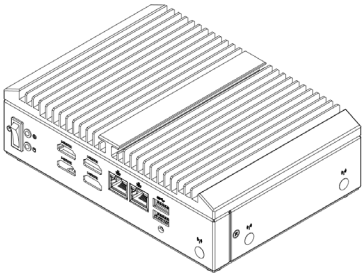
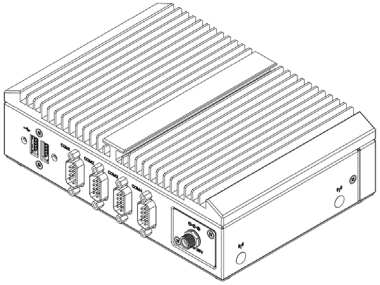
QBiX-Pro-AMDA1605H-A1 (QP-1605A-SI)

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
19V / 65W adapter	1
Power cord (May vary based on local distribution)	1
VESA Bracket	1
VESA screw, M4-10L x 4pcs, M3-3L x 2pcs	1
HDD screw, M3 x 8L	4
FFC SATA Cable	1
Exsiccator (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.

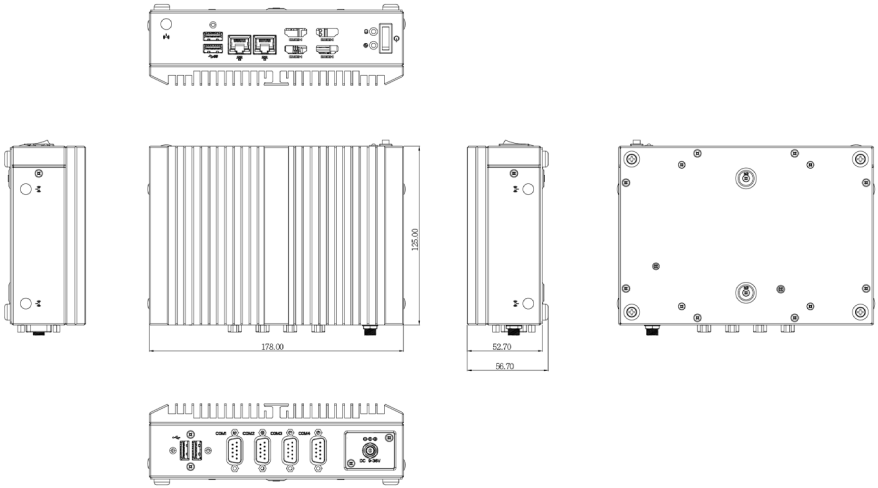
Attention:

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.

Table Contents

Chapter 1

Chapter 1 - Product Specifications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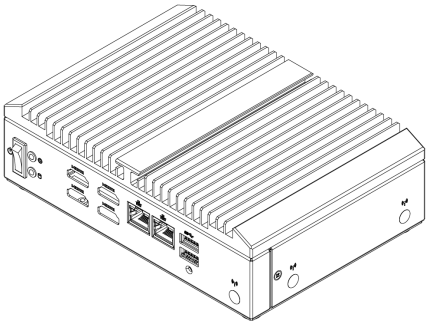
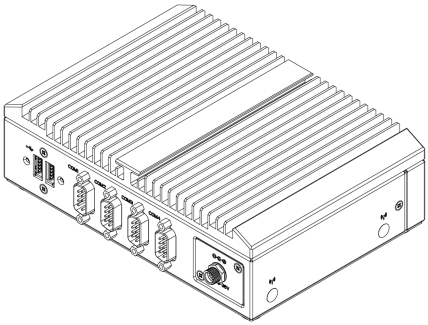




1.1 Specifications

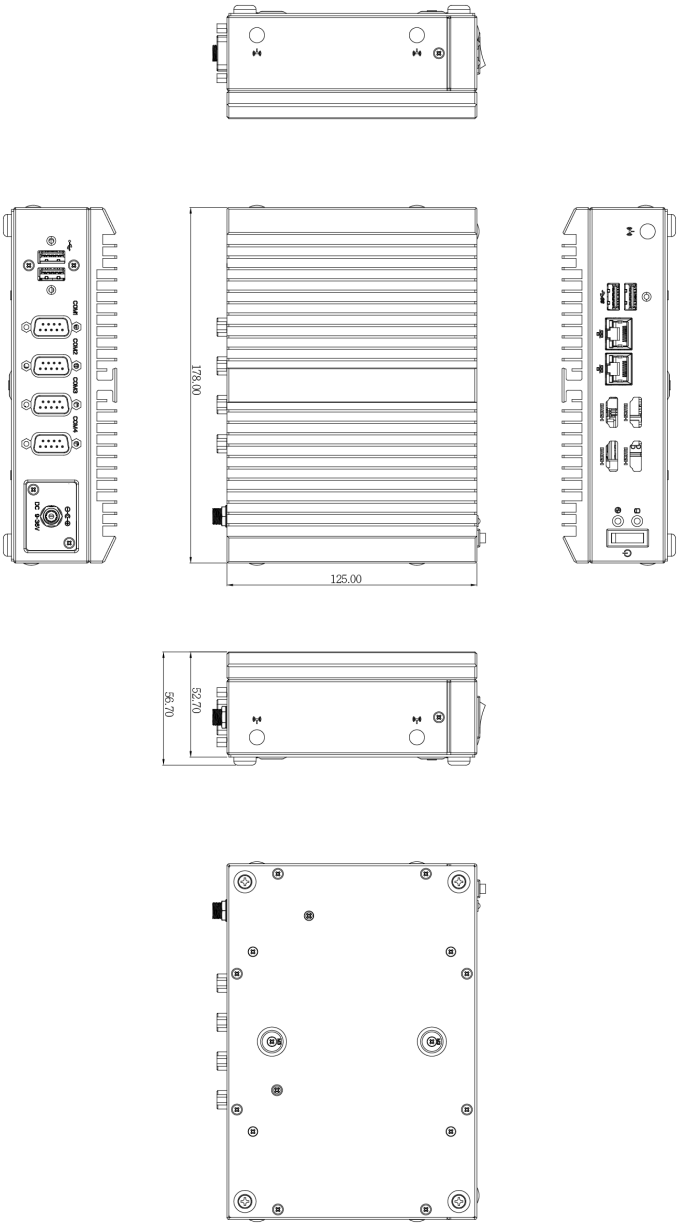
System	QBiX-Pro-AMDA1605H-A1 (QP-1605A-SI)
Dimension	System Size : 178W x 125D x 52.7H (mm)
CPU	AMD® RYZEN™ V1605B Embedded Processor up to 3.6GHz, TDP 25W 2MB of shared L2 plus 4MB of shared L3 total
Chipset	SOC
Memory	2 x DDR4 SO-DIMM sockets, Max. Capacity 32 GB Dual channel memory architecture Support DDR 2133MHz
Ethernet	2 x Realtek RTL8111HS (10/100/1000 Mbit)
Graphic support	Integrated Graphics Processor - AMD Radeon™ Vega 8 Graphics 4 x HDMI port, supporting a maximum resolution of 4096 x 2160 @ 60Hz
Audio	Realtek ALC269 High Definition Audio
Storage	1 x SATA 3 Gb/s port (Support 2.5'' Hard drive/SSD)
Expansion Slots	1 x M.2 slot (Support NGFF-2230 Wifi/BT) 1 x M.2 slot (Supports NGFF-2280 SATA/PCIeX4) 1 x Mini-PCIe slot (PCIeX1+USB2.0)ws Sim Slot
Front I/O	2 x RJ45 LAN port 2 x USB 3.0 4 x HDMI 1 x Power switch
Rear I/O	2 x USB2.0 2 x COM header (RS422/485/232, RI/5V/12V) 2 x COM Port (RS-232) 1 x DC Jack
Side I/O	1 x DC Jack 2 x Antenna option
	SECURITY TPM SLB9665VQ2.0
Power	DC 9~36V (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

System	QBiX-Pro-AMDA1605H-A1 (QP-1605A-SI)
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
Packaging Content	Box Packing Capacity: 5pcs Carton size: 500x327x217(mm) Content: SCREW I HEAD FOR 25HDD M3x8L*4(25KSG-130081-K1R) THERMAL PAD TG-A3500 TGLOBAL*2(25ST3-200052-T5R) CABLE SATA *1 (25CF4-170020-S9R) TERMINAL BLOCKS MALE PLUG (25IO0-5ESDV0-D2R)
Order Information	System: 6BQP1605AMR-SI
Optional kit	Screw type Bracket : Screw type cable : Screw type Adapter: US power cord : 25EP2-10065M-F3S

Chapter 2

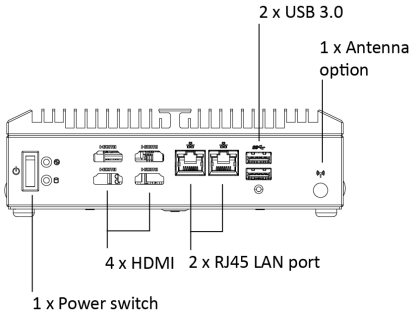
Chapter 2 – QBiX-Pro-AMDA1605H-A1 (QP-1605A-SI)
Industrial Embedded System Kit

2.1 Dimension

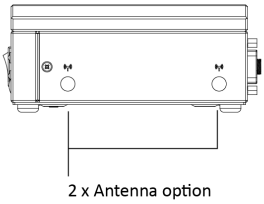


2.2 Getting Familiar with Your Unit

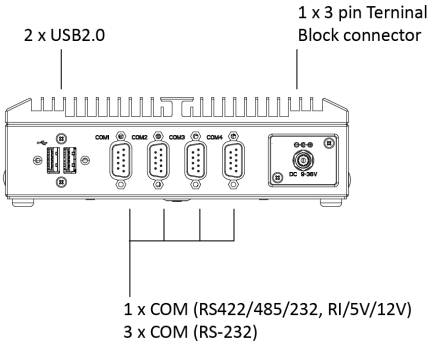
[Front Side]



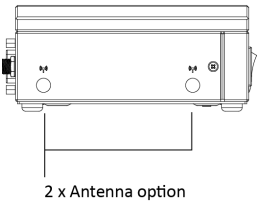
[Left Side]



[Rear Side]

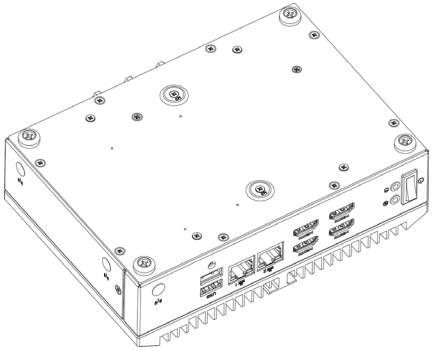


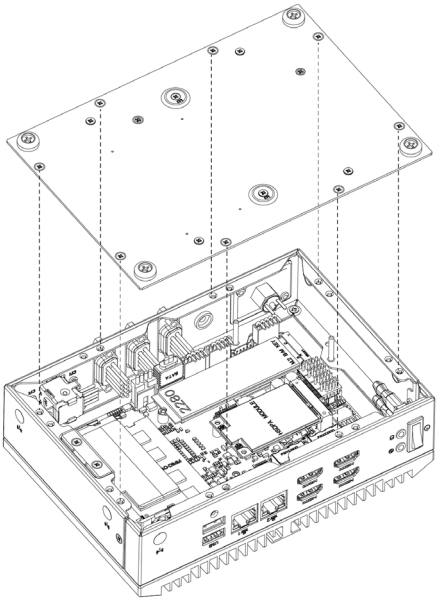
[Right Side]



[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。

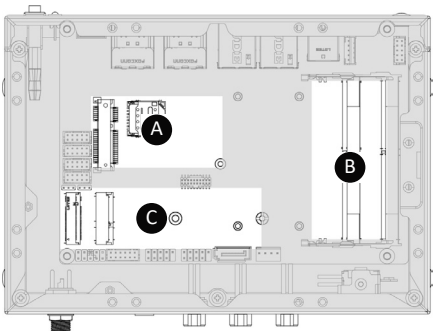


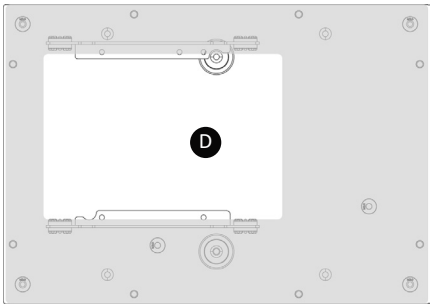


[Bottom PCB Side]

	Information
A	1 x Mini-PCIe slot (PCIeX1+USB2.0) with Sim Slot
B	2 x DDR4 SO-DIMM sockets, Max. Capacity 32 GB

	Information
C	1* M.2 slot(Support NGFF-2230 Wifi/BT) 1* M.2 slot(Supports NGFF-2280 SATA/ PCIeX4)
D	2.5’’ Hard drive/SSD



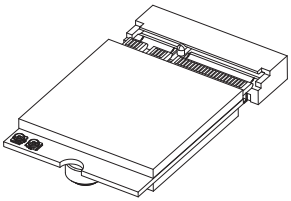


2.3 A) Wireless Module: How to safely install the Module (Wireless Module inclusion may vary based on local distribution)

1

Carefully insert the wireless module into the M.2 slot

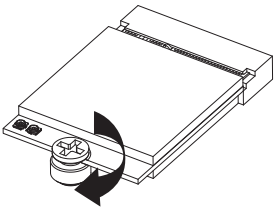
小心地將無線模組安裝於M.2插槽中。



2

Lock the screw in the middle.

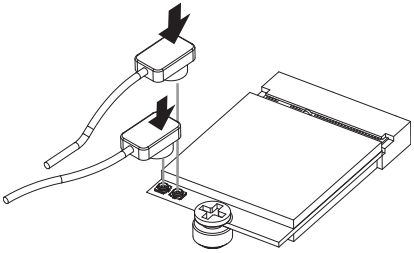
鎖入固定於無線模組中央頂端的螺絲。



3

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

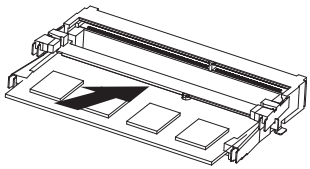
向下安裝連結於無線模組左側頂端天線。



2.4 B) Memory Installation: DDR4 SO-DIMM

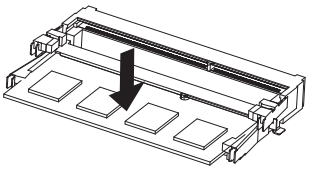
1

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。



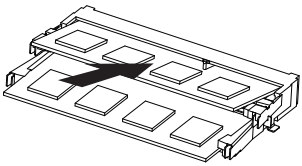
2

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。



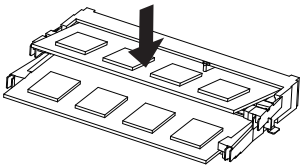
3

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

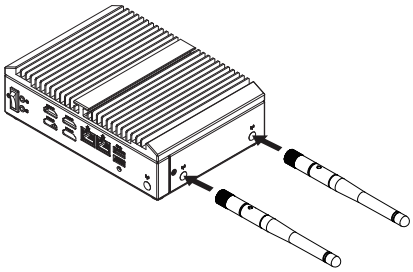
Push down until the modules click into place.
當記憶體固定於插槽後，再輕輕下壓至定點。



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

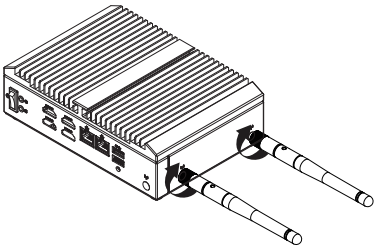
1

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



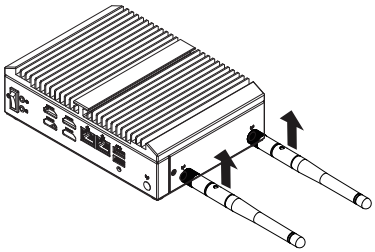
2

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.

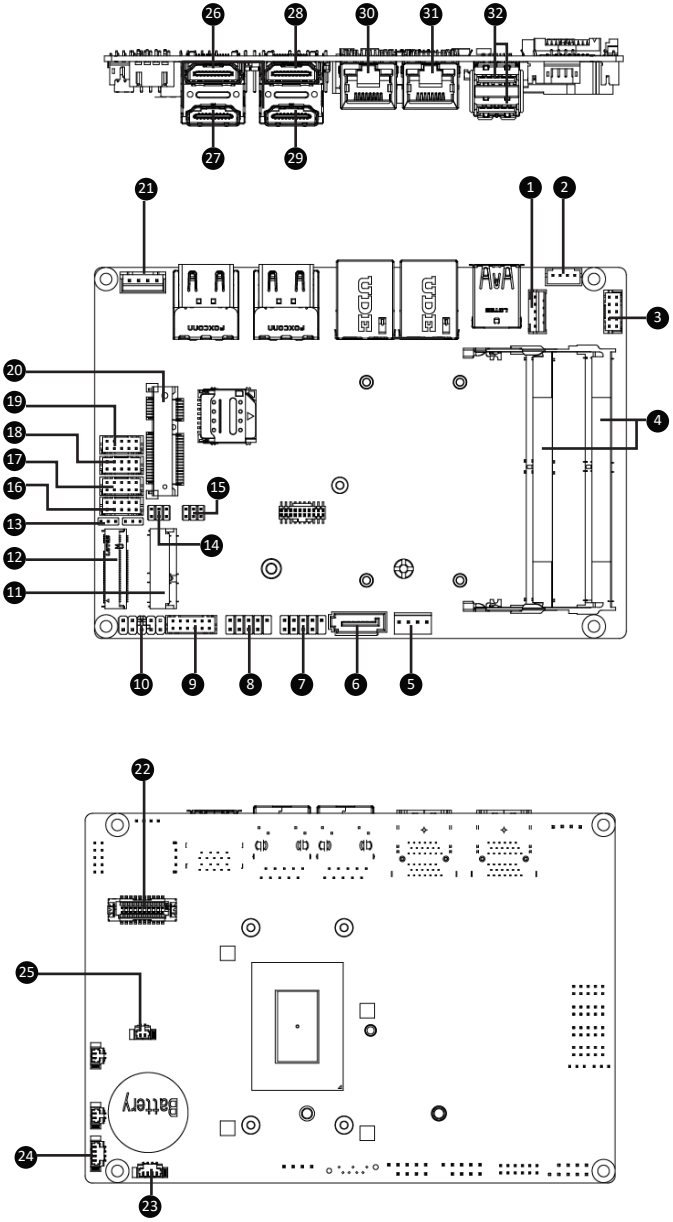
HIGH DEFINITION MULTIMEDIA INTERFACE

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 – QBiP-1605A 3.5” SBC Board Hardware Information

3.1 Jumpers and Connectors

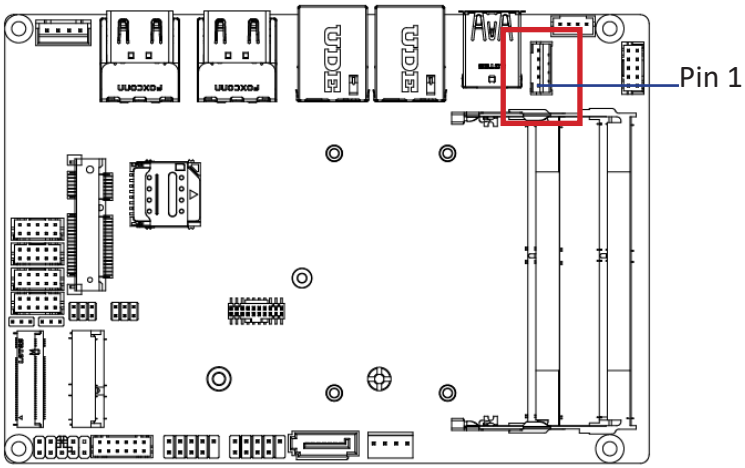


	Code	Description
1	BKL_CN	Back light brightness control connector
2	SPKR	Speaker out connector
3	F_AUDIO	Audio line-out port
4	SODIMM1, SODIMM2	DDR4 SO-DIMM slot#1/slot#2
5	SATAPWR	SATA 6GB/s Power Connector
6	SATA	SATA 6 Gb/s Connector
7	FUSB20_2	USB 2.0 header x 1
8	FUSB20_1	USB 2.0 header x 1
9	GPIO_CNT	General Purpose input/output header
10	SYS_PANEL	Front panel header
11	M2E	M2.2 E-Key for WiFi NGFF
12	M2M	M.2 M Key for NVME/SATA
13	AT_CN	AT/ATX power mode select jumper
14	JCOM2	COM2 RI# pin RI#/5V/12V Select
15	JCOM1	COM1 RI# pin RI#/5V/12V Select
16	COM4	RS232 COM Serial port header
17	COM3	RS232 COM Serial port header
18	COM2	RS232/422/485/5V/12V/RI COM Serial port header
19	COM1	RS232/422/485/5V/12V/RI COM Serial port header
20	MPCIE	Mini PCIE for 3G/4G module
21	DC_IN	DC IN 1x4pin power connector

	Code	Description
22	EDP	eDP connector
23	CPU_FAN	CPU Fan connector
24	SYS_FAN	System Fan connector
25	Battery	Battery connector
26	HDMI 1	HDMI Connector
27	HDMI 2	HDMI Connector
28	HDMI 3	HDMI Connector
29	HDMI 4	HDMI Connector
30	LAN2	LAN Connectors
31	LAN1	LAN Connectors
32	USB3	USB3.0 Connector x 2

3.2.1 BKL_CN (Back light brightness control connector)

1

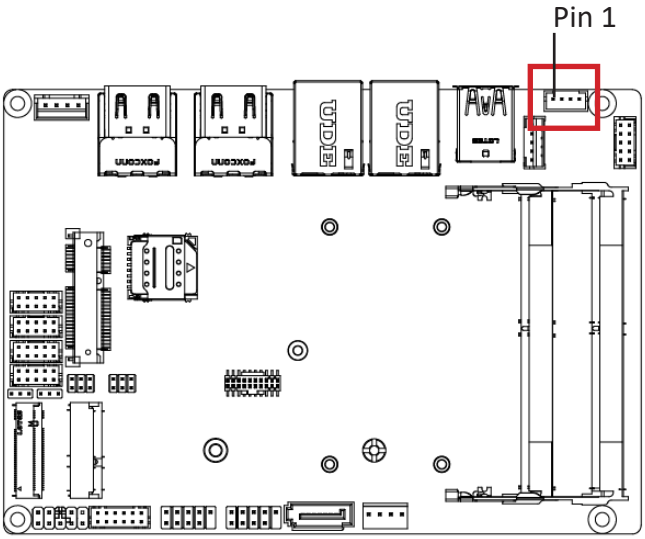


Back light brightness control connector
5 1

Pin No.	Definition
1	12V
2	GND
3	eDP_BKLTEN
4	eDP_BKLTCTL
5	5V

3.2.2 SPK_OUT (Speaker out connector)

❷

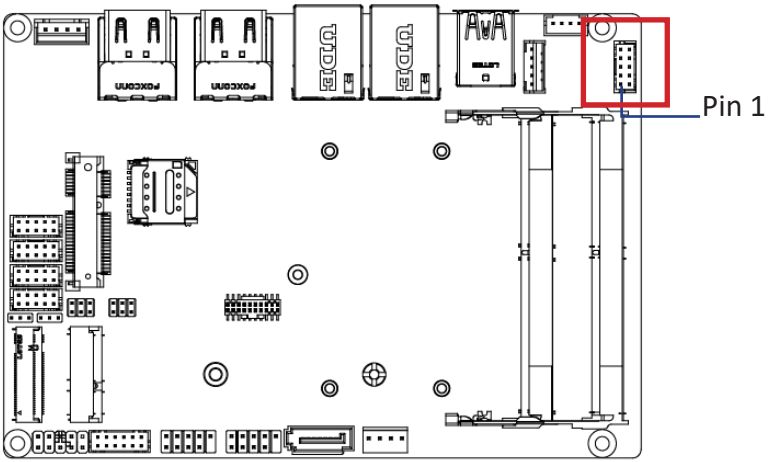


Speaker out connector
1 4

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

3.2.3 F_Audio (Audio line-out port)

3

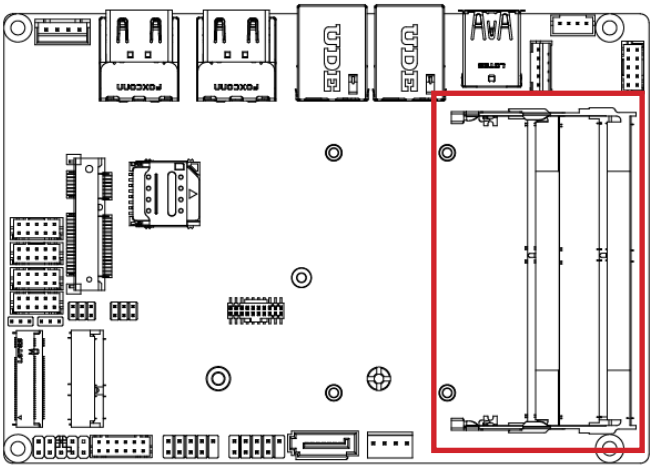


F_Audio Connector
9 10 1 2

Pin No.	Definition	Pin No.	Definition
1	F_MIC1_L	2	GND
3	F_MIC1_R	4	F_AUDIO_DET
5	F_HP_R	6	F_MIC_JD
7	FAUDIO_JD	8	NC
9	F_HP_L	10	F_HP_JD

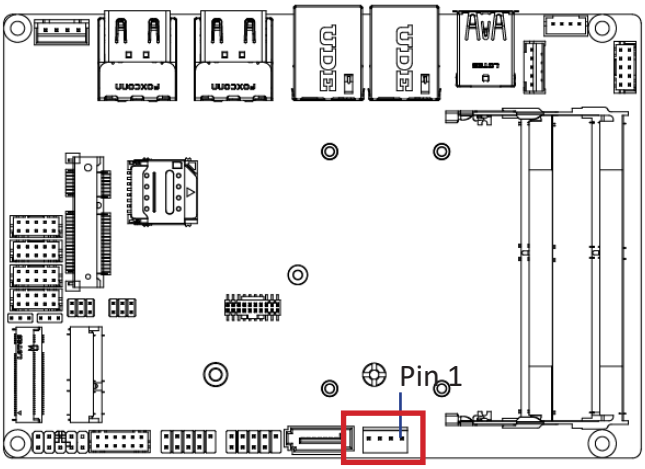
3.2.4 SODIMM1, SODIMM2 (DDR4 SO-DIMM slot#1/ slot#2)

4



3.2.5 SATAPW (SATA 6 Gb/s power connector)

5

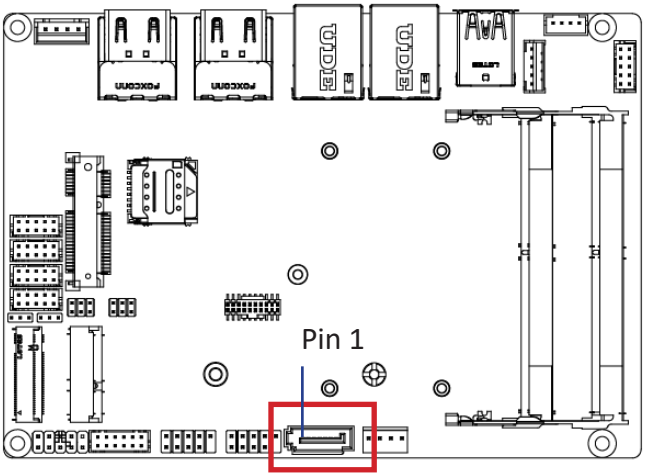


Hard Disk Power Connector
4 ■■■■ 1

Pin No.	Definition
1	12V
2	GND
3	GND
4	5V

3.2.6 SATA (SATA 6 Gb/s Connector)

6

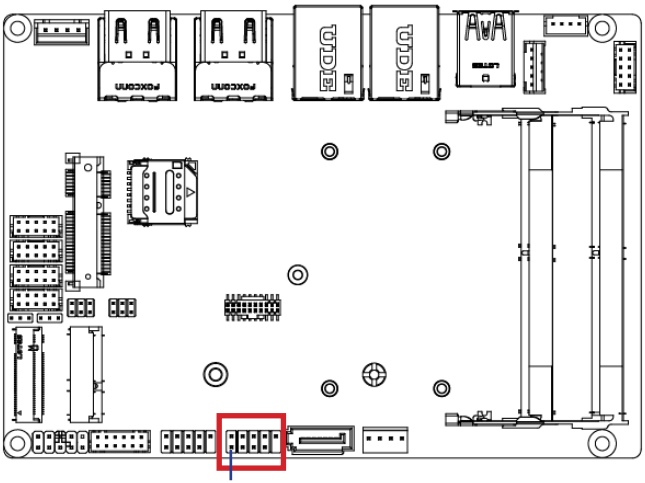


SATA 6GB/S Connector
1 7

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

3.2.7 FUSB2_2 (USB 2.0 header)

7



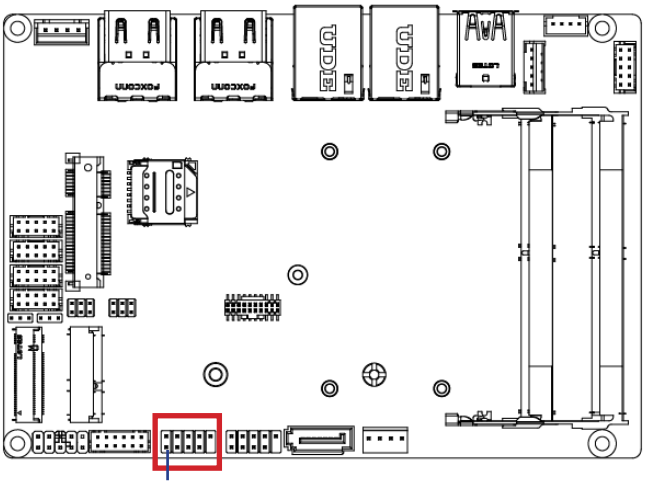
Pin 1

USB 2.0 Header


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 FUSB2_1 (USB 2.0 header)

8



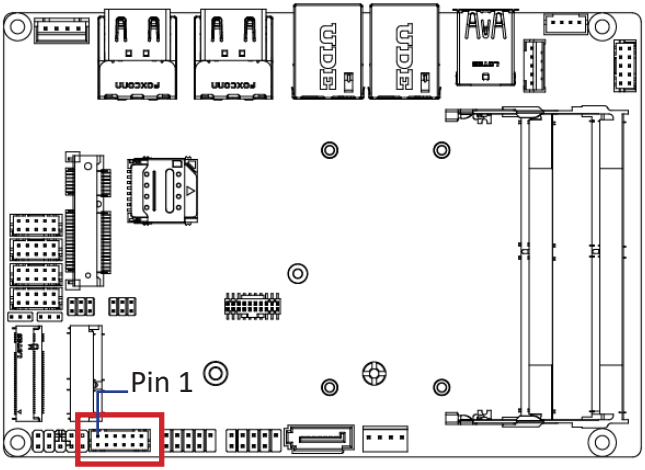
Pin 1

USB 2.0 Header


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

3.2.9 GPIO_CNT (General Purpose input/output header)

9

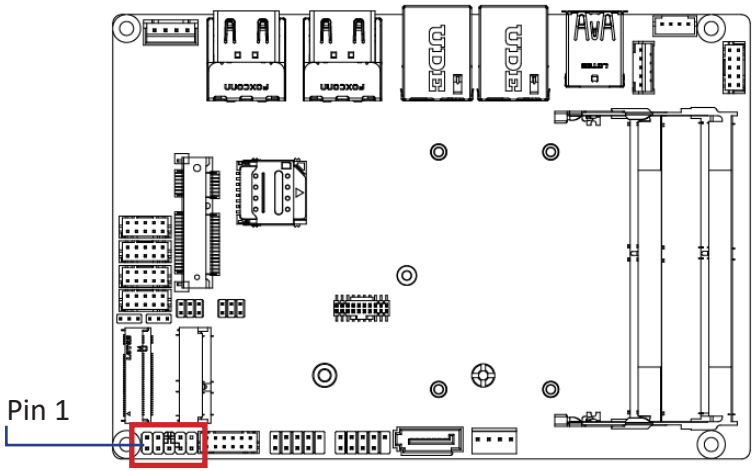


GPIO Connector


Pin No.	Definition	Pin No.	Definition
1	GPI_0	2	GPO_0
3	GPI_1	4	GPO_1
5	GPI_2	6	GPO_2
7	GPI_3	8	GPO_3
9	SMB_IO_ CLK	10	SMB_IO_ DATA
11	3.3V	12	GND

3.2.10 SYS_PANEL (Front panel header)

10

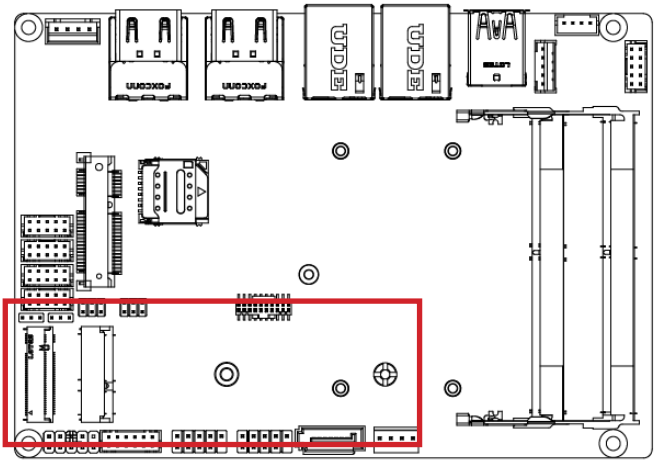


System Panel Header


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

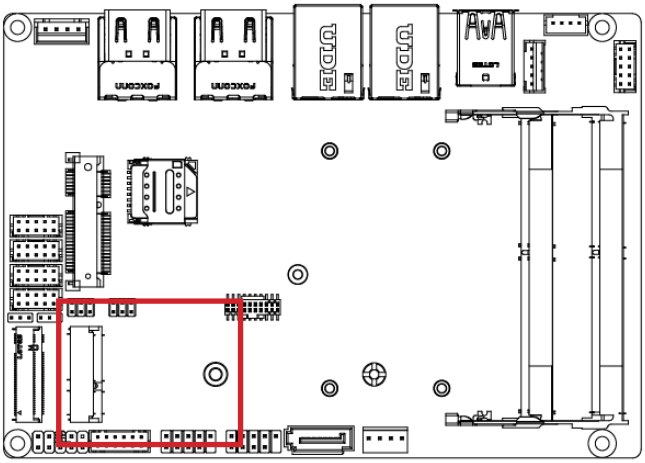
3.2.11 M2E (M2.2 E-key for WiFi NGFF)

11



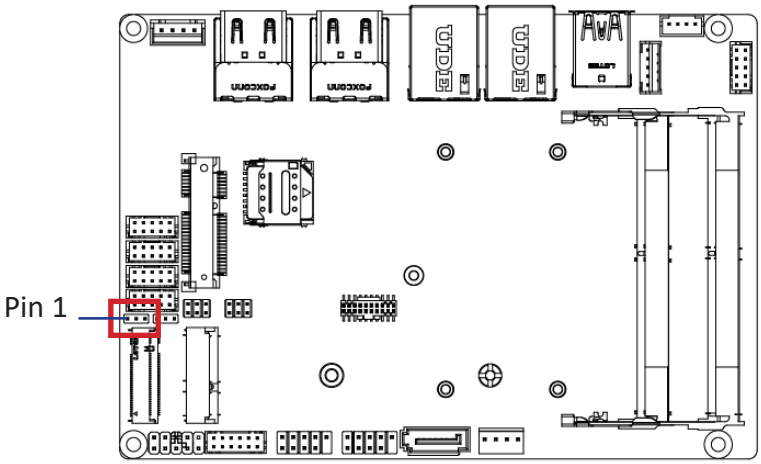
3.2.12 M2M (M.2 M key for NVME/SATA)

12



3.2.13 AT_CN (AT/ATX power mode select jumper)

13

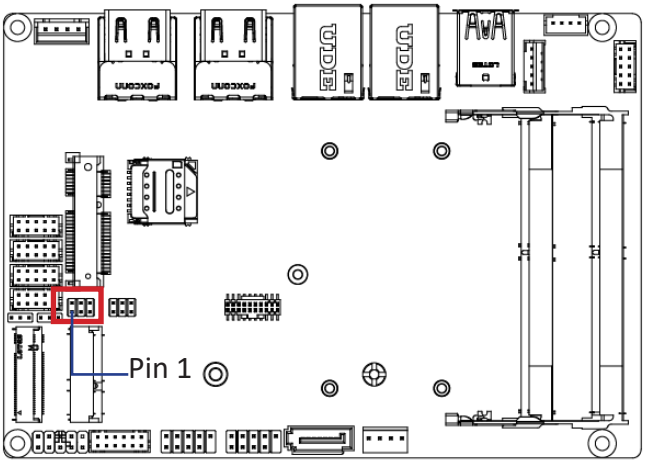


AT/ATX power mode select jumper	
	1-2 Close : AT mode.
	2-3 Close : ATX mode. (Default setting)

Pin No.	Definition
1	AT
2	COMM
3	ATX

3.2.14 JCOM2 (COM2 RI# pin RI#/5V/12V Select)

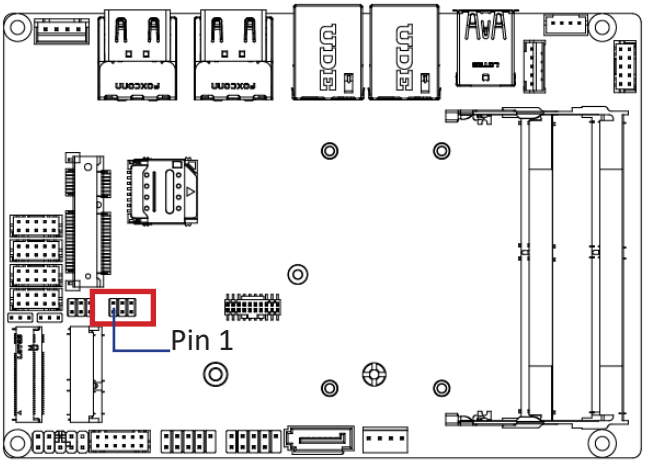
14



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

3.2.15 JCOM1 (COM1 RI# pin RI#/5V/12V Select)

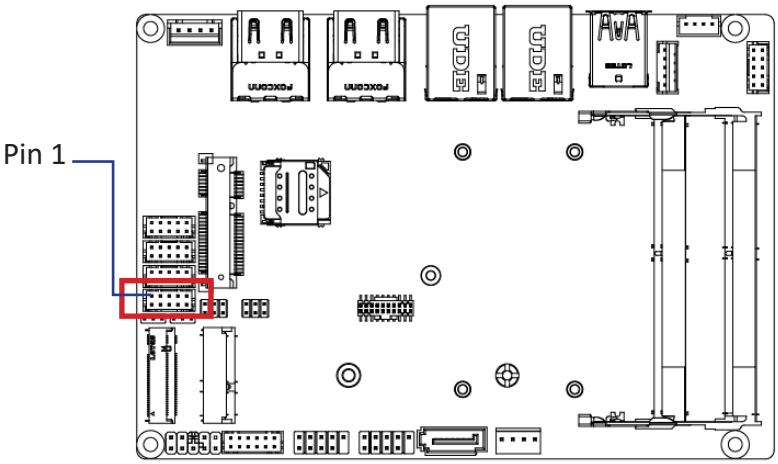
15



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

3.2.16 COM1 (Serial port header)

16

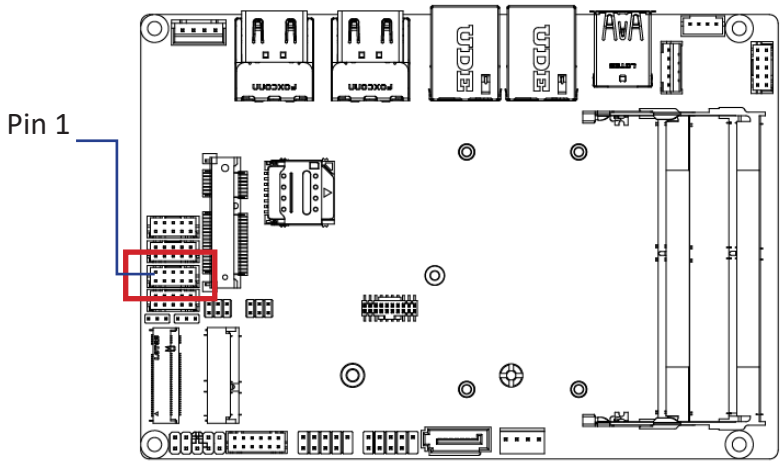


Serial Port Cable Connector


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

3.2.17 COM2 (Serial port header)

17

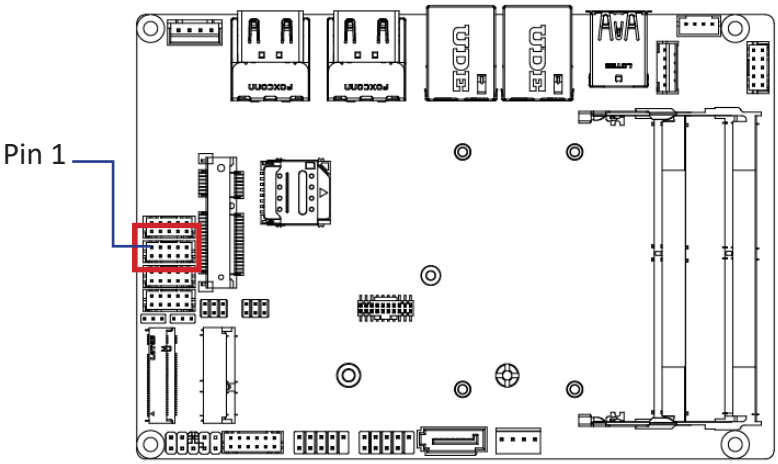


Serial Port Cable Connector


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

3.2.18 COM3 (Serial port header)

18

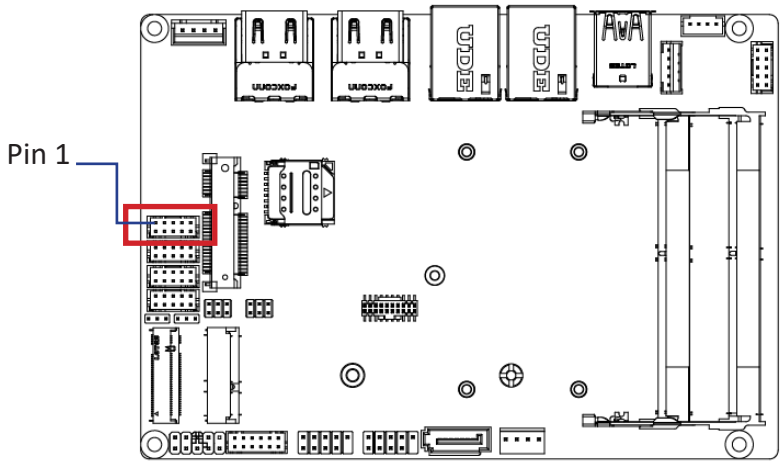


Serial Port Cable Connector


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

3.2.19 COM4 (Serial port header)

19

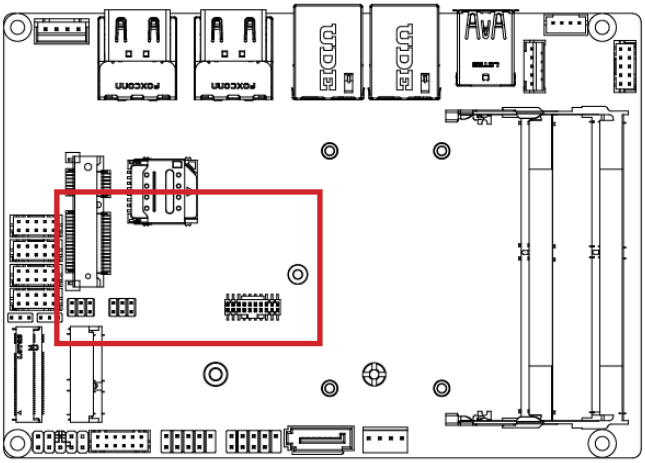


Serial Port Cable Connector


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

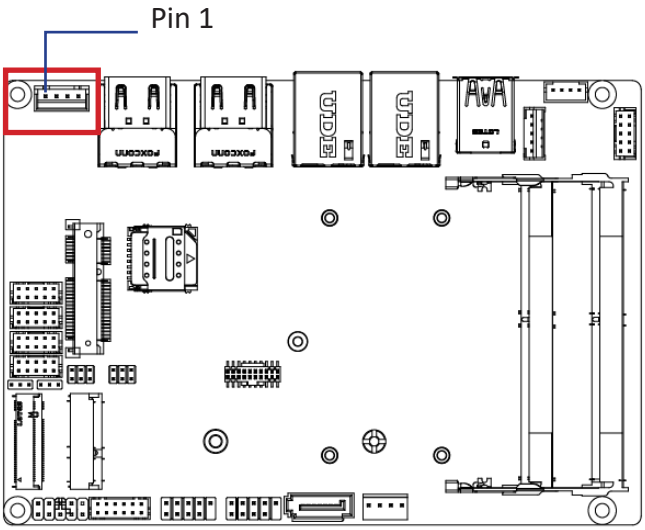
3.2.20 MPCIE (Mini PCIE for 3G/4G module)

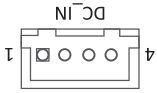
20



3.2.21 DC IN (DC IN 1 x 4 pin power connector)

21

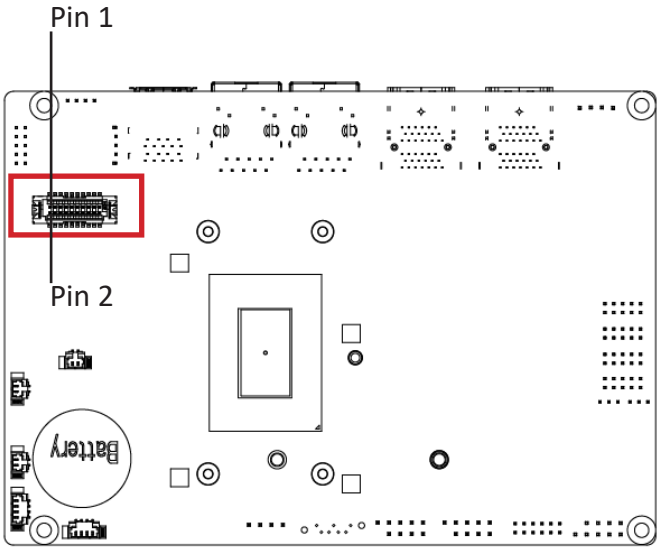


DC IN power connector


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

3.2.22 EDP (eDP Connector)

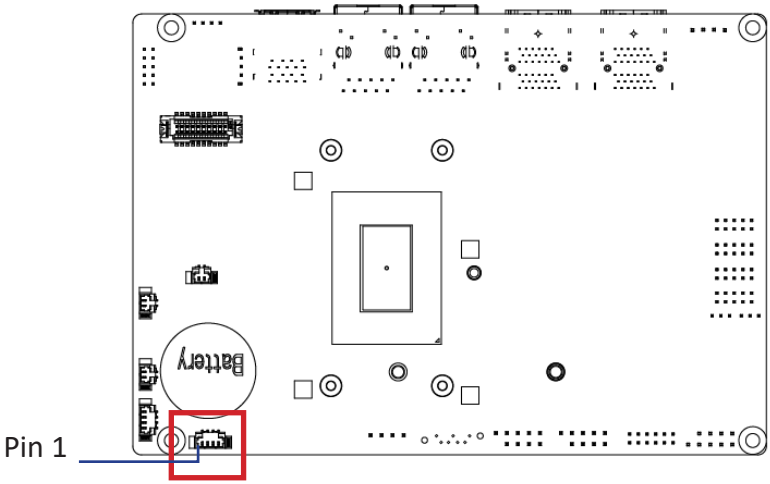
22

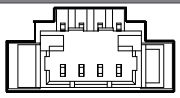


Pin No.	Definition	Pin No.	Definition
1	GND	2	GND
3	EDP_TXN0	4	EDP_TXN3
5	EDP_TXP0	6	EDP_TXP3
7	GND	8	eDP_DET#
9	EDP_TXN1	10	GND
11	EDP_TXP1	12	EDP_AUXN
13	GND	14	EDP_AUXP
15	EDP_TXN2	16	GND
17	EDP_TXP2	18	EDP_HPD
19	5V	20	3.3V

3.2.23 CPU_FAN (System FAN Connector)

23

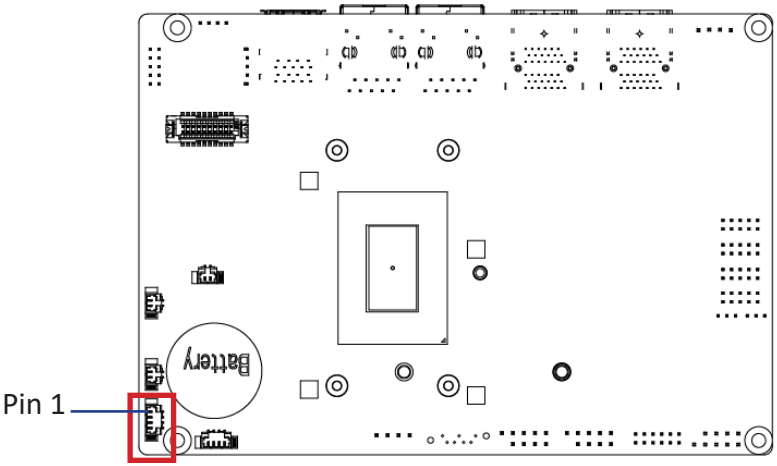


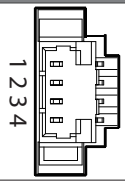
CPU FAN

1 2 3 4

Pin No.	Definition
1	GND
2	12V
3	FANTECH
4	PWM

3.2.24 SYS_FAN (System FAN Connector)

24

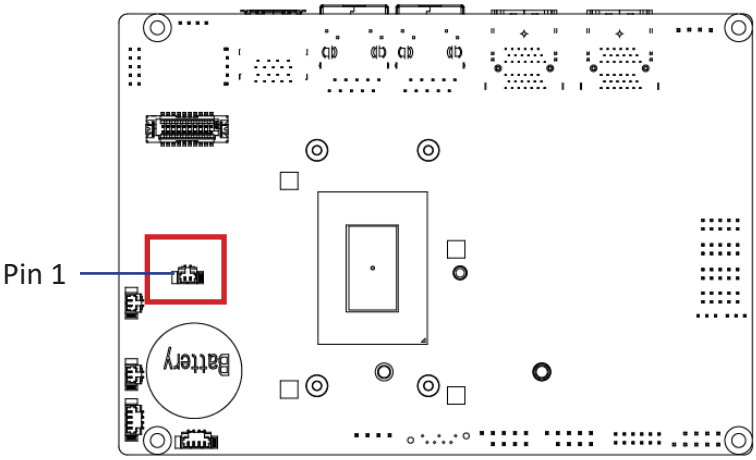


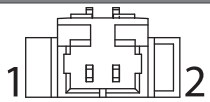
CPU/System FAN


Pin No.	Definition
1	GND
2	12V
3	FANTECH
4	PWM

3.2.25 Battery (Battery Connector)

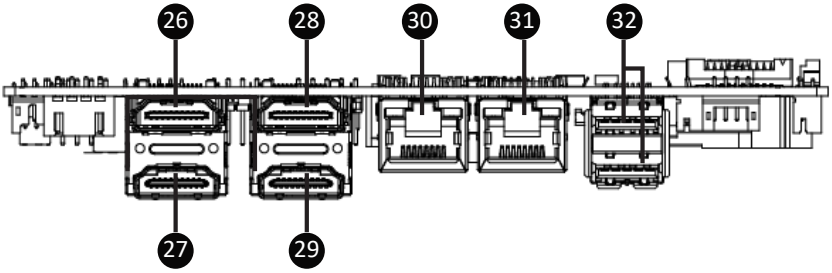
25



Battery Cable Connector


Pin No.	Definition
1	3.3V RTC
2	GND

3.2.26 IO Connector Information



	Code	Description
26	HDMI 1	HDMI Connector
27	HDMI 2	HDMI Connector
28	HDMI 3	HDMI Connector
29	HDMI 4	HDMI Connector
30	LAN2	LAN Connectors
31	LAN1	LAN Connectors
32	USB3	USB3.0 Connector x 2

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