GIGAIPC

QBi-4200A (MZAPLAH)
QBi-4200B (MZAPLBH)

10” x 10” Embedded Compact Board
User’s Manual 1st Ed

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Packing List

Before setting up your product, please make sure the following items have been shipped:

Item	Quantity
QBi-4200A/QBi-4200B	1
SATA power cable	1

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

About this Document

This User’s Manual contains all the essential information, such as detailed descriptions and explanations on the product’s hardware and software features (if any), its specifications, dimensions, jumper/connector settings/definitions, and driver installation instructions (if any), to facilitate users in setting up their product.

Users may refer to the GIGAIPC.com for the latest version of this document.

Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references

1. All cautions and warnings on the device should be noted.
2. Make sure the power source matches the power rating of the device.
3. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
4. Always completely disconnect the power before working on the system's hardware.
5. No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.
6. If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.
7. Always disconnect this device from any AC supply before cleaning.
8. While cleaning, use a damp cloth instead of liquid or spray detergents.
9. Make sure the device is installed near a power outlet and is easily accessible.
10. Keep this device away from humidity.
11. Place the device on a solid surface during installation to prevent falls
12. Do not cover the openings on the device to ensure optimal heat dissipation.
13. Watch out for high temperatures when the system is running.

14. Do not touch the heat sink or heat spreader when the system is running

15. Never pour any liquid into the openings. This could cause fire or electric shock.

16. As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.

17. If any of the following situations arises, please the contact our service personnel:
    i. Damaged power cord or plug
    ii. Liquid intrusion to the device
    iii. Exposure to moisture
    iv. Device is not working as expected or in a manner as described in this manual
    v. The device is dropped or damaged
    vi. Any obvious signs of damage displayed on the device

18. DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE CHAPTER 1) TO PREVENT DAMAGE.

FCC Statement

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Caution:

There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

Attention:

Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte.
Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur.
Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

China RoHS Requirements (CN)

产品中有毒有害物质或元素名称及含量
GIGAIPC Main Board/ Daughter Board/ Backplane

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板及其电子组件	○	○	○	○	○	○
外部信号连接器及线材	○	○	○	○	○	○

O：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T 11363-2006 标准规定的限量要求以下。
X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006 标准规定的限量要求。
备注：此产品所标示之环保使用期限，系指在一般正常使用状况下。

China RoHS Requirement (EN)

Poisonous or Hazardous Substances or Elements in Products
GIGAIPC Main Board/ Daughter Board/ Backplane

Component	Poisonous or Hazardous Substances or Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
PCB & Other Components	O	O	O	O	O	○
Wires & Connectors for External Connections	O	O	O	O	O	O

O : The quantity of poisonous or hazardous substances or elements found in each of the component's parts is below the SJ/T 11363-2006-stipulated requirement.
X: The quantity of poisonous or hazardous substances or elements found in at least one of the component's parts is beyond the SJ/T 11363-2006-stipulated requirement.
Note: The Environment Friendly Use Period as labeled on this product is applicable under normal usage only

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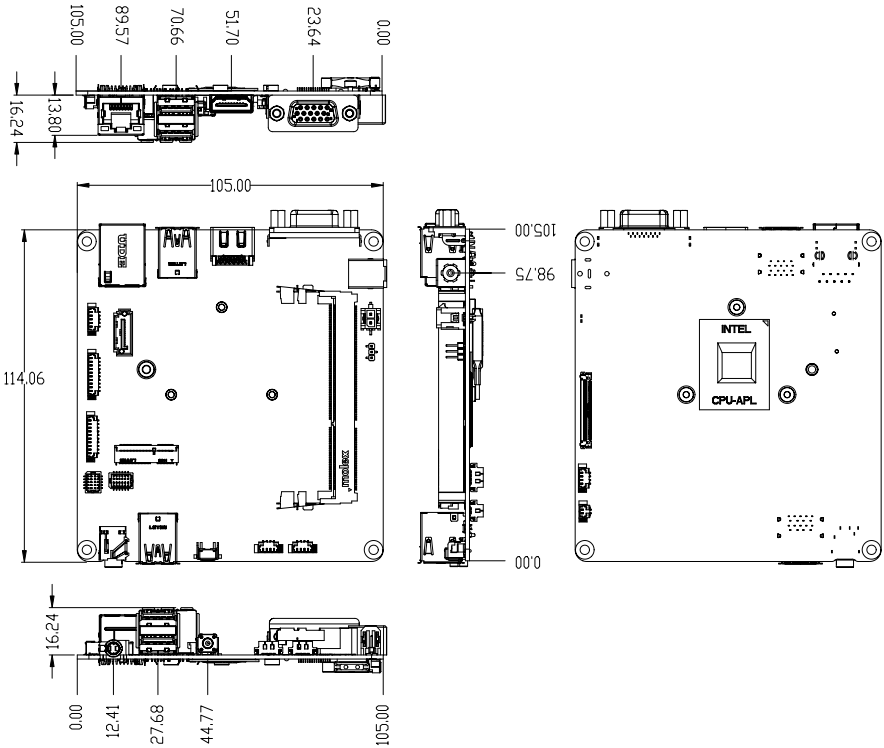
Chapter 1

Chapter1 - Product Specifications
QBi-4200A (MZAPLAH)/
QBi-4200B (MZAPLBH)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INTEL
CPU-APL
16.24
0.00
12.41
27.68
44.77
105.00

1.2 Specifications- QBi-4200A/ QBi-4200B

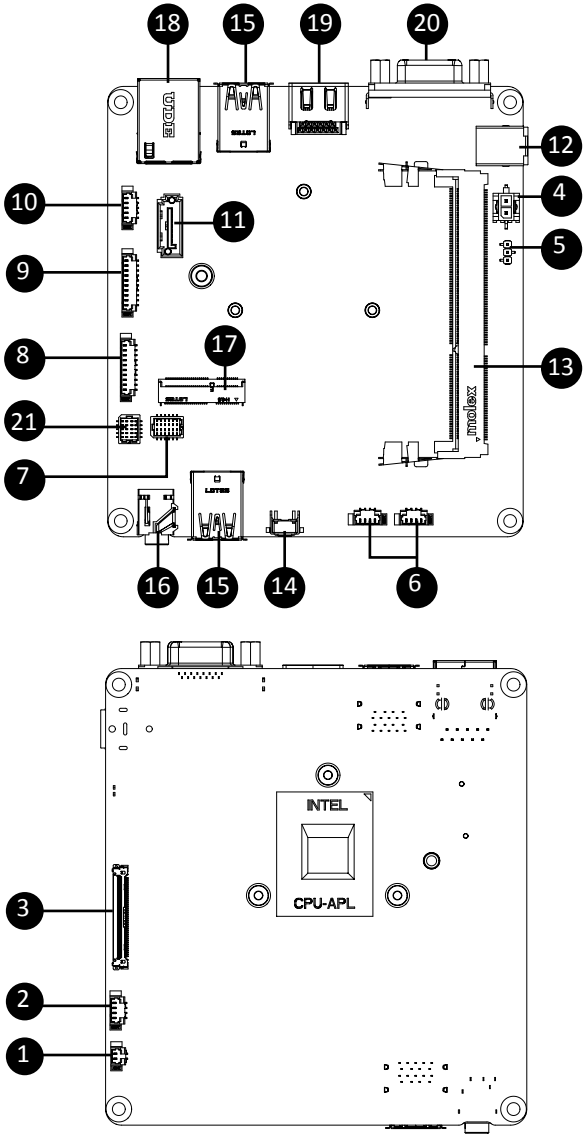
Motherboard	QBi-4200A	QBi-4200B
Form Factor	Embedded Compact Board 105W x 110D mm	
CPU	Intel® Pentium® Processor N4200 14nm, 4 cores, 4 threads 1.10 - 2.50 GHz, TDP 6W 2MB L2 cache	
Socket	1 x FCBGA1296	
Chipset	—	
Memory	1 x DDR3L SO-DIMM socket Max. Capacity 8 GB Support DDR 1866MHz Support for DDR3 1866 MHz memory modules	
Ethernet	1 x GbE LAN port (Realtek® RTL8111HS)	
Video	Integrated Graphics Processor -Intel® HD Graphics 505 1 x HDMI port, supporting a maximum resolution of 3840x2160 @ 30Hz 1 x VGA port: max. resolution 2560 x 1600 at 60Hz (with compatible displays) 1 x eDP port, supporting a maximum resolution of 3840x2160 @ 60Hz	
Audio	Realtek ALC255	
	High Definition Audio	
Storage	1 x eMMC (32GB) 1 x SATA 6Gb/s port	1 x SATA 6Gb/s port
Raid	—	
Expansion Slots	1 x M.2 slot: - E-key - Supports NGFF-2230 (WiFi/BT)	

Motherboard	QBi-4200A	QBi-4200B
Internal I/O	1 x 2 pin power connector 1 x SATA Power connector 1 x SATA 6Gb/s connector 1 x CPU fan header 2 x USB 2.0/1.1 headers 1 x USB3.0 header 1 x COM header (RS232) 1 x LPC header 1 x Front panel header 1 x eDP 1 x SATA Power header	
Front IO	1 x Audio Jack 2 x USB3.0 1 x Power button	
Rear I/O	1 x HDMI 1 x VGA 1 x RJ45 2 x USB3.0	
SideI/O	1 x DC_IN Jack (12~24V)	
TPM	—	
OS Compatibility	Windows 10 (x64)	
PSU Connectors	1 x 12~24V DC-in 1 x 2-pin Box header power connector (12~24V)	
Operating Properties	Operating temperature: 0°C to 60°C Operating humidity: 0-90% (non-condensing) Non-operating temperature: -20°C to 70°C Non-operating humidity: 0%-95% (non-condensing)	
Packaging Content	Box Packing Capacity: 10pcs Carton size: 460x345x203(mm) Content: SATA Power cable 150mm*1 (25CRI-150621-K1R)	
Order Information	Motherboard: 9MZAPLAHNR-SI	Motherboard: 9MZAPLBHMR-SI

Chapter 2

Chapter 2 – Hardware Information

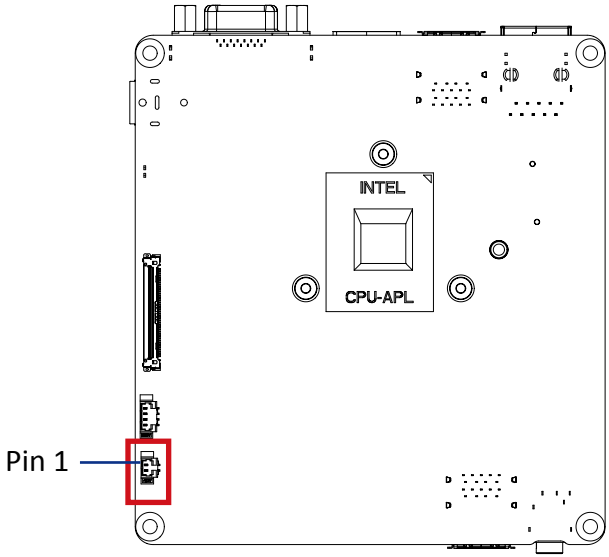
2.1 Jumpers and Connectors

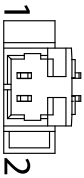


No	Code	Description
1	BATTERY	Battery cable connector
2	CPU_FAN	CPU FAN connector
3	EDP	Embedded Display Port Connector
4	ATX_IN	
5	BKL_SEL	Back light brightness control connector
6	F_USB2_1 F_USB2_2	USB 2.0 header
7	F_PANEL	Front panel connector
8	COM	Serial port connector
9	F_USB3_1	Front USB 3.1 connector
10	SATA_PWR_0	SATA 6Gb/s power connector
11	SATA0	SATA 6Gb/s connector
12	DC_IN	DC In Jack
13	SODIMM	DDR3L SO-DIMM
14	Power Button	
15	USB3_1, USB3_2	USB3.0 Port
16	HP-out	
17	M2E	
18	LAN	GbE LAN Port
19	HDMI	HDMI Port
20	VGA	VGA D-sub Port
21	LPC	LPC Header

2.2.1 BATTERY (Battery cable connector)

1



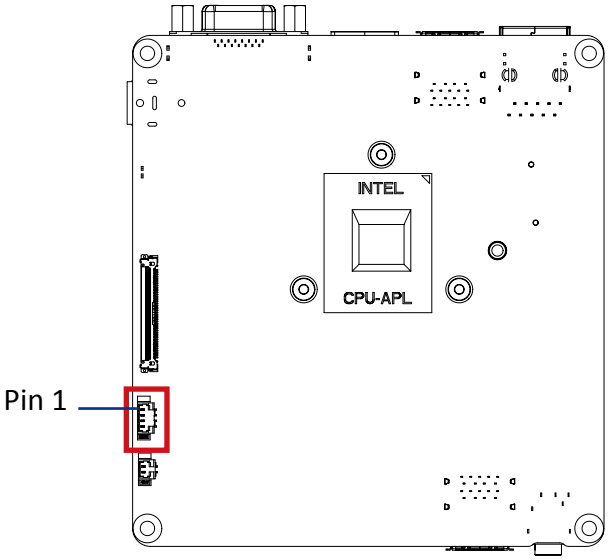
Battery Cable Connector


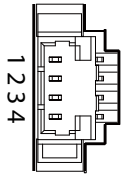
Connector PN	Vendor
85205-0270L	ACES
A1250WV-S-02PC	JOINT-TECH

Pin No.	Definition
1	3.3V
2	GND

2.2.2 CPU FAN (CPU FAN connector)

❷



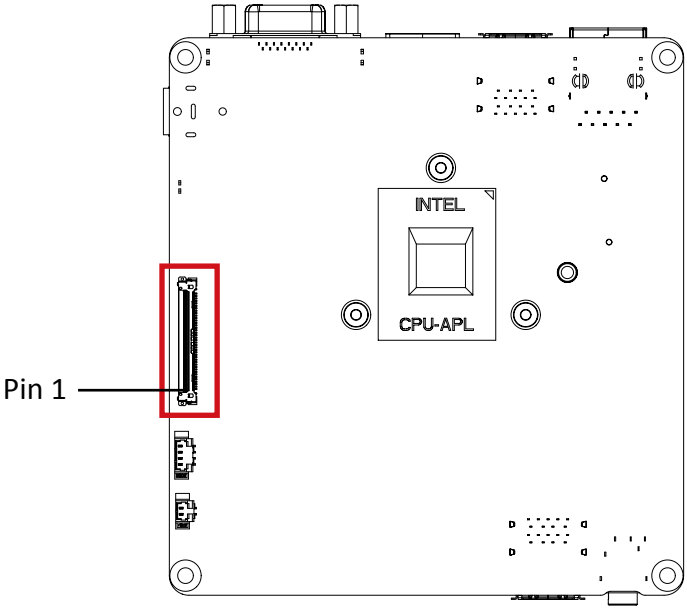
CPU FAN connector


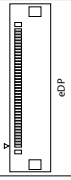
Connector PN	Vendor
85205-0470N	ACES
A1250WV-S-04PC	JOINT-TECH

Pin No.	Definition
1	GND
2	5V
3	Detect
4	Speed Control

2.2.3 EDP (Embedded Display Port Connector)

❸



Embedded Display Port connector


Pin No.	Definition	Pin No.	Definition
1	NC	21	+LCD_VCC (5V)
2	GND	22	NC
3	EDP_LANN3	23	GND
4	EDP_LANP3	24	GND
5	GND	25	GND
6	EDP_LANN2	26	GND
7	EDP_LANP2	27	EDP_HPD_3V3
8	GND	28	GND
9	EDP_LANN1	29	GND
10	EDP_LANP1	30	GND
11	GND	31	GND
12	EDP_LANN0	32	EDP_BKLTEN_3V3

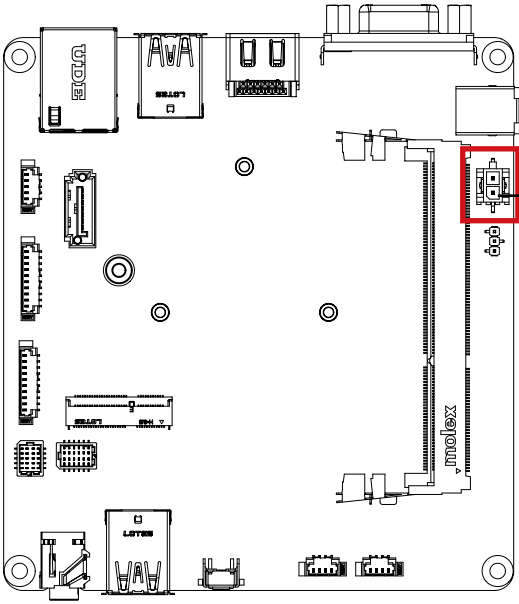
Pin No.	Definition	Pin No.	Definition
13	EDP_LANP0	33	EDP_BKLCTL_3V3
14	GND	34	NC
15	EDP_AUX_C_DP	35	NC
16	EDP_AUX_C_DN	36	+BL_PWR (10V or DCIN)
17	GND	37	+BL_PWR (10V or DCIN)
18	+LCD_VCC (5V)	38	+BL_PWR (10V or DCIN)
19	+LCD_VCC (5V)	39	+BL_PWR (10V or DCIN)
20	+LCD_VCC (5V)	40	NC

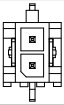
Note: Please ensure pin 8 is connected to Ground.

Connector PN	Vendor
20455-040E-12	I-PEX

2.2.4 ATX IN

4



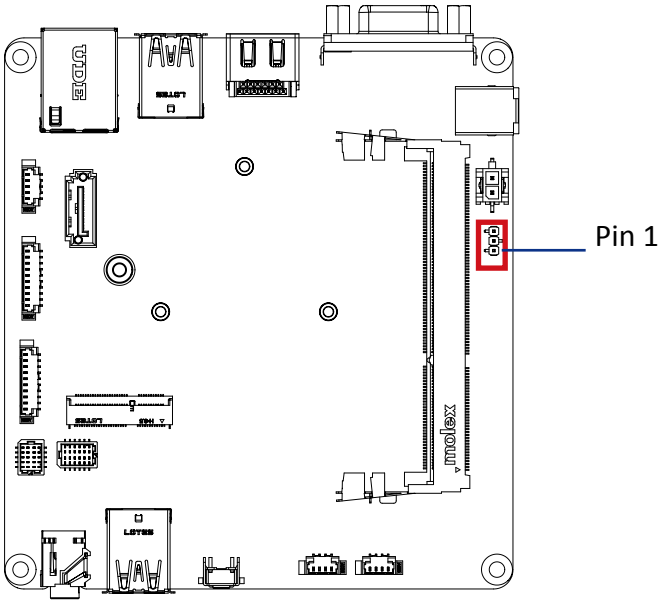
ATX IN
 DCVIN GND (Pin1)

Pin No.	Definition
1	GND
2	DCVIN

Connector PN	Vendor
99-01740-B004-A	TCONN

2.2.5 BKL_SEL (Back light brightness control connector)

5



Back light brightness control connector
3 2 1

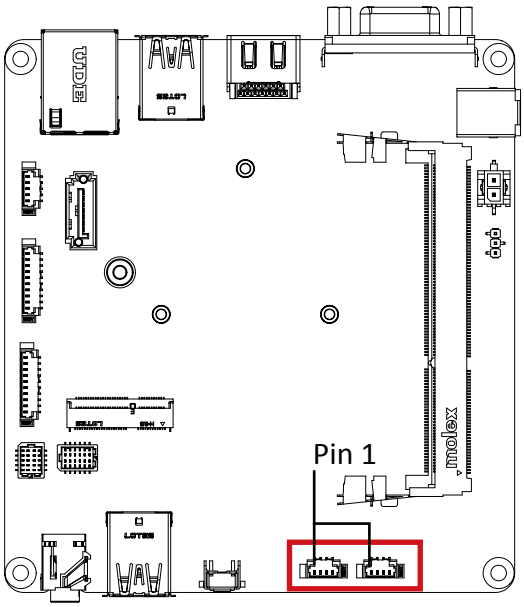
Pin No.	Definition
1	VIN
2	+BL_PWR_Q
3	VIN_10V

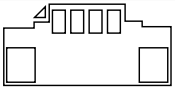
Connector PN	Vendor
222-96-03GBE1	PINREX
PH03N33BAAA00	HORNGTONG

Jumper	
DCIN(12V-24V)	1-2
10V Fix	2-3 (Default)

2.2.6 F_USB2_1, F_USB2_2 (USB 2.0 header)

❻



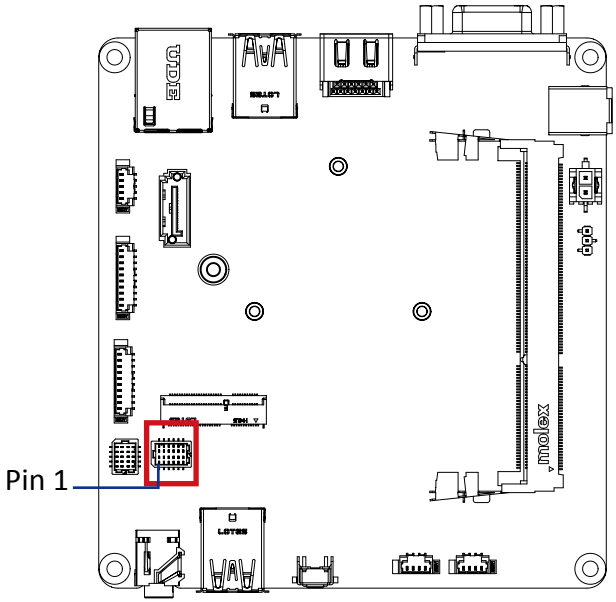
USB 2.0 Header

F_USB2.0

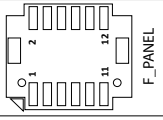
Pin No.	Definition
1	VCC
2	D-
3	D+
4	GND

Connector PN	Vendor
A1250WV-S-04PNLBT1T00L	JOINT-TECH
50273-0047N-001	ACES

2.2.7 F_PANEL (Front panel header)

7



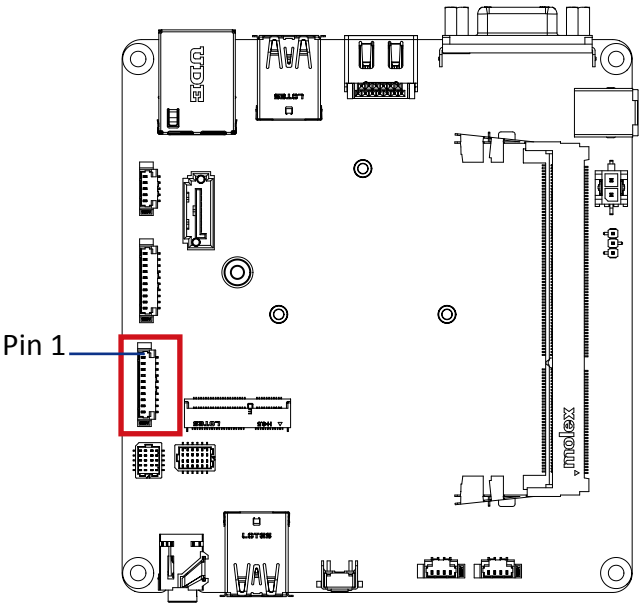
Front Panel Connector


Pin No.	Definition
1	SATA_LED_P
2	MPD_+
3	GND (SATA_LEN_N)
4	MPD-
5	GND
6	-PANSHW (Power BTN)
7	PMU_RSTBTN_N (Reset BTN)
8	GND
9	+V5S
10	+V3.3A
11	+V5A
12	NC

Connector PN	Vendor
87216-1206-06	ACES

2.2.8 COM (Serial port header)

8



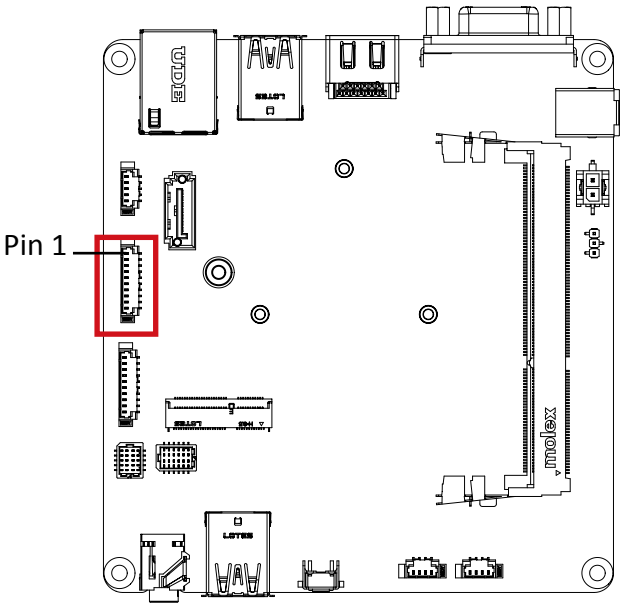
Serial Port Cable Connector

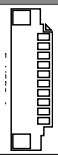
Pin No.	Definition
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI
10	NC

Connector PN	Vendor
DF13C-10P-1.25V(51)	HRS
85205-10701	ACES

2.2.9 F_USB3_1 (Front USB 3.0 connector)

9



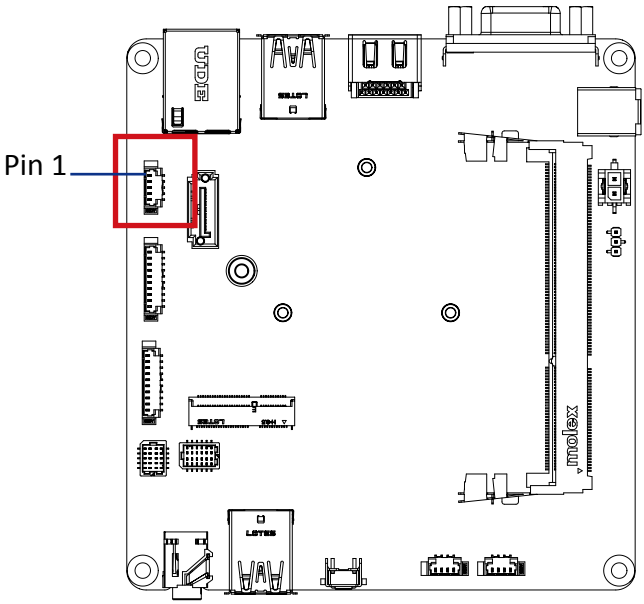
USB 3.0 connector


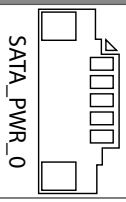
Pin No.	Definition
1	VCC
2	D-
3	D+
4	GND
5	TXN
6	TXP
7	GND
8	RXN
9	RXP
10	NC

Connector PN	Vendor
DF13C-10P-1.25V(51)	HRS
85205-10701	ACES

2.2.10 SATA_PWR_0 (SATA 6Gb/s power connector)

10



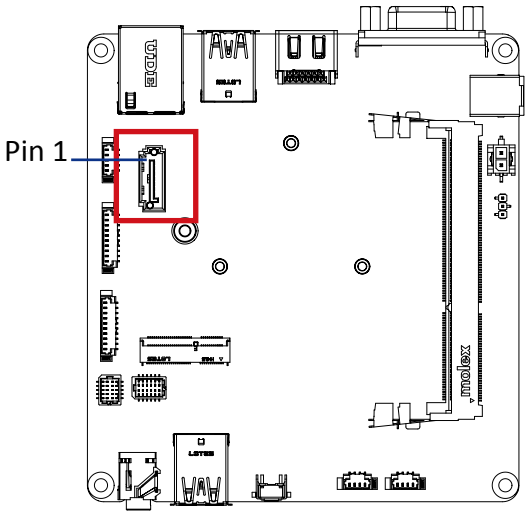
SATA 6Gb/s power connector


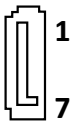
Connector PN	Vendor
85205-0570N	ACES
CI4405M1VRP-LF	CVILUX

Pin No.	Definition
1	+V5S
2	+V5S
3	+V3.3S
4	GND
5	GND

2.2.11 SATA0 (SATA 6Gb/s connector)

11



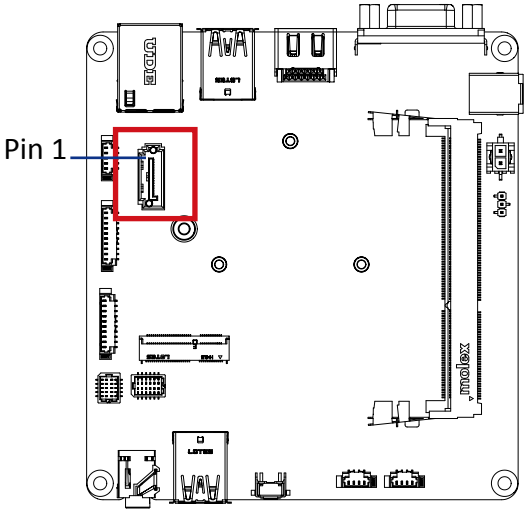
SATA 6Gb/s power connector


Connector PN	Vendor
WATF-07DBLBA1UW	WINWIN

Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

2.2.11 SATA0 (SATA 6Gb/s connector)

11



TPM Module Connector

Pin No.	Definition
1	LPCCLK
2	3VDUAL
3	TPM RST
4	VCC3
5	LAD0
6	IRQ_SERIAL
7	LAD1
8	TPM_DET
9	LAD2
10	NC

Pin No.	Definition
11	LAD3
12	GND
13	LFRAME
14	GND

Connector PN	Vendor
52M-90-14GBE7	PINREX