for External Panel

For accessing the power switch, power LED, HDD LED, reset switch.



Pin spacing : 2.0mm

20. SIM card slot

Coordinate with Item No. 26, the function of 3G/4G can be supported.

21. CPU Fan Header

For connecting fan of the CPU.



Pin#	Signal
1	GND
2	+5V
3	Detection
4	Control

22. Intel Haswell/Broadwell Processor

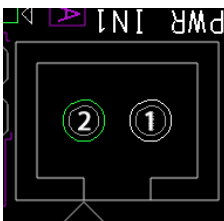
Support Haswell / Broadwell FCBGA1168 processor

23. Battery Slot



Pin#	Signal
1	+
2	-

24. DC in header



Pin#	Signal
1	GND
2	+12V

25. PCI Express Full-Mini Card Slot (For MSATA SSD)

Universal MINI SATA port for accessing MSATA SSD

26. PCI Express Half-Mini Card Slot

- a. Half Mini PCIE port for extending WIFI and Bluetooth
- b. Full Mini PCIE port for extending 3G/4G module.

27. Memory Slot

Only suitable for SO-DIMM of 1333 MHz or 1600 MHz (1.35V) working frequency, maximum 8 GB single-sided module.