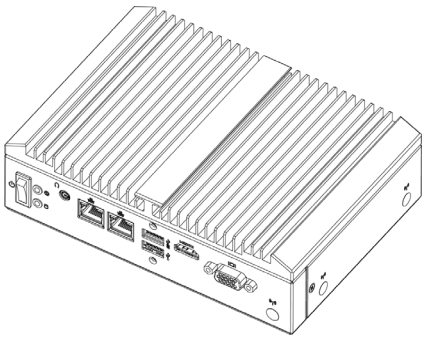
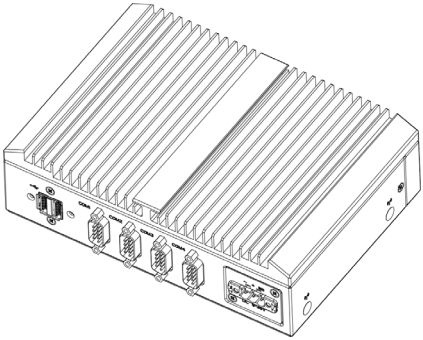
QBiX-Pro-BYTA1900H-A1 (QP-1900A-SI)

QBiX-Pro Industrial Embedded System
Quick Start Guide





Copyright Notice

Acknowledgement

Packing List

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

Item	Quantity
System kit	1
HDD screw, M3 x 8L	4
FFC SATA Cable	1
Dehydrate (10G)	1
Thermal pad for HDD	2

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.

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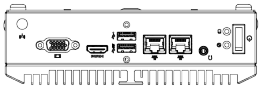
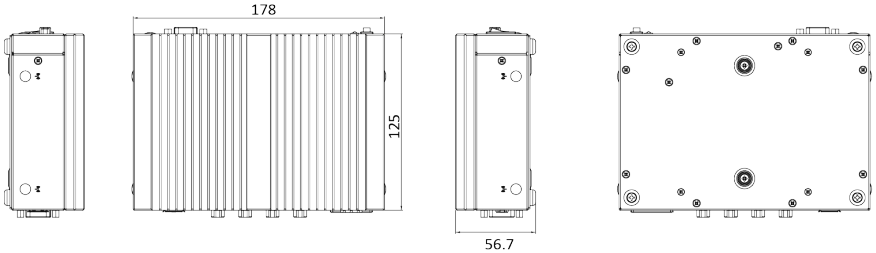
Chapter 1

Chapter 1 - Product Specifications

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125
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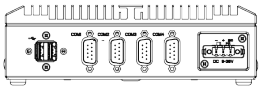
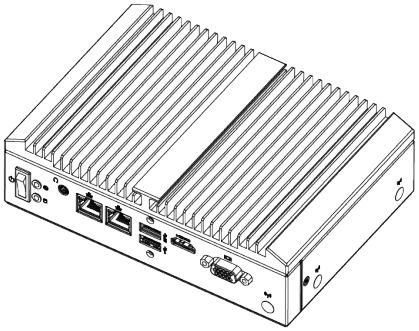
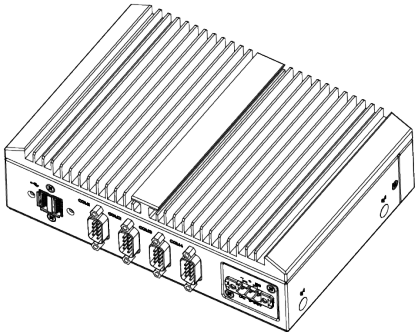






1.1 Specifications

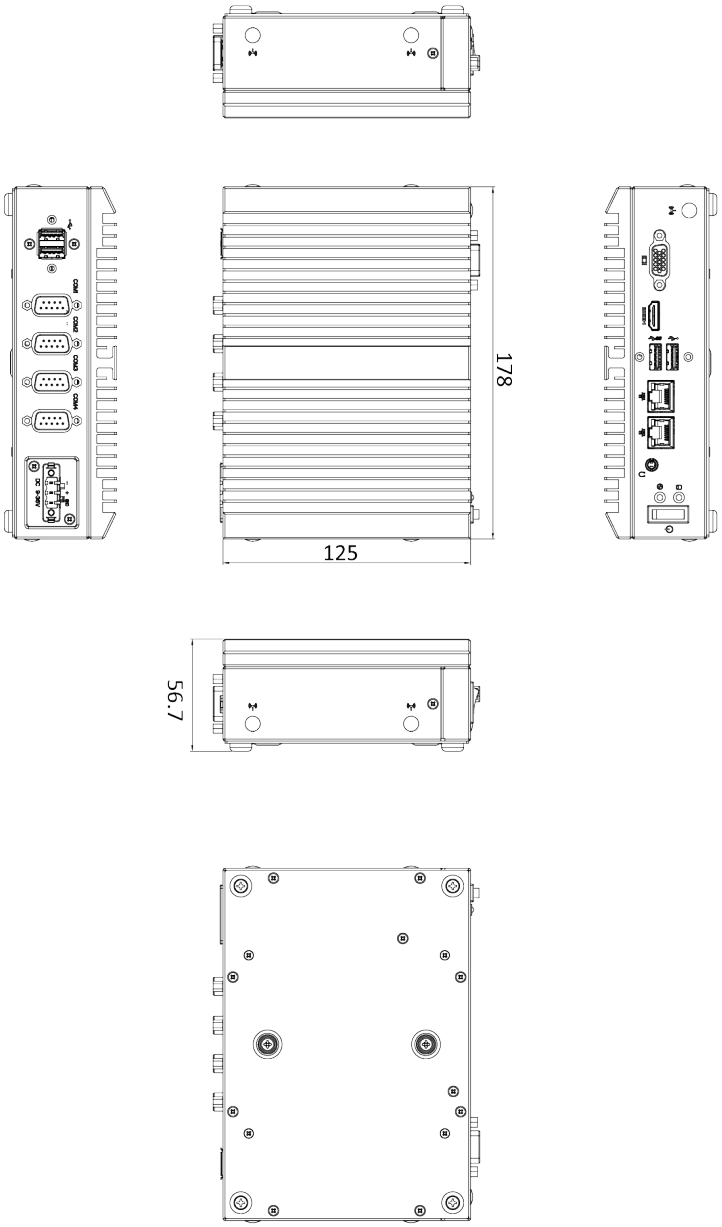
System	QBiX-Pro-BYTA1900H-A1 (QP-1900A-SI)
Dimension	System Size : 178W x 125D x 52.7H (mm)
CPU	Intel® Celeron® J1900 Processor 22nm, 4 cores, 4 threads, up to 2.42 GHz TDP 10W 2MB L2 cache
Chipset	SoC
Memory	1 x DDR3L SO-DIMM sockets, Max. Capacity 8 GB Support Single Channel DDR3L 1333MHz memory modules
Ethernet	2 x GbE LAN Ports (Intel® I211AT)
Graphic support	Integrated Graphics Processor -Intel® HD Graphics 500 1 x HDMI port, supporting a maximum resolution of 1920x1200 @60Hz 1 x D-Sub port, supporting a maximum resolution of 2560x1600 @60Hz (with compatible displays) (2 independent display outputs)
Audio	Realtek® Audio Codec
Storage	1 x 2.5” HDD/SSD (SATA 3Gb/s)
Expansion Slots	1 x 2280 M.2 M-Key (SATA 3Gb/s) 1 x Full-size Mini PCIe with SIM slot (PCIe x1 + USB2.0) -- support 3G/4G module
Front I/O	2 x RJ45 LAN Ports 1 x USB 3.2 Gen 1 1 x USB 2.0 1 x HDMI 1 x VGA 1 x Power switch 1 x Power & HDD LED 1 x Headphone Jack
Rear I/O	2 x USB 2.0 2 x COM Ports (RS-232) 1 x COM Port (RS-232/422/485) 1 x COM Port (RS-232/422/485 & RI/5V/12V) 1 x 3-pin Terminal Block
Side I/O	2 x External Antenna Holes (Optional)

System	QBiX-Pro-BYTA1900H-A1 (QP-1900A-SI)
Power	+9V~36VDC (Full Range)
Operation temperature	Operating temperature: 0°C to 50°C Operating humidity: 0-90% (non-condensing) Non-operating temperature: -20°C to 70°C Non-operating humidity: 0%-95% (non-condensing) Use wide temperature range memory and storage
Vibration During Operation	Operation: IEC 60068-2-64, 5 Grms, random, 5 ~ 500 Hz, 1 hr / Per Axis, With SSD/M.2 2242 Non-operation: IEC 60068-2-6, 2 G, Sine, 10 ~ 500 Hz, 1 Oct/ min, 1 hr / Per Axis
Shock During Operation	Operation: IEC 60068-2-27, 50 G, half sine, 11 ms duration, with SSD

Chapter 2

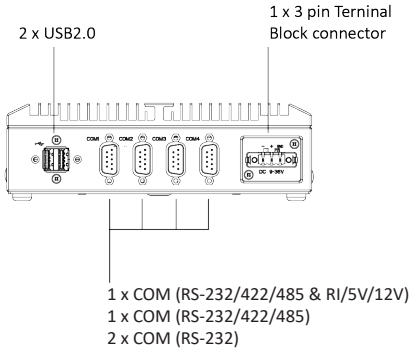
Chapter 2 – QBiX-Pro-BYTA1900H-A1 (QP-1900A-SI)
Industrial Embedded System Kit

2.1 Dimension

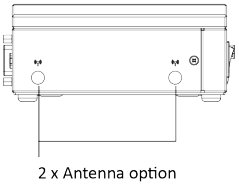


2.2 Getting Familiar with Your Unit

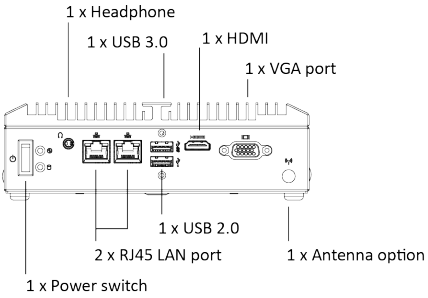
[Front Side]



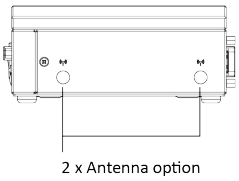
[Left Side]



[Rear Side]

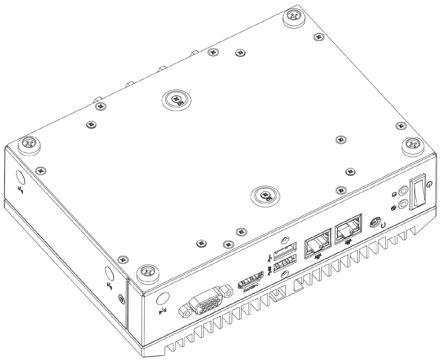


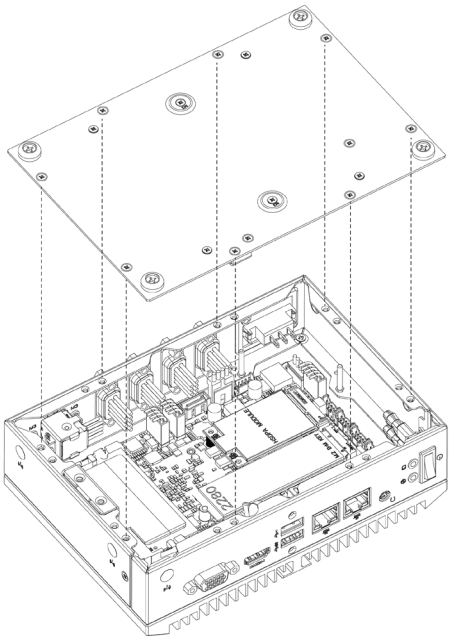
[Right Side]



[Install]

* Before opening the case, make sure to unplug the power cord.
* 打開機殼前，請確實移除電源。
* Before Connecting the power, make sure to fasten the case securely.
* 接上電源前，請確實將機殼完整鎖附。

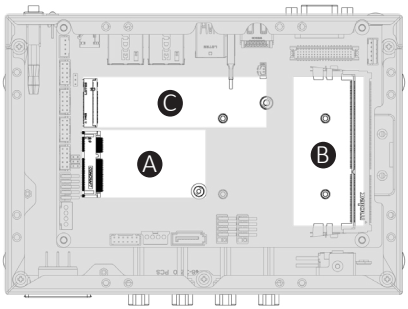


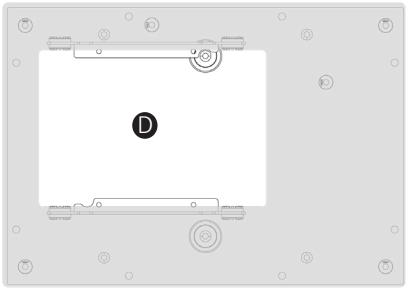


[Bottom PCB Side]

	Information
A	Mini-PCIe slot (PCIe x1+USB2.0) with SIM Slot
B	1 x DDR3L SO-DIMM 1333 MHz sockets, Max. Capacity 8 GB

	Information
C	1 x M.2 slot (Support NGFF-2280 SATA)
D	2.5'' Hard drive/SSD



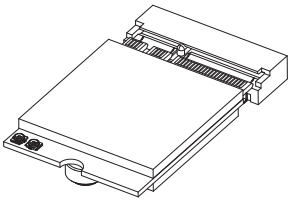


2.3 A) Wireless Module: How to safely install the Module (Wireless Module inclusion may vary based on local distribution)

1

Carefully insert the wireless module into the M.2 slot

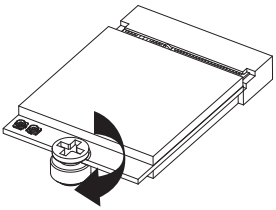
小心地將無線模組安裝於M.2插槽中。



2

Lock the screw in the middle.

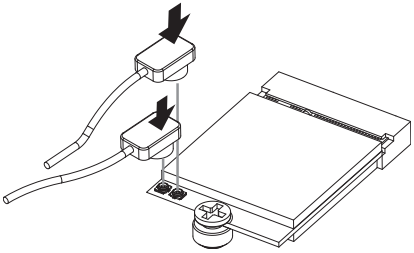
鎖入固定於無線模組中央頂端的螺絲。



3

Install the antenna on the left side of the connection wireless module down.

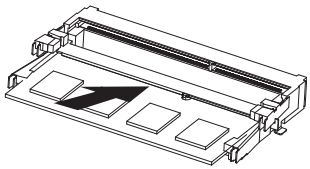
向下安裝連結於無線模組左側頂端天線。



2.4 B) Memory Installation: DDR3L SO-DIMM

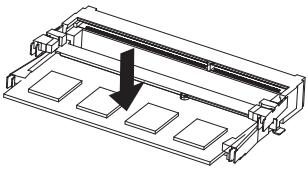
1

Carefully insert SO-DIMM memory modules.
小心地由下至上將 SO-DIMM 記憶體安裝於記憶體插槽。



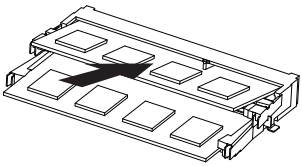
2

Push down until the modules click into place.
當記憶體固定於插槽後，再輕輕下壓至定點。



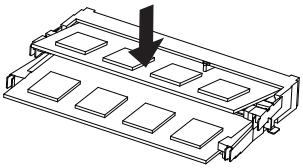
3

Carefully insert SO-DIMM memory modules.
安裝下層記憶體後，重覆前述動作安裝上層記憶體。



4

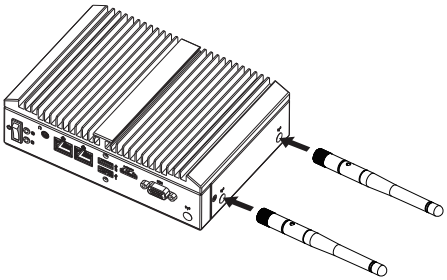
Push down until the modules click into place.
當記憶體固定於插槽後，再輕輕下壓至定點。



2.5 Antenna Installation (Antenna inclusion may vary based on local distribution)

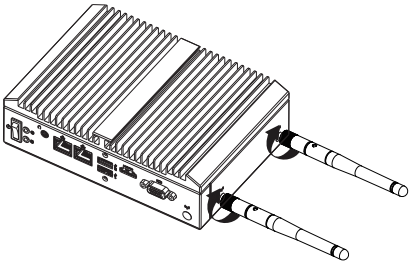
1

Carefully insert the antennas into the connectors.
小心地將天線插入天線插孔中。



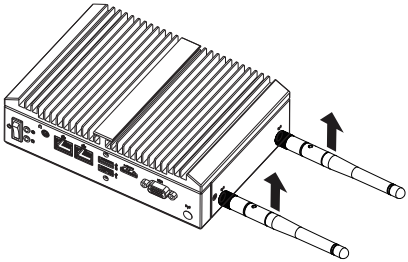
2

Turn the antennas clockwise until they are completely secure on the connectors.
握住天線接頭底端，按順時針方向將天線旋入插孔中牢牢固定。



3

Flip up the antenna heads so that they are perpendicular to the machine.
栓緊後請將天線拉起朝上呈垂直狀。



2.7 Support

- For a list of tested memory, M.2, 2.5'' SSD, wireless adapters and OS supported, go to: http://www.gigaipc.com
- To download the latest drivers and BIOS updates, go to: http://www.gigaipc.com
- For product support, go to: http://www.gigaipc.com

2.8 Safety and Regulatory Information

Risk of explosion if the battery is replaced with an incorrect type. Batteries should be recycled where possible.
Disposal of used Batteries must be in accordance with local environmental regulations.
Failure to use the included Power Adapter may violate regulatory compliance and may expose the user to safety
hazards.

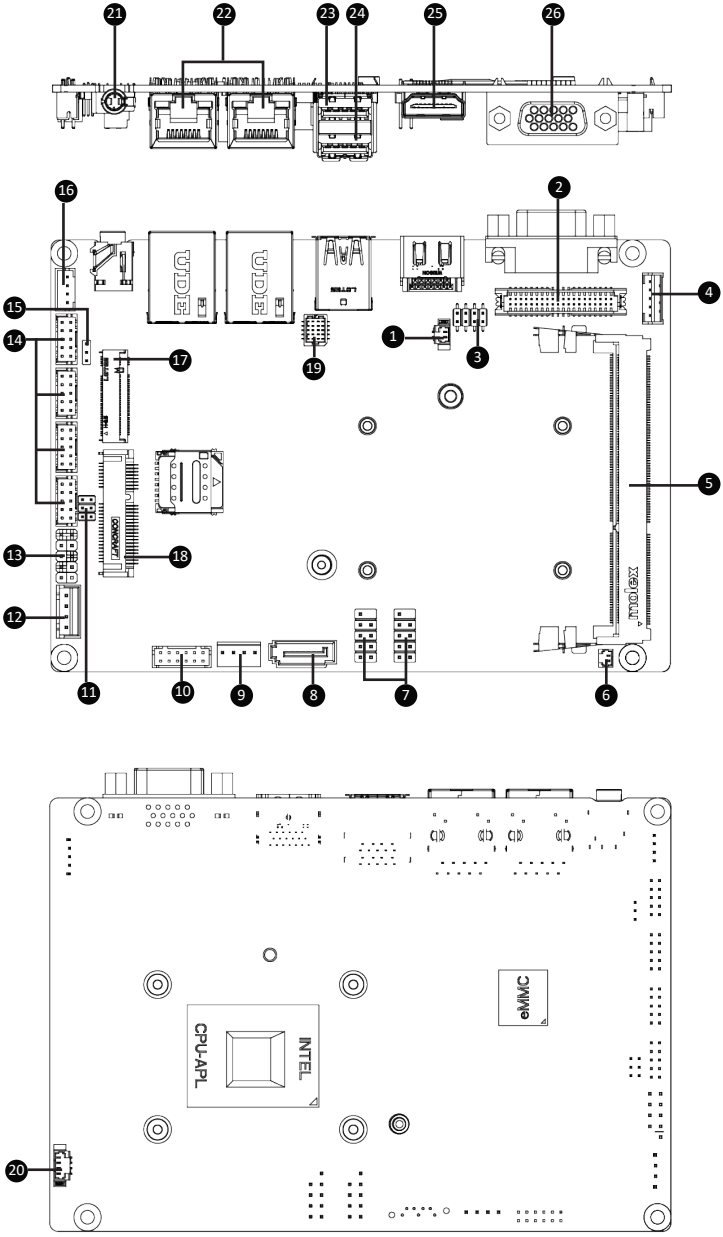
HIGH DEFINITION MULTIMEDIA INTERFACE

At the end of its serviceable life, this product should not be treated as household or general waste. It should be handed over to the applicable collection point for the recycling of electrical and electronic equipment, or returned to the supplier for disposal.

Chapter 3

Chapter 3 – Hardware Information

3.1 Jumpers and Connectors

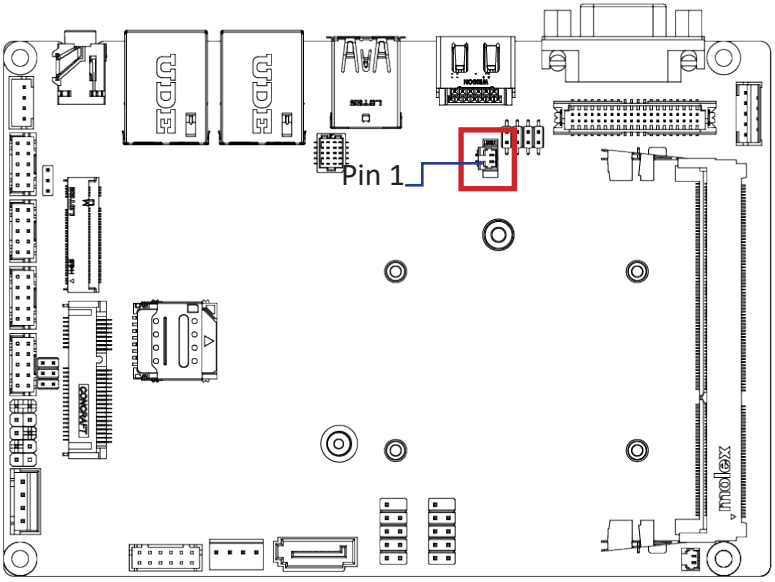


	Code	Description
1	Battery	Battery
2	LVDS	LVDS connector
3	LSW	LVDS resolution jumper
4	BKL_CN	Backlight brightness control connector
5	SODIMM	DDR3L SO-DIMM
6	BUZZER	
7	FUSB20_1 FUSB20_2	USB 2.0 header x 2
8	SATA	SATA 3GB/s Connector
9	SATAPW	SATA Power Connector
10	GPIO_CNT	General Purpose input/output header
11	JCOM11	RI# pin RI#/5V/12V Select jumper for COM1 port
12	DC_IN	DC IN 1x4pin power connector
13	SYS_PANEL	Front panel header
14	COM1 COM2 COM3 COM4	Serial port header COM1 : RS-232/422/485 & RI/5V/12V COM2 : RS-232/422/485 COM3, COM4 : RS-232
15	AT_CN	AT/ATX power mode select jumper
16	SPK_OUT	Speaker out connector
17	M2M	M.2 Slot, SATA, NGFF2280
18	MPCIE	Mini PCIe full size, support 3G/4G module
19	LPC_CN	LPC Connector

	Code	Description
20	**FAN**	**FAN Connector**
21	**HP**	**Audio out Connector**
22	**LAN1, LAN2**	**LAN Connectors**
23	**RUSB1**	**USB3.0 Connector**
24	**RUSB2**	**USB2.0 Connector**
25	**HDMI**	**HDMI Connector**
26	**VGA**	**D-Sub VGA Port**

3.2.1 BATTERY

1



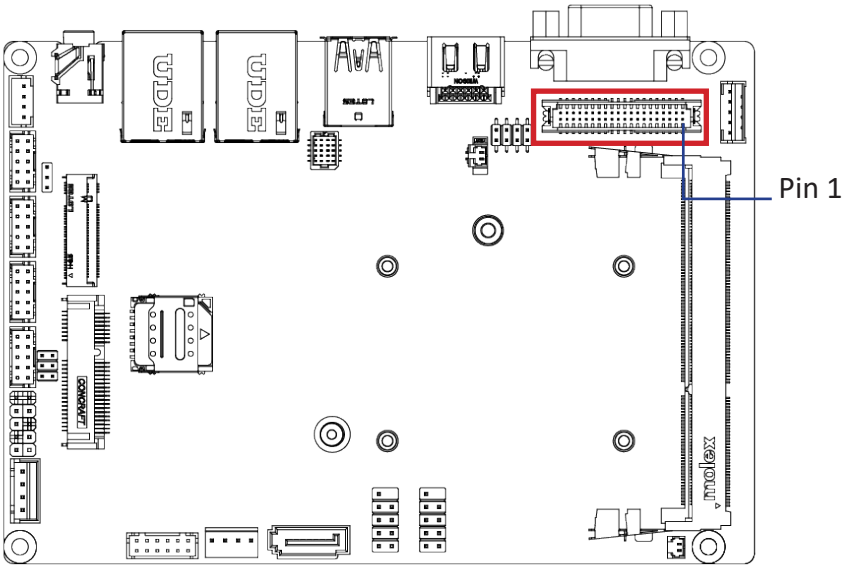
Battery Cable Connector


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

Pin No.	Definition
1	3.3V
2	GND

3.2.2 LVDS (LVDS connector)

2



LVDS Connector

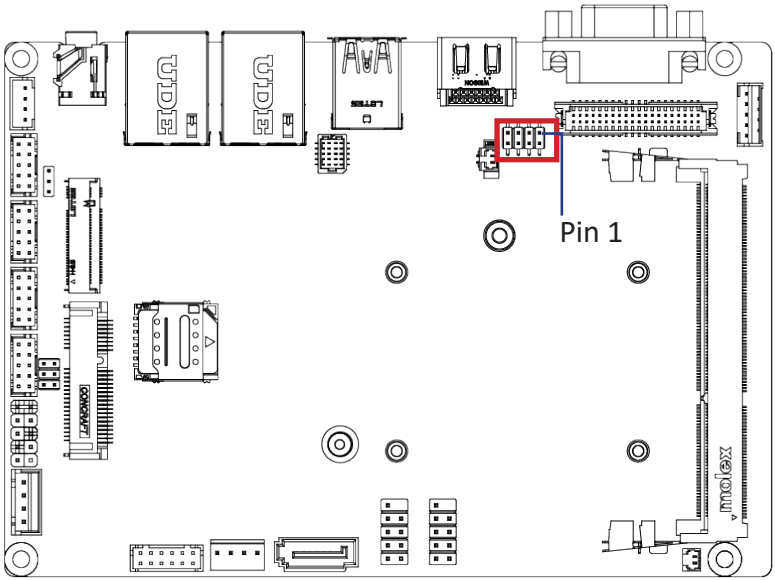

Pin No.	Definition	Pin No.	Definition
17	A3-	37	GND
18	A2-	38	GND
19	GND	39	12V
20	GND	40	12V

Pin No.	Definition	Pin No.	Definition
1	3.3V	21	A5+
2	5V	22	A4+
3	3.3V	23	A5-
4	5V	24	A4-
5	SPEC0	25	GND
6	SPED0	26	GND
7	GND	27	A7+
8	GND	28	A6+
9	A1+	29	A7-
10	A0+	30	A6-
11	A1-	31	GND
12	A0-	32	GND
13	GND	33	CLK2+
14	GND	34	CLK1+
15	A3+	35	CLK2-
16	A2+	36	CLK1-

Connector PN	Vendor
712-76-40GWE0	PINREX
A1252WV-SF-2X20PD01	JOINT-TECH

3.2.3 LSW (LVDS resolution jumper)

3

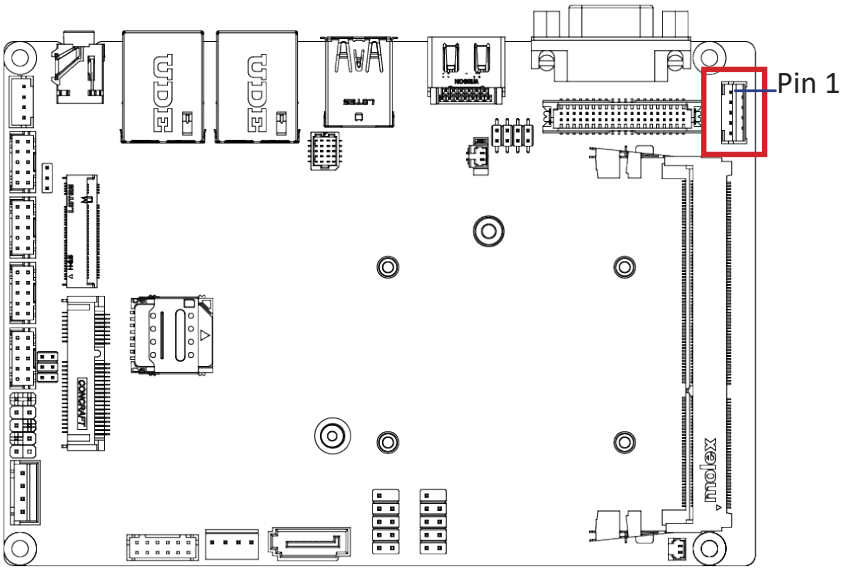


LVDS Resolution Jummper			
Jumper Setting	Resolution	Jumper Setting	Resolution
	800 x 600 18bit		1366 x 768 24bit
	1024 x 768 18bit		1440 x 900 24bit
	1024 x 768 24bit		1400 x 1050 24bit
	1024 x 600 18bit		1600 x 900 24bit
	1280 x 800 18bit		1680 x 1050 24bit
	1280 x 960 18bit		1600 x 1200 24bit
	1280 x 1024 24bit		1920 x 1080 24bit
	1366 x 768 18bit		1920 x 1200 24bit

Connector PN	Vendor
222-97-04GBE1	PINREX

3.2.4 BKL_CN (Backlight brightness control connector)

4



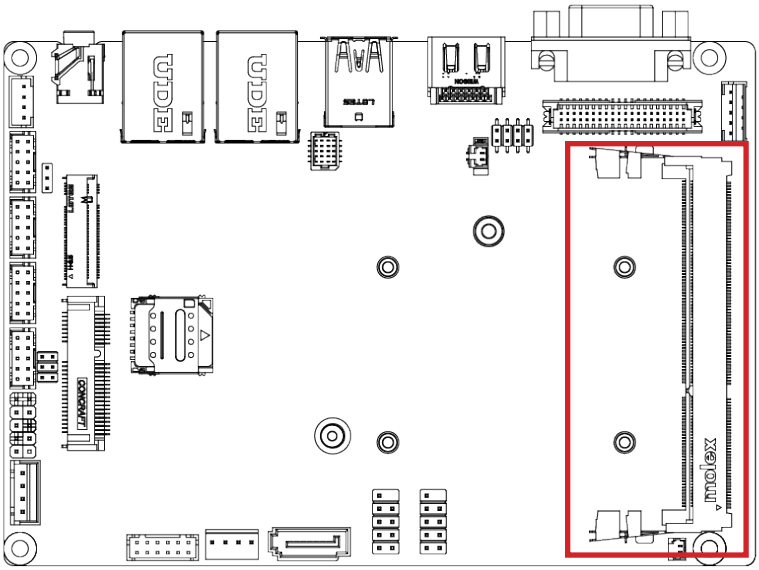
Back light brightness control connector


Connector PN	Vendor
721-81-05TW00	PINREX
A2001WV-05P146	JOINT-TECH

Pin No.	Definition
1	5V
2	PWM
3	Back Light Enable
4	GND
5	12V

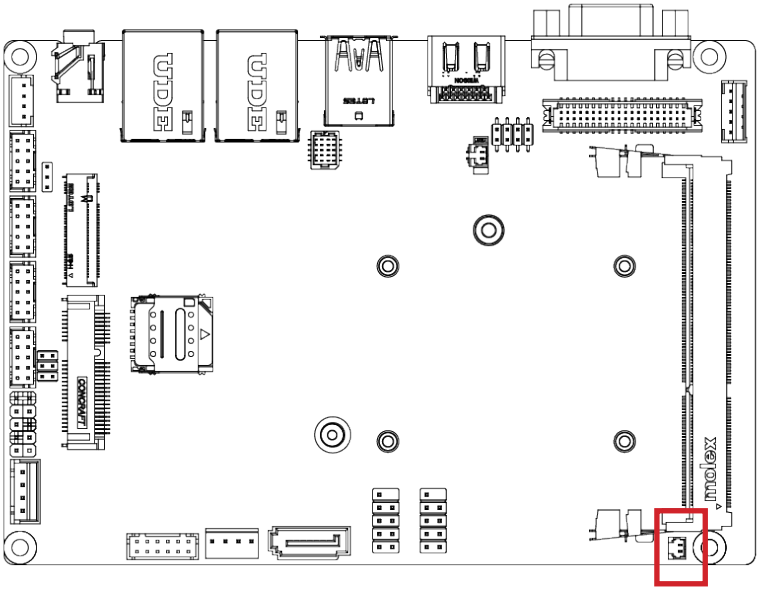
3.2.5 SODIMM (DDR3L SO-DIMM)

5



3.2.6 BUZZER

6



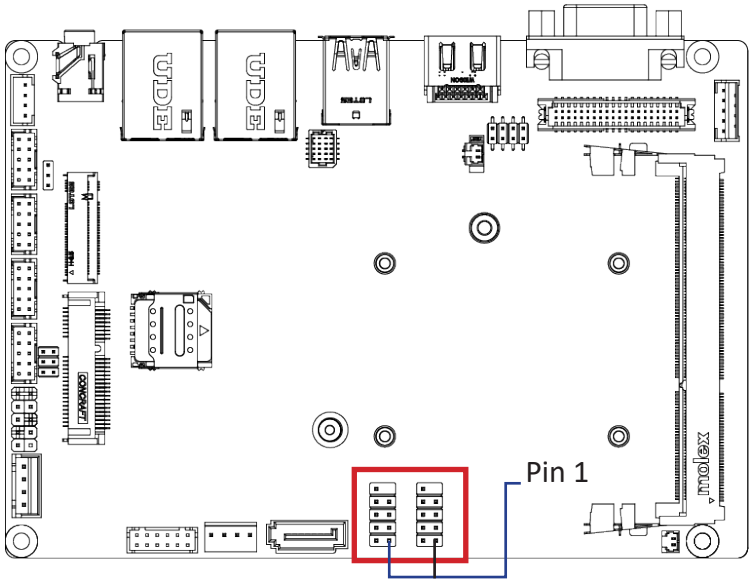
Buzzer


Connector PN	Vendor
712-71-02TW01	PINREX
A1250WV-02P	JOINT-TECH

Pin No.	Definition
1	SPK
2	5V

3.2.7 FUSB20_1, FUSB2_2 (USB 2.0 header)

7



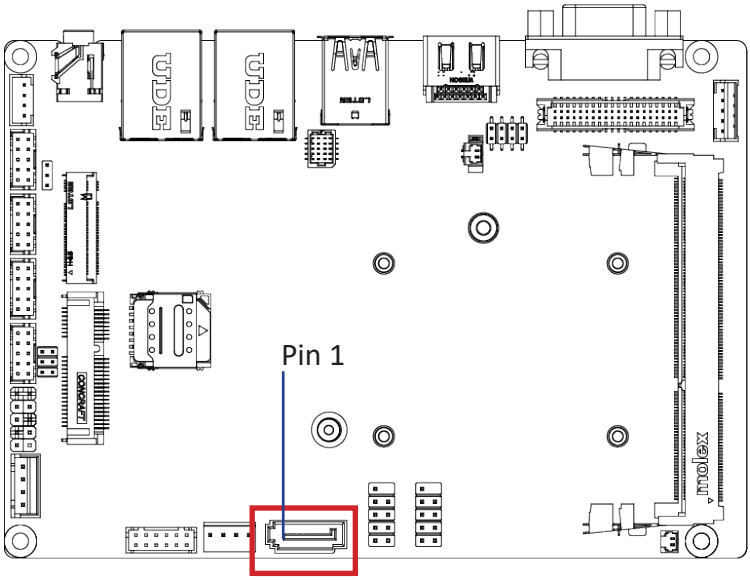
USB 2.0 Header


Connector PN	Vendor
210-92-05GB04	PINREX
PH10R53BAZ009	HORNGTONG

Pin No.	Definition
1	5V
2	5V
3	DX-
4	DY-
5	DX+
6	DY+
7	GND
8	GND
9	No Pin
10	No Connect

3.2.8 SATA (SATA 3 Gb/s Connector)

8



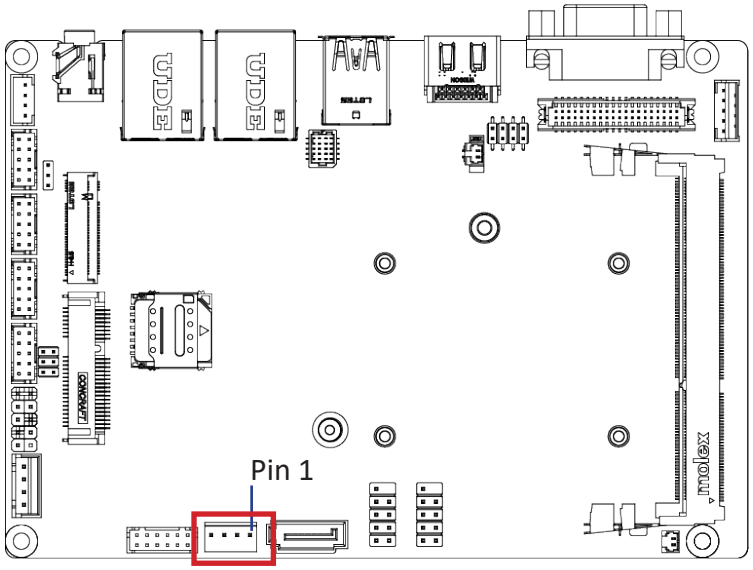
SATA 3 Gb/s Connector
1 7

SATAIII	
Connector PN	Vendor
WAT3M-07A1G3BU4W	WINWIN
ABA-SAT-054-S15	LOTES

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

3.2.9 SATAPW (SATA 6 Gb/s power connector)

9



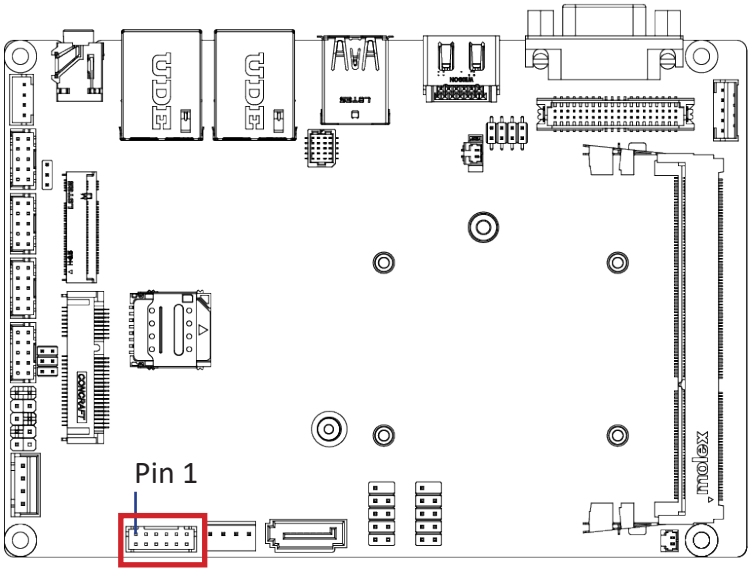
Hard Disk Power Connector
4 ■■■■ 1

Connector PN	Vendor
743-81-04TW00	PINREX
WF04Q2-3BJQ000	HORNGTONG

Pin No.	Definition
1	+12V
2	GND
3	GND
4	VCC

3.2.10 GPIO_CNT (General Purpose input/output header)

10



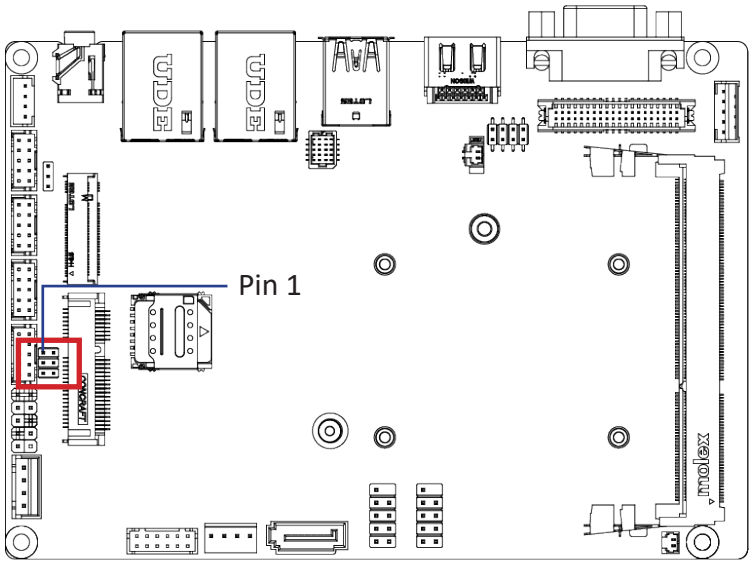
GPIO Connector


Connector PN	Vendor
725-81-12TW00	PINREX
A2004WV-2X06P46	JOINT-TECH

Pin No.	Definition
1	GPO1
2	GPI1
3	GPO2
4	GPI2
5	GPO3
6	GPI3
7	GPO4
8	GPI4
9	SMB_CLK
10	SMB_DATA
11	5V
12	GND

3.2.11 JCOM11 (RI# pin RI#/5V/12V Select jumper for COM1 port)

11

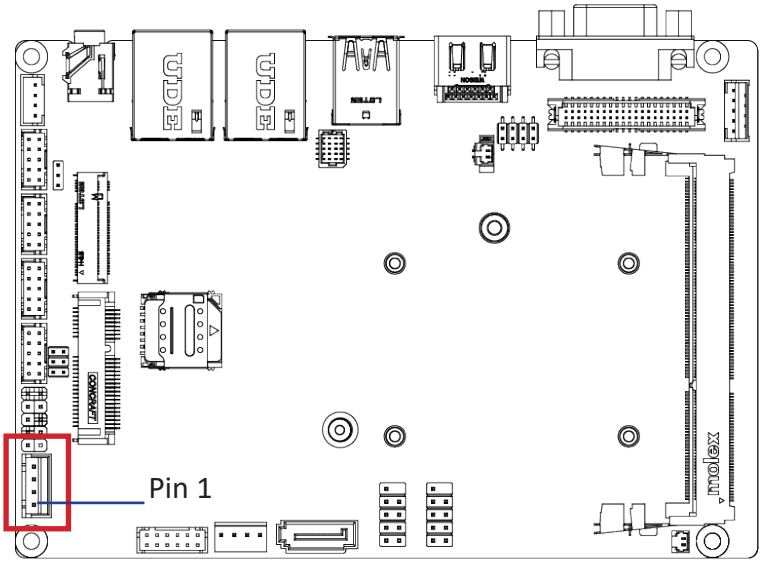


JCOM11 Jumper Select	
	1-2 Close: 5V (Power COM)
	3-4 Close: RI (Stand COM) Default
	5-6 Close: 12V (Power COM)

Connector PN	Vendor
220-97-03GB01	PINREX
PH06N53BAZ000	HORNGTONG

3.2.12 DC IN (DC IN 1x4pin power connector)

12



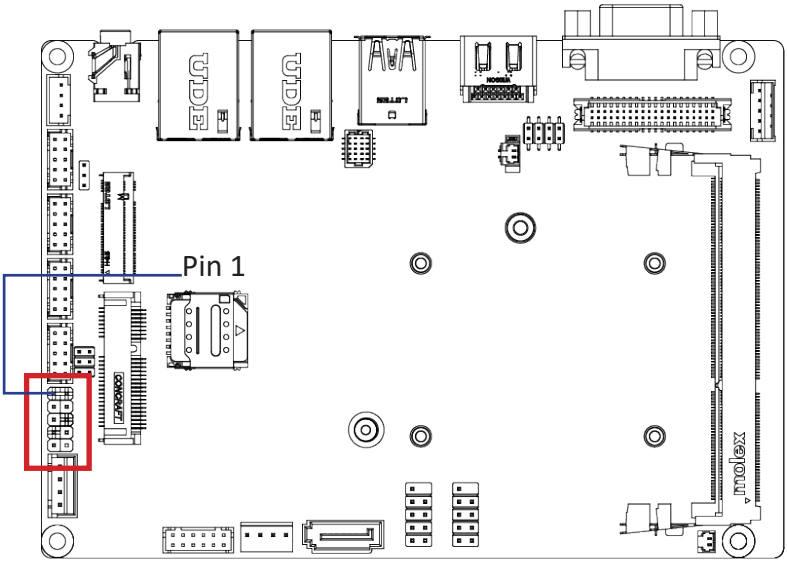
Battery Cable Connector


Connector PN	Vendor
753-81-04TW00	PINREX

Pin No.	Definition
1	GND
2	DCIN
3	DCIN
4	GND

3.2.13 SYS_PANEL (Front panel header)

13



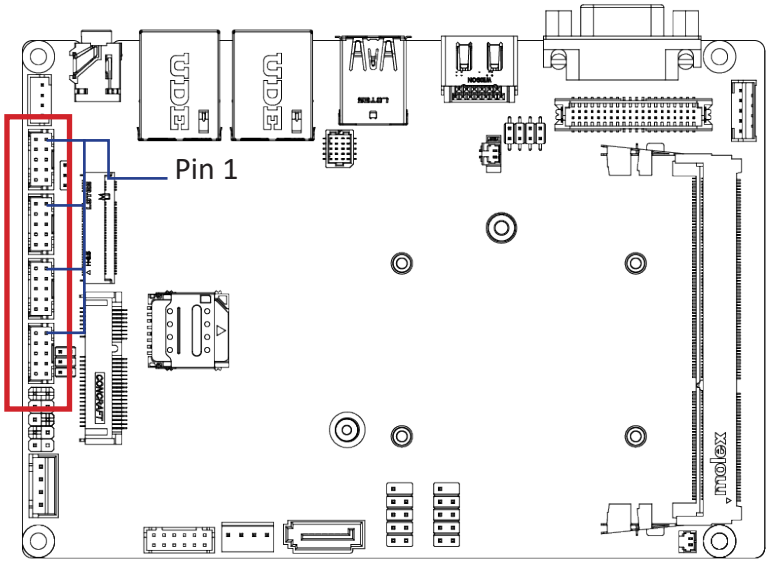
System Panel Header


Connector PN	Vendor
210-92-05G111	PINREX

Pin No.	Definition
1	HDD LED+
2	Power LED+
3	HDD LED-
4	Power LED-
5	GND
6	Power Button+
7	Reset Button
8	Power Button-
9	No Connect
10	No Pin

3.2.14 COM1, COM2, COM3, COM4 (Serial port header)

14



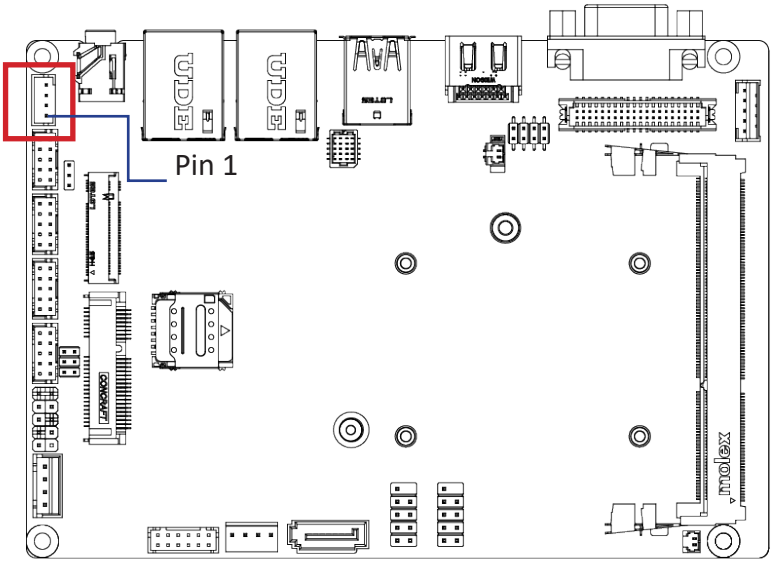
Serial Port Cable Connector


Connector PN	Vendor
725-81-10TW00	PINREX
A2004WV-2X05P46	JOINT-TECH

Pin No.	Definition
1	RX
2	DCD
3	DTR
4	TX
5	DSR
6	GND
7	CTS
8	RTS
9	No Connect
10	RI/5V/12V

3.2.15 SPK_OUT (Speaker out connector)

15



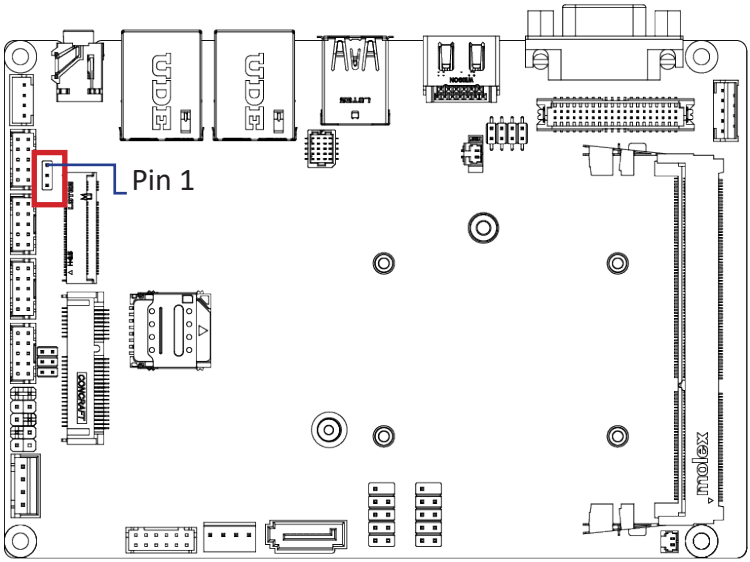
Speaker out connector


Pin No.	Definition
1	Speaker Out R+
2	Speaker Out R-
3	Speaker Out L-
4	Speaker Out L+

Connector PN	Vendor
721-81-045W00	PINREX
A2001WV-04P146	JOINT-TECH

3.2.16 AT_CN (AT/ATX power mode select jumper)

16



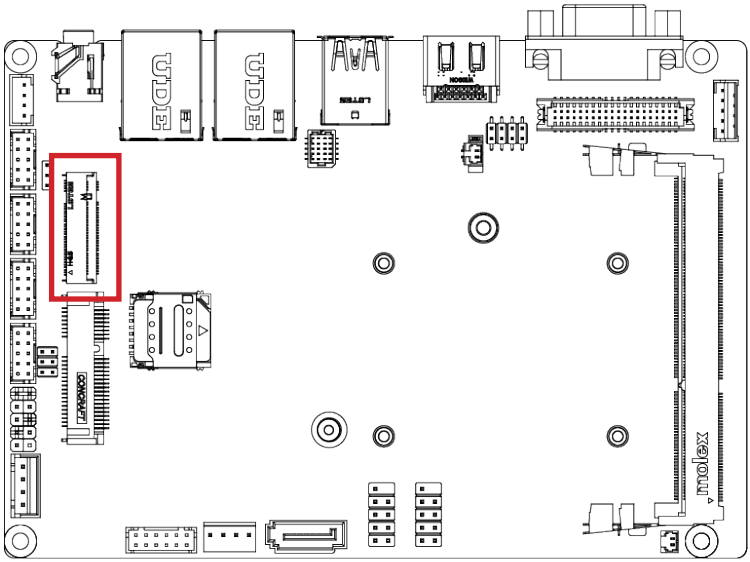
AT/ATX power mode select jumper	
	1-2 Close : AT mode.
	2-3 Close : ATX mode. (Default setting)

Connector PN	Vendor
220-96-03GB01	PINREX
PH03N2-7BAN000	HORNGTONG

Pin No.	Definition
1	AT MODE
2	Detect
3	ATX MODE

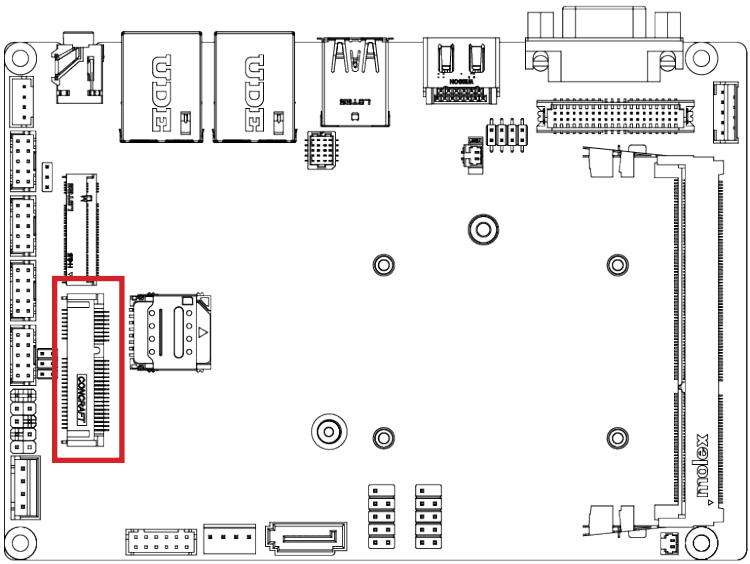
3.2.17 M2M (M.2 Slot, SATA, NGFF2280)

17



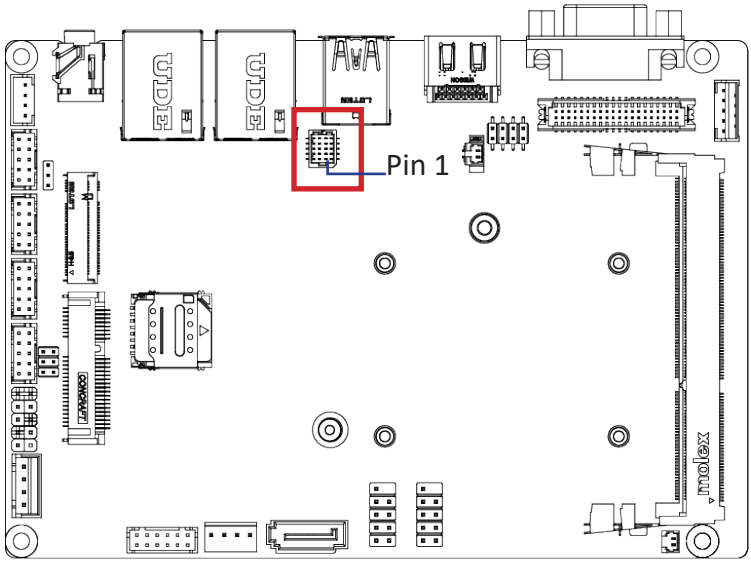
3.2.18 MPCIE (Mini PCIe slot)

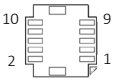
18



3.2.19 LPC_CN (LPC Connector)

19

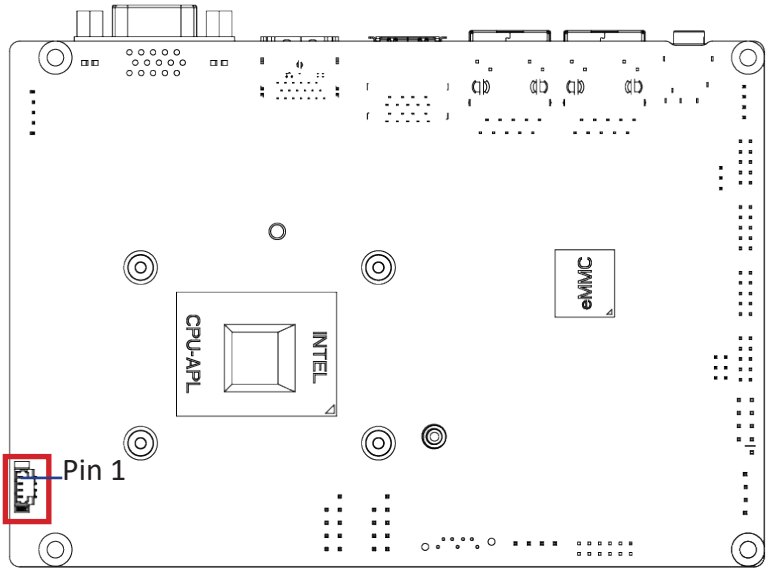


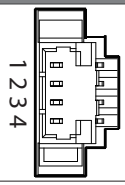
LPC_CN


Pin No.	Definition
1	LPC_CLK
2	GND
3	LFRAME#
4	LAD0
5	PCI_RST
6	LAD1
7	LAD3
8	LAD2
9	3.3V
10	SERIRQ

3.2.20 FAN (FAN Connector)

20



CPU/System FAN


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

Pin No.	Definition
1	GND
2	12V
3	Detect
4	Speed Control