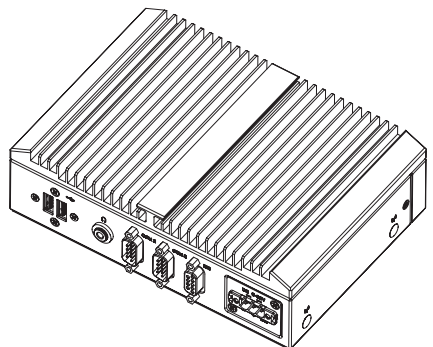
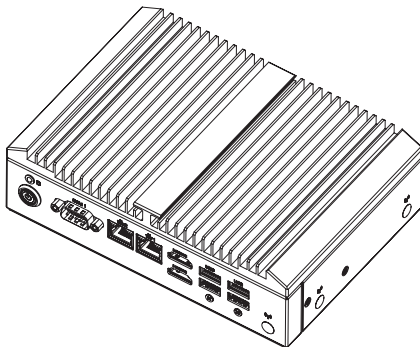


QBiX-Pro-WHLA8265H-A1 (QP-8265A-SI)

QBiX-Pro Industrial Embedded System
Quick Start Guide



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Packing List

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

| Item | Quantity |
|--|----------|
| System kit | 1 |
| Terminal Blocks Male Plug (25IO0-5ESDV0-D2R) | 1 |
| Screw I Head for 2.5" HDD M3x8L (25KSG-130081-K1R) | 4 |
| SATA Cable (25CF4-070020-S9R) | 1 |
| Exsiccator (10g) | 1 |
| Thermal pad for HDD (25ST3-200052-T5R) | 2 |
| Thermal pad for DIMM2 (25ST3-200051-T5R) | 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

Warning!



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.

High Temperature Warning

(1) This equipment is intended to be used in Restrict Access Location. The access can only be gained by Skilled person or by Instructed person who have been instructed about the metal chassis of the equipment is so hot that Skilled person have to pay special attention or take special protection.

Only authorized by well trained professional person can access the restrict access location.

(2) External metal parts are hot!! Before touching it, special attention or protection is necessary



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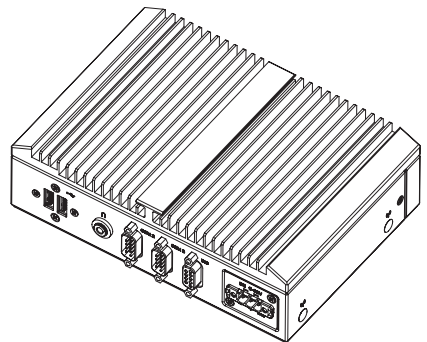
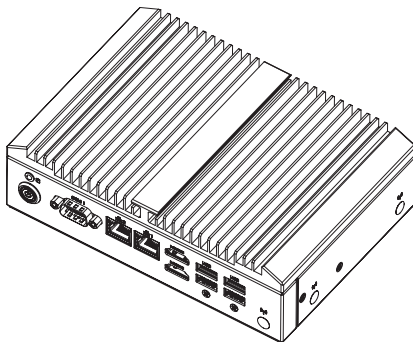
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Chapter 1

Chapter 1 - Product Specifications



1.1 Specifications

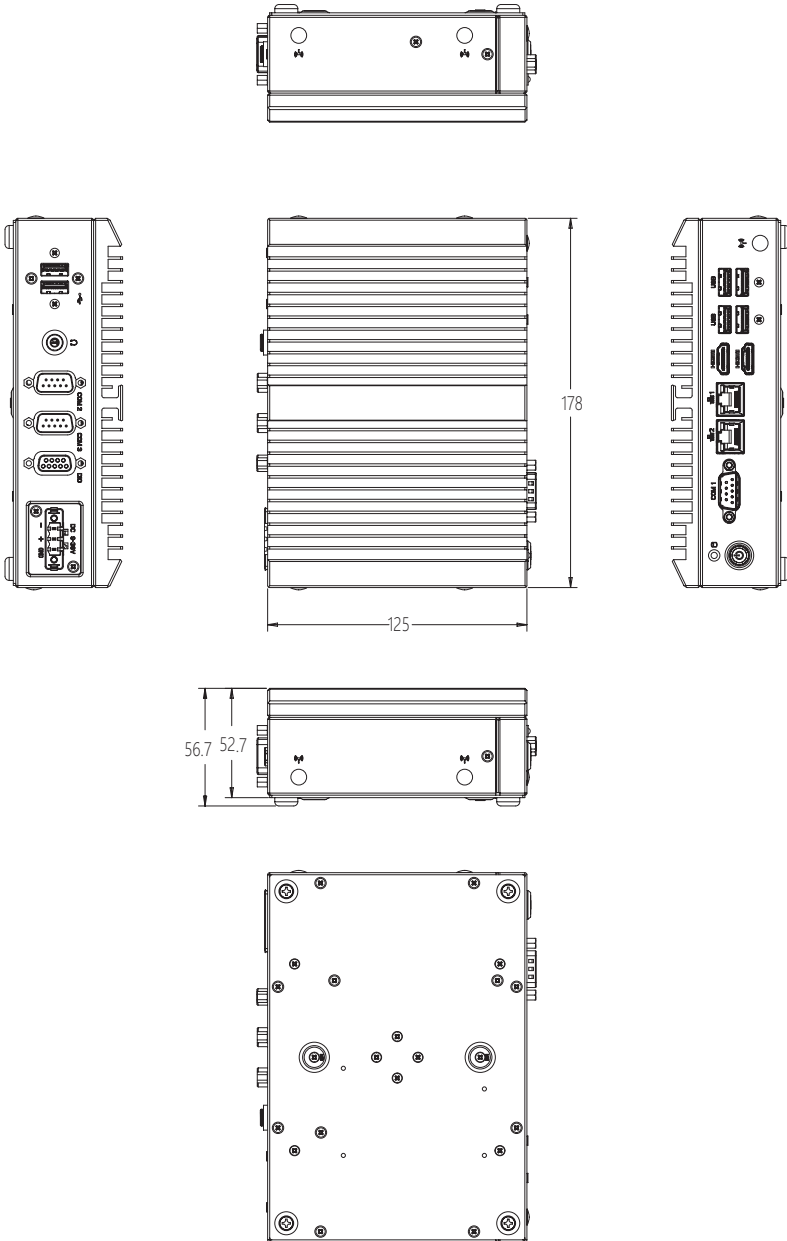
| System | QBiX-Pro-WHLA8265H-A1 (QP-8265A-SI) |
|-----------------|---|
| Dimension | System Size : 178W x 125D x 52.7H (mm) |
| CPU | Intel® Core™ i5-8265U Processor 14nm, 4 cores, 8 threads, up to 3.9 GHz TDP 15W |
| Chipset | SoC |
| Memory | 2 x DDR4 SO-DIMM sockets, Max. Capacity 64 GB Support Dual channel DDR4 2400 MHz memory modules |
| Ethernet | 2 x GbE LAN Ports (Intel® I219V and Intel® I211AT) |
| Graphic support | Integrated Graphics Processor - Intel® UHD Graphics for 8th Generation Intel® Processors: 2 x HDMI 1.4 ports, supporting a maximum resolution of 4096x2160 @30 Hz (2 independent display outputs) |
| Audio | Realtek® Audio Codec |
| Storage | 1 x 2.5" HDD/SSD (SATA 6Gb/s) |
| Expansion Slots | 1 x 2280 M.2 M-Key (PCIe x4, SATA 6Gb/s) 1 x 2230 M.2 E-Key (WiFi/BT) 1 x Full-size Mini PCIe with SIM slot (PCIe x1 + USB2.0) -- support 3G/4G module |
| Front I/O | 1 x Power button with LED 1 x HDD LED 2 x HDMI 2 x RJ45 LAN Ports 4 x USB 3.2 Gen 2x1 1 x COM Port (RS-232/422/485 & RI/5V/12V) |
| Rear I/O | 2 x USB 2.0 2 x COM Ports (RS-232) 1 x GPIO (8 bits) 1 x Headphone Jack 1 x 3-pin Terminal Block |
| Side I/O | 2 x External Antenna Holes (Optional) |
| TPM | — |
| Power | +9V~36VDC (Full Range) |

| System | QBiX-Pro-WHLA8265H-A1 (QP-8265A-SI) |
|----------------------------|--|
| Operation Temperature | Operating temperature: 0°C to 50°C Operating humidity: 0-90% (non-condensing) Non-operating temperature: -40°C to 85°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 2280 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 | Carton size: 505 x 333 x 231 (mm) Packing Capacity: 5pcs Including: Screw I Head for 2.5" HDD M3x8L x 4 (P/N: 25KSG-130081-K1R) Thermal Pad for 2.5" HDD x 2 (P/N: 25ST3-200052-T5R) Thermal Pad for DIMM2 x 1 (P/N: 25ST3-200051-T5R) SATA Cable x 1 (P/N: 25CF4-070020-S9R) Terminal Blocks Male Plug x 1 (P/N: 25IO0-5ESDV0-D2R) |
| Order Information | System: 6BQP8265AMR-SI (Box packing) |

Chapter 2

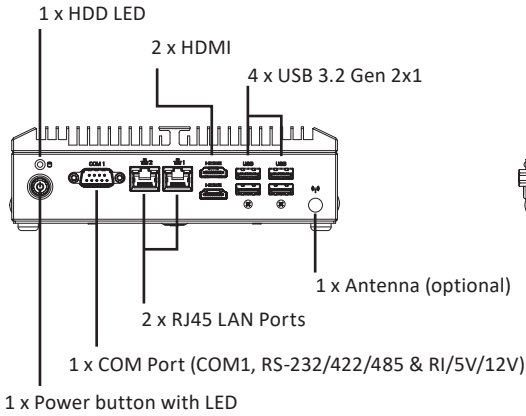
Chapter 2 – QBiX-Pro-WHLA8265H-A1 (QP-8265A-SI)
Industrial Embedded System Kit

2.1 Dimension

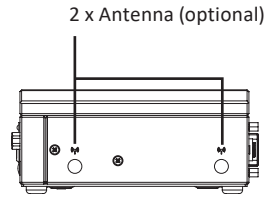


2.2 Getting Familiar with Your Unit

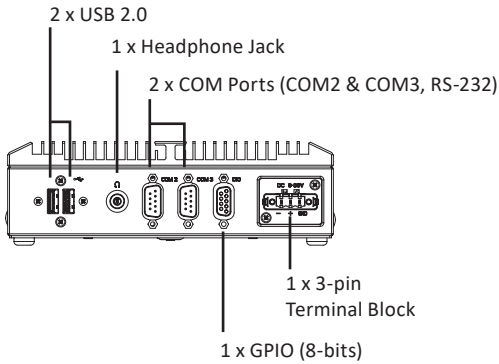
[Front Side]



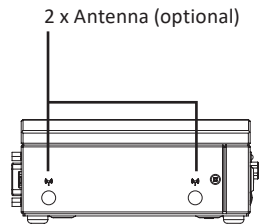
[Left Side]



[Rear Side]

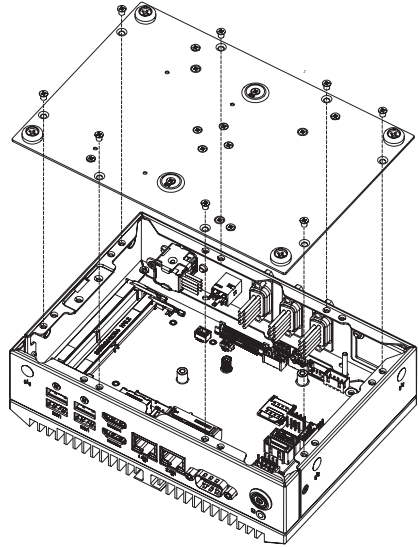
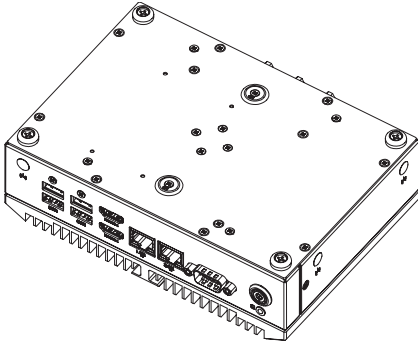


[Right Side]



[Install]

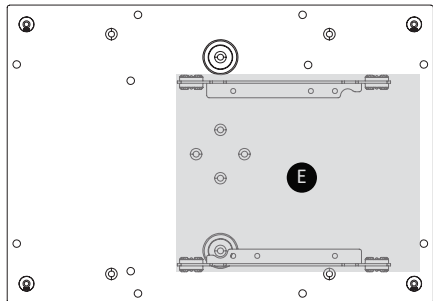
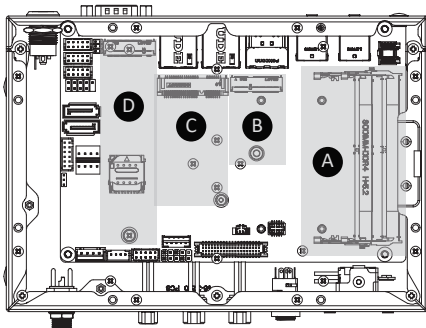
- * Before opening the case, make sure to unplug the power cord.
- * Before Connecting the power, make sure to fasten the case securely.



[Bottom PCB Side]

| Information | |
|-------------|--|
| A | 2 x DDR4 SO-DIMM sockets, DDR4 2400 MHz, Max. Capacity 64 GB |
| B | 1 x M.2 slot (Support NGFF-2230) |

| Information | |
|-------------|---|
| C | 1 x Min PCIe slot (PCIex1 + USB2.0) with SIM Slot |
| D | 1 x M.2 slot (Support NGFF-2280) |
| E | 2.5" Hard drive/SSD |

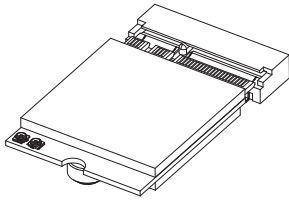


2.3 A) Wireless Module: How to safely install the Module (Wireless Module inclusion may vary based on local distribution)

1

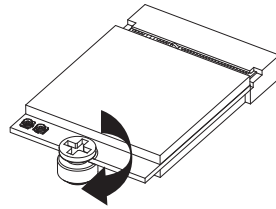
Carefully insert the wireless module into the M.2 slot

小心地將無線模組安裝於M.2插槽中。

**2**

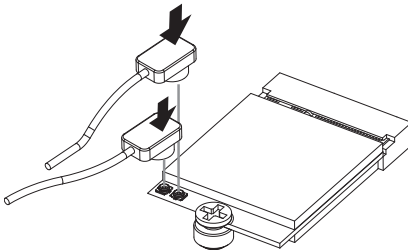
Lock the screw in the middle.

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。

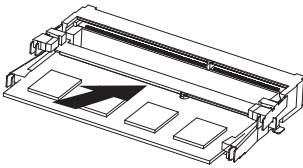


2.4 B) Memory Installation: DDR4 SO-DIMM

1

Carefully insert SO-DIMM memory modules.

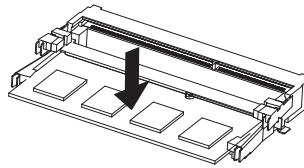
小心地由下至上將 SO-DIMM 記憶體安裝於記憶體插槽。



2

Push down until the modules click into place.

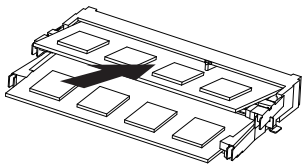
當記憶體固定於插槽後，再輕輕下壓至定點。



3

Carefully insert SO-DIMM memory modules.

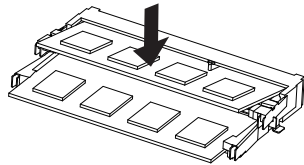
安裝下層記憶體後，重覆前述動作安裝上層記憶體。



4

Push down until the modules click into place.

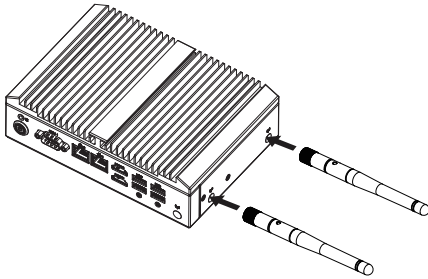
當記憶體固定於插槽後，再輕輕下壓至定點。



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

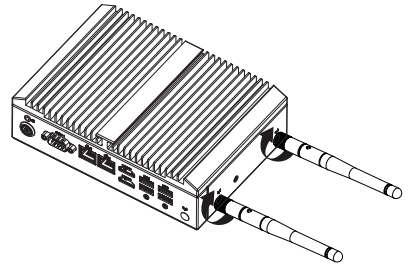
①

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



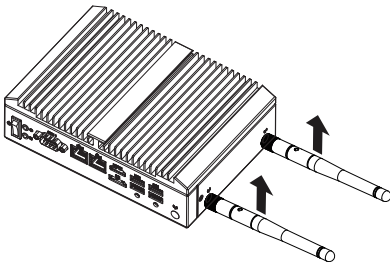
②

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。



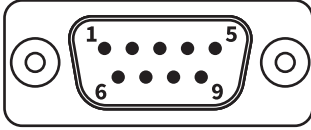
③

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。



2.6 Cable Pin-define

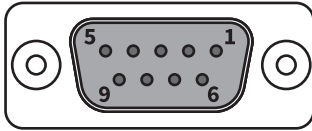
1. DB9 COM (25CF8-210620-S9R)



DB9 Pin Define

| DB9 Pin | RS-232 |
|---------|--------|
| 1 | DCD |
| 2 | RXD |
| 3 | TXD |
| 4 | DTR |
| 5 | GND |
| 6 | DSR |
| 7 | RTS |
| 8 | CTS |
| 9 | RI |

2. DBP DIO (25CR5-150606-S9R)



| DBP DIO Pin | Pin Name |
|-------------|----------|
| 1 | GP01 |
| 2 | GPI1 |
| 3 | GP02 |
| 4 | GPI2 |
| 5 | GP03 |
| 6 | GPI3 |
| 7 | GP04 |
| 8 | GPI4 |
| 9 | 5V |

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.

HDMI™
HIGH DEFINITION MULTIMEDIA INTERFACE

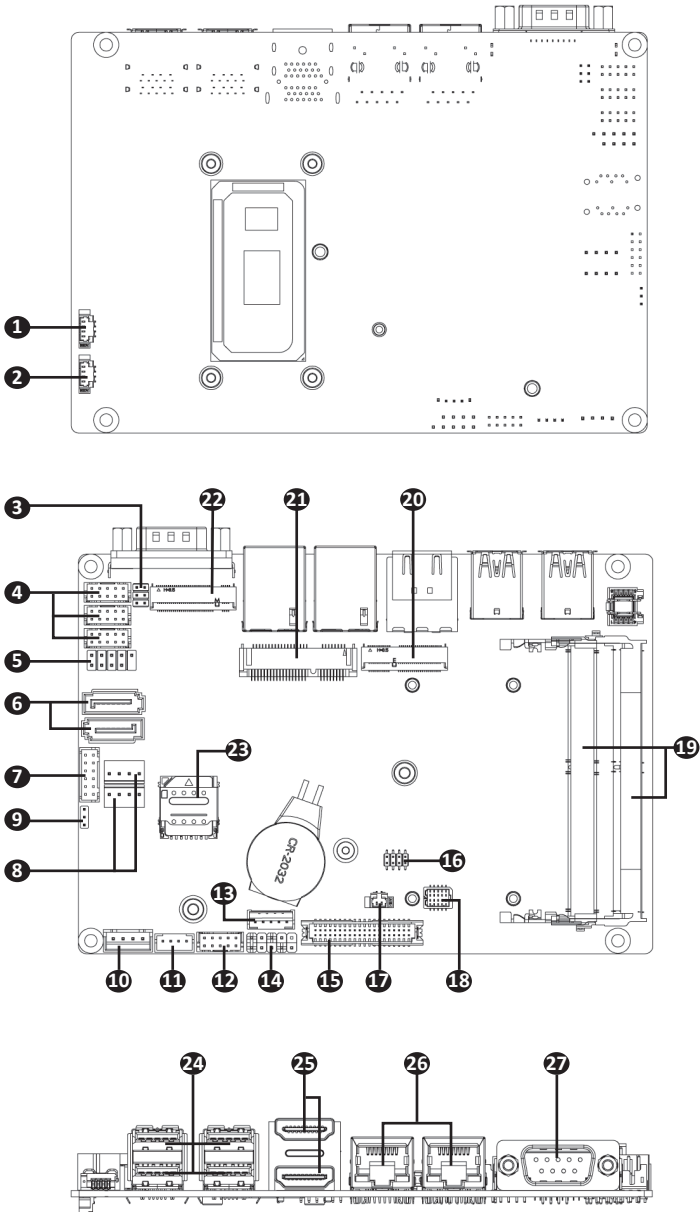


At the end of its serviceable life, this product should not be treated as household or general waste. It should be handed over to the applicable collection point for the recycling of electrical and electronic equipment, or returned to the supplier for disposal.

Chapter 3

Chapter 3 – Hardware Information

3.1 Jumpers and Connectors

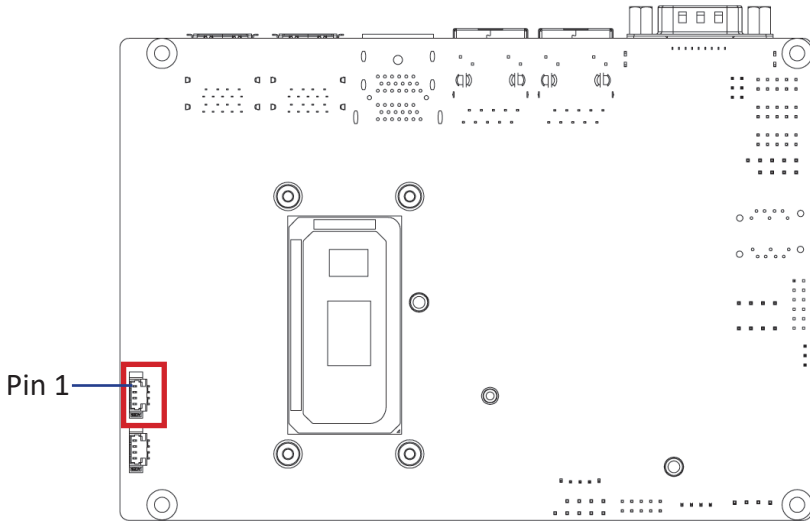


| No | Code | Description |
|----|----------------------|--------------------------------------|
| 1 | CPU FAN | CPU FAN connector |
| 2 | SYS FAN | System FAN connector |
| 3 | JCOM1 | COM1 (COM RI# pin RI#/5V/12V Select) |
| 4 | COM2 COM3 COM4 | Serial port header (RS-232) |
| 5 | FUSB | USB 2.0 header |
| 6 | SATAIII1 SATAIII0 | SATA 6GB/s Connector |
| 7 | GPIO_CNT | General purpose input/output header |
| 8 | SATAPW1 SATAPW2 | SATA power connector |
| 9 | AT_CN | AT/ATX mode select jumper |
| 10 | DC_IN | DC IN 1x4pin power connector |
| 11 | SPK_OUT | Speaker out connector |
| 12 | FP_Audio | Front Audio connector |
| 13 | BKL_CN | Backlight Control connector |
| 14 | SYS_PANEL | Front panel header |
| 15 | LVDS | LVDS connector |
| 16 | LSW | LVDS resolution jumper |
| 17 | BATTERY | Battery cable connector |
| 18 | LPC_CN | LPC Connector |
| 19 | SODIMM1 SODIMM2 | DDR4 SO-DIMM Slot |

| No | Code | Description |
|----|----------------------|---|
| 20 | M2E | M.2 Slot, E-key, NGFF2230, WiFi & Bluetooth module |
| 21 | MPCIE | Mini PCIe full size, support 3G/4G module |
| 22 | M2M | M.2 Slot, SATA/PCIe x4, NGFF2280 |
| 23 | SIM-CARD | SIM Card slot |
| 24 | RUSB31_1 RUSB31_2 | USB 3.2 Gen 2x1 Connector x 4 |
| 25 | HDMI21 | HDMI connector |
| 26 | LAN1, LAN2 | LAN connector |
| 27 | COM1 | Serial Port connector (RS-232/422/485 & RI/5V/12V) |

3.2.1 CPU FAN (CPU FAN connector)

1



Pin 1

CPU FAN connector

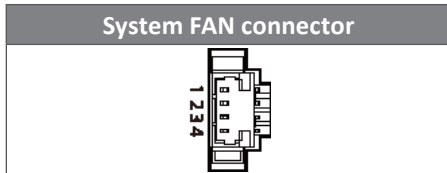
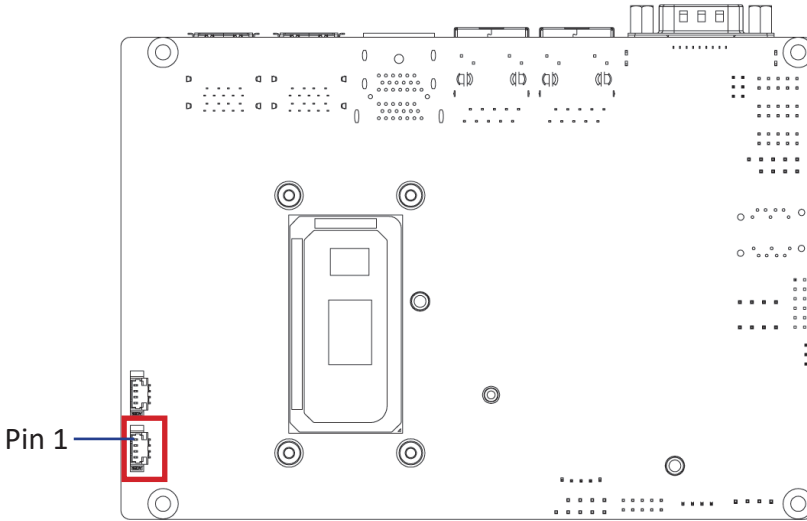


| Connector PN | Vendor |
|----------------|------------|
| 85205-0470N | ACES |
| A1250WV-S-04PC | JOINT-TECH |

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

3.2.2 System FAN (System FAN connector)

2

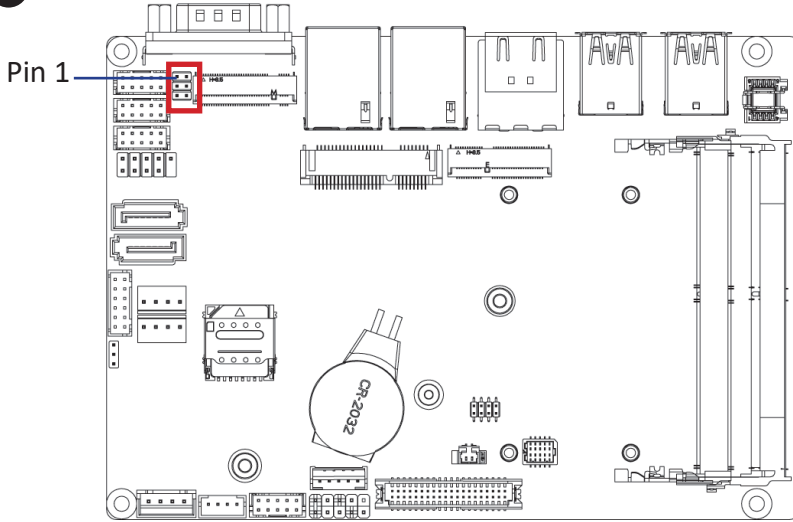


| Connector PN | Vendor |
|----------------|------------|
| 85205-0470N | ACES |
| A1250WV-S-04PC | JOINT-TECH |

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

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

3



JCOM11 Jumper Select

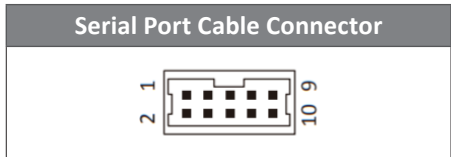
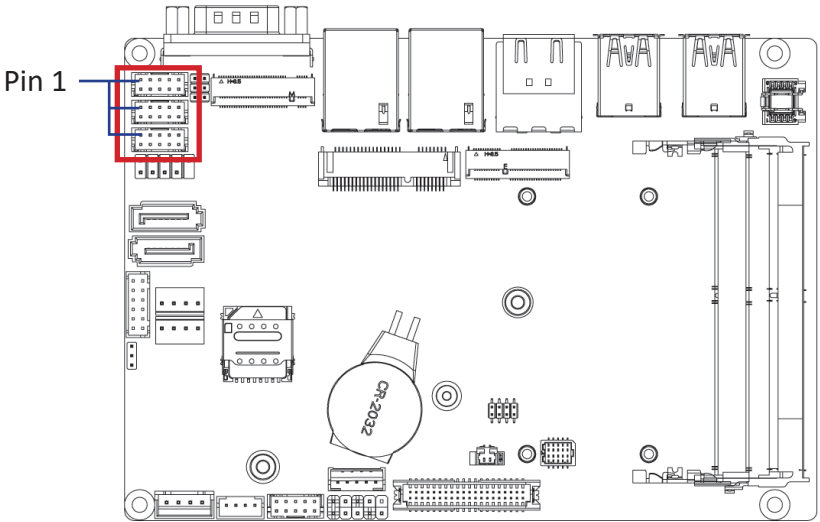
| | |
|--|--|
| | 1-2 Close: 5V (Power COM) |
| | 3-4 Close: RI (Stand COM) (Default-Setting) |
| | 5-6 Close: 12V (Power COM) |

Connector PN

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

3.2.4 COM2, COM3, COM4 (Serial port header, RS-232)

4

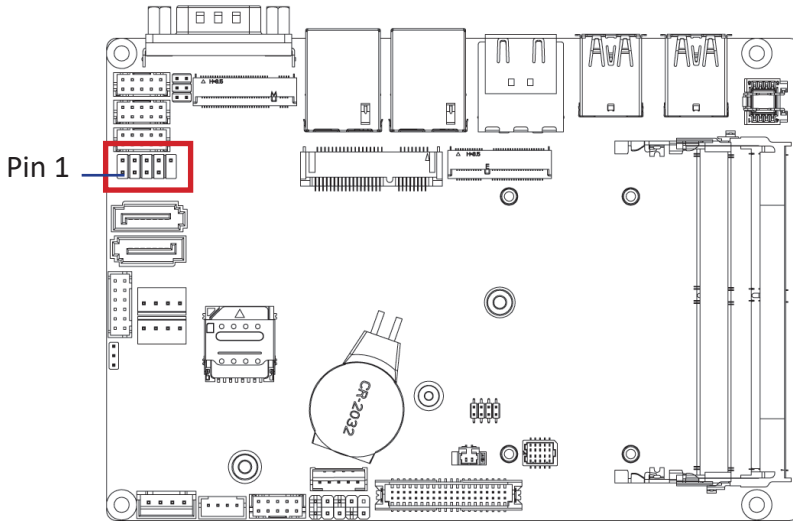


| Connector PN | Vendor |
|-----------------|------------|
| 725-81-10TW00 | PINREX |
| A2004WV-2X05P46 | JOINT-TECH |

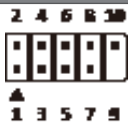
| Pin No. | Definition |
|---------|------------|
| 1 | RXD |
| 2 | DCD |
| 3 | DTR |
| 4 | TXD |
| 5 | DSR |
| 6 | GND |
| 7 | CTS |
| 8 | RTS |
| 9 | No Connect |
| 10 | RI |

3.2.5 FUSB (USB 2.0 header)

5



USB 2.0 Header

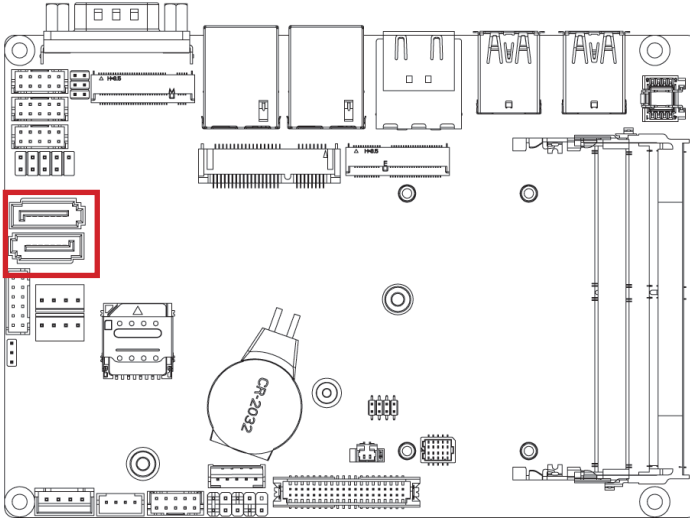


| Connector PN | Vendor |
|---------------|-----------|
| 210-92-05GB04 | PINREX |
| PH10R53BAZ009 | HORNGTONG |

| 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 |

3.2.6 SATAIII_0, SATAIII_1 (SATA 6Gb/s Connector)

6



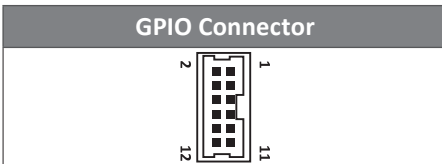
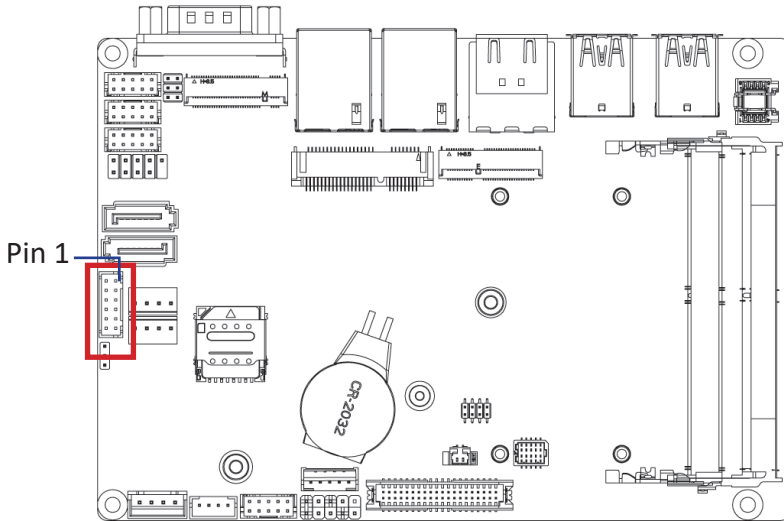
| SATA Connector | |
|----------------|---|
| ↙ | ↘ |
| ↙ | ↘ |

| SATAIII_1,SATAIII_0 | |
|---------------------|--------|
| Connector PN | Vendor |
| WATM-07ABNB2BAUW3 | WINWIN |
| 770-83-07SW19 | PINREX |

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

3.2.7 GPIO_CNT (General Purpose input/output header)

7

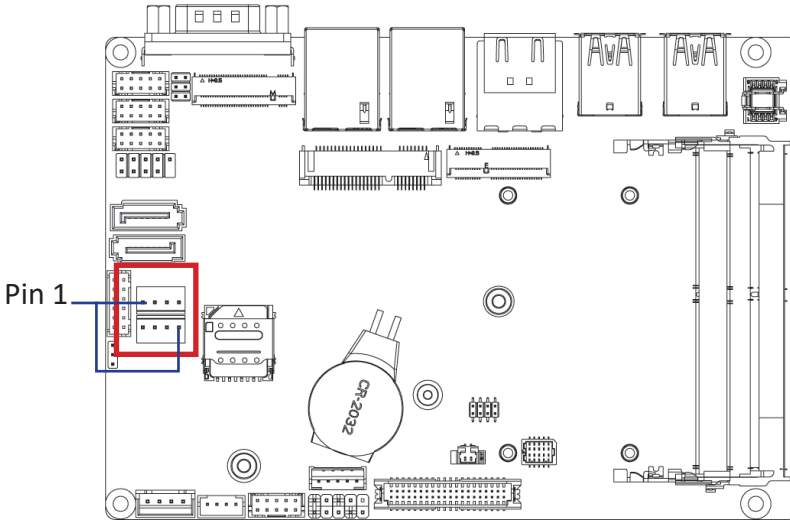


| Connector PN | Vendor |
|-----------------|------------|
| 725-81-12TW00 | PINREX |
| A2004WV-2X06P46 | JOINT-TECH |

| Pin No. | Definition |
|---------|---------------|
| 1 | GPIO-output_1 |
| 2 | GPIO-input_1 |
| 3 | GPIO-output_2 |
| 4 | GPIO-input_2 |
| 5 | GPIO-output_3 |
| 6 | GPIO-input_3 |
| 7 | GPIO-output_4 |
| 8 | GPIO-input_4 |
| 9 | SMBus Clock |
| 10 | SMBus DATA |
| 11 | 5V |
| 12 | GND |

3.2.8 SATAPW1, SATAPW2 (SATA power connector)

8



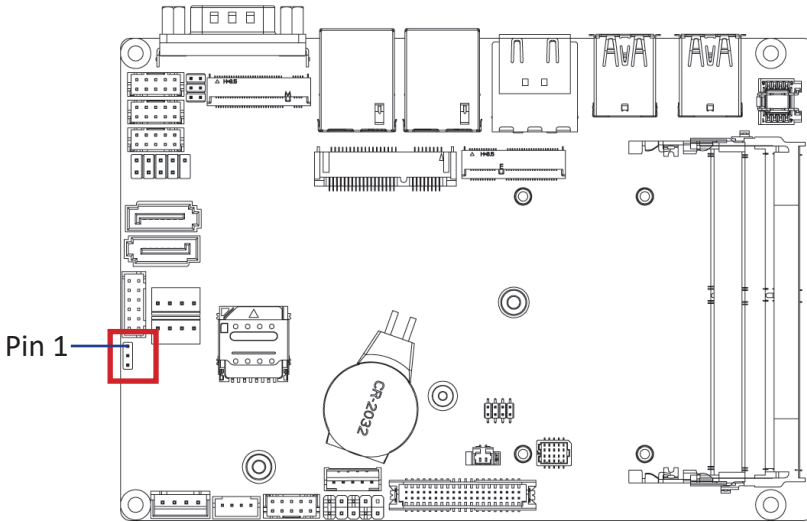
Hard Disk Power Connector

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

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

3.2.9 AT_CN (AT/ATX mode select jumper)

9



| AT/ATX mode select jumper | |
|---------------------------|--|
| 1 | |

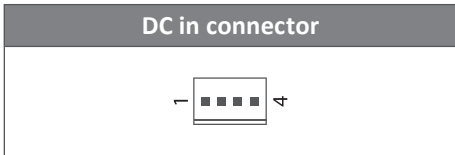
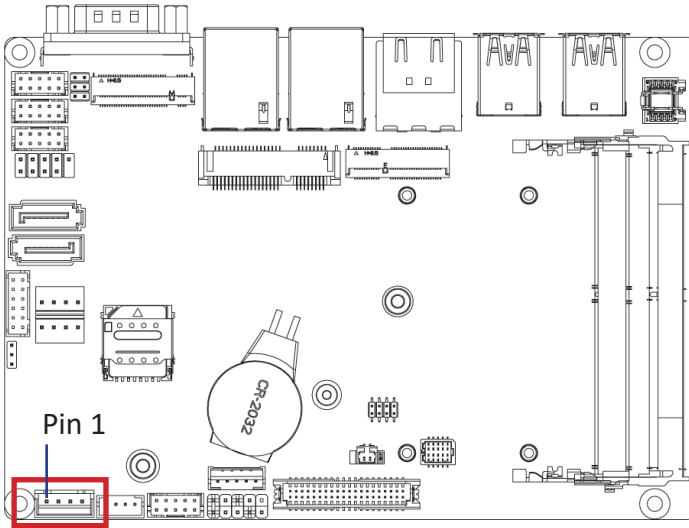
| Connector PN | Vendor |
|----------------|-----------|
| 220-96-03GB01 | PINREX |
| PH03N2-7BAN000 | HORNGTONG |

| Pin No. | Definition |
|---------|------------|
| 1 | AT MODE |
| 2 | TXD5 |
| 3 | ATX MODE |

Jumper setting
 1-2 Close : AT mode.
 2-3 Close : ATX mode.(Default setting)

3.2.10 DC_IN (DC IN 1x4-pin power connector)

10

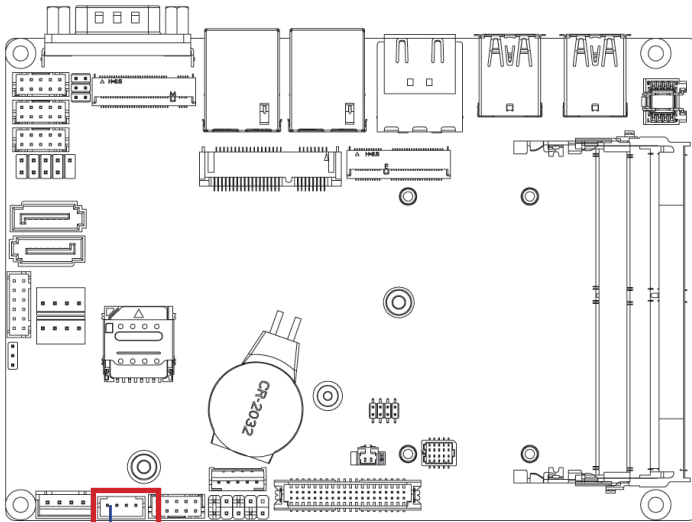


| Connector PN | Vendor |
|---------------|--------|
| 753-81-04TW00 | PINREX |

| Pin No. | Definition |
|---------|------------|
| 1 | GND |
| 2 | Power |
| 3 | Power |
| 4 | GND |

3.2.11 SPK_OUT (Speaker out connector)

11



Pin 1

Audio Amplifie Connector



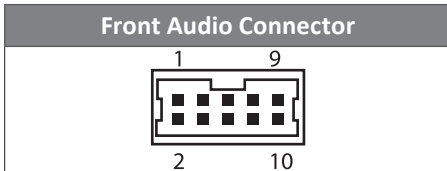
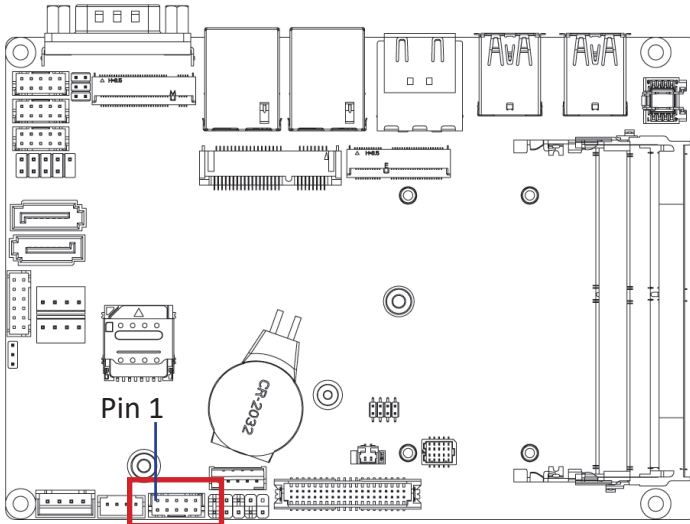
1

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

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

3.2.12 FP_Audio (Front Audio connector)

12

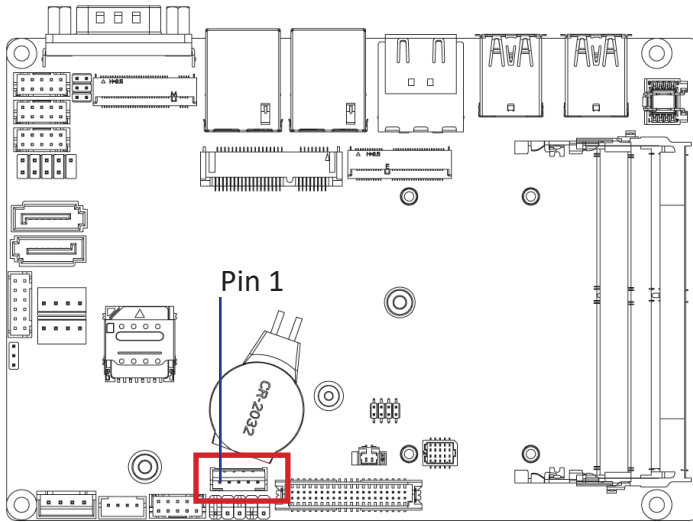


| Connector PN | Vendor |
|-----------------|------------|
| 725-81-10TW00 | PINREX |
| A2004WV-2X05P46 | JOINT-TECH |

| Pin No. | Definition |
|---------|------------|
| 1 | MIC_L |
| 2 | GND |
| 3 | MIC_R |
| 4 | Detect |
| 5 | HPOUT_R |
| 6 | MIC_JD |
| 7 | FAUDIO_JD |
| 8 | No Connect |
| 9 | HPOUT_L |
| 10 | GND |

3.2.13 BKL_CN (Backlight Control connector)

13



Backlight Control connector



Connector PN

721-81-05TW00

A2001WV-05P146

Vendor

PINREX

JOINT-TECH

Pin No.

Definition

1

5V

2

PWM

3

Backlight Enable

4

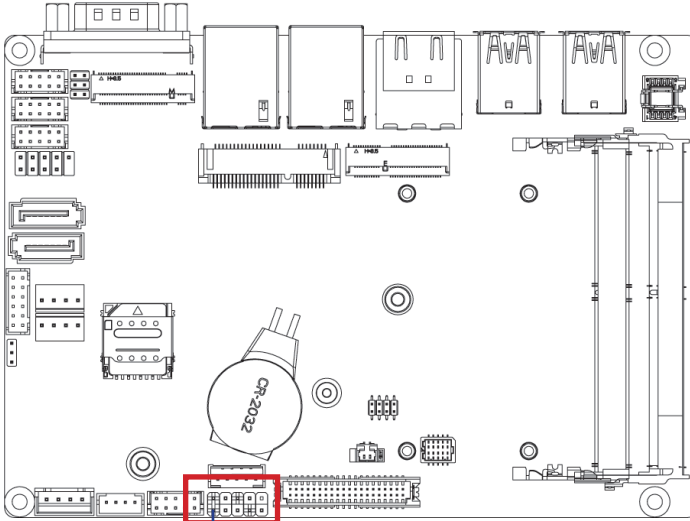
GND

5

12V

3.2.14 SYS_PANEL (Front panel header)

14



Pin 1

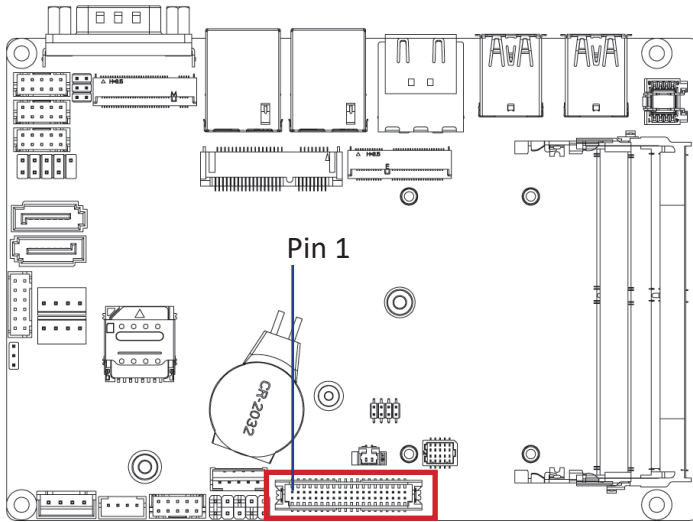
| System Panel Header | |
|---------------------|----|
| 2 | 10 |
| 1 | 9 |

| Connector PN | Vendor |
|---------------|--------|
| 210-92-05G111 | PINREX |

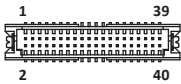
| Pin No. | Definition |
|---------|---------------|
| 1 | HDD LED+ |
| 2 | Power LED+ |
| 3 | HDD LED- |
| 4 | Power LED- |
| 5 | GND |
| 6 | Power Button+ |
| 7 | Reset Button |
| 8 | Power Button- |
| 9 | No Connect |
| 10 | No Pin |

3.2.15 LVDS (LVDS connector)

15



LVDS Connector



| 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 | SPECO | 25 | GND |
| 6 | SPEDO | 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- |
| 17 | A3- | 37 | GND |
| 18 | A2- | 38 | GND |
| 19 | GND | 39 | 12V |
| 20 | GND | 40 | 12V |

Connector PN

Vendor

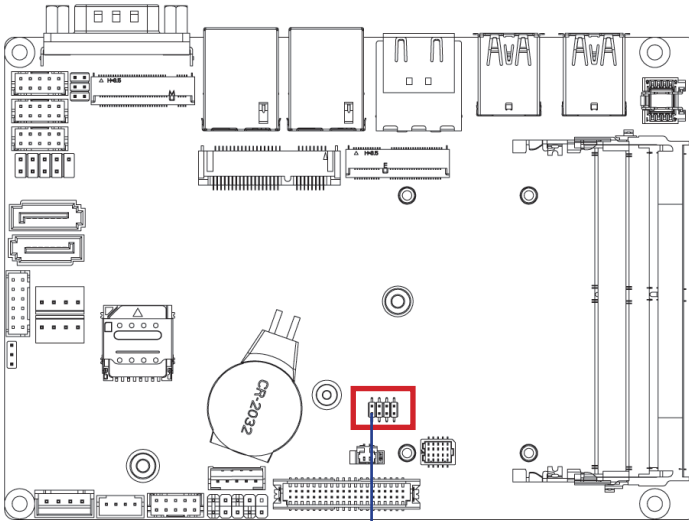
| | |
|---------------------|------------|
| 712-76-40GWEO | PINREX |
| A1252WV-SF-2X20PD01 | JOINT-TECH |

For each model support LVDS function.
But below model no need to add.
A0~A3 is odd channel 0~3, A4~A7 is evn channel.

Note: *The LVDS output connector of the unit is only intended to be connected to an UL/IEC/EN approval equipment with fire enclosure.

3.2.16 LSW (LVDS resolution jumper)

16



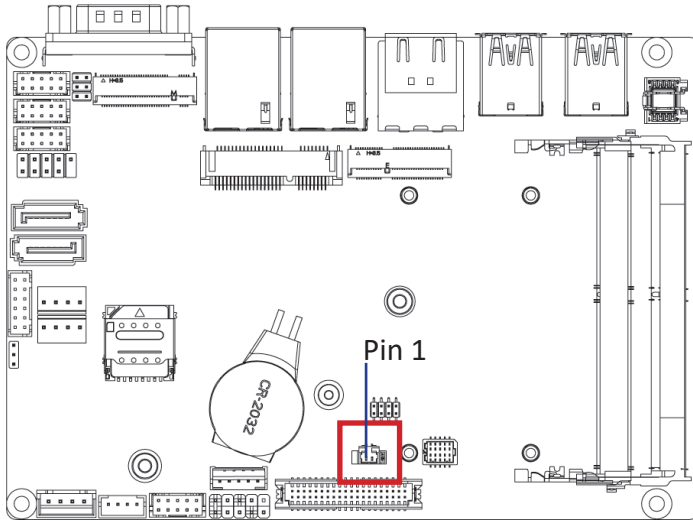
Pin 1

| LVDS Resolution Jumper | | | |
|------------------------|----------------------|----------------|----------------------|
| 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 |

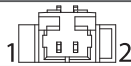
| Connector PN | Vendor |
|---------------|--------|
| 222-97-04GBE1 | PINREX |

3.2.17 BATTERY (Battery cable connector)

17



Battery Cable Connector



Connector PN

85205-0270L

Vendor

ACES

A1250WV-S-02PC

JOINT-TECH

Pin No.

Definition

1

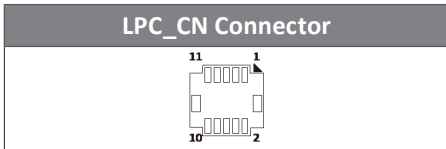
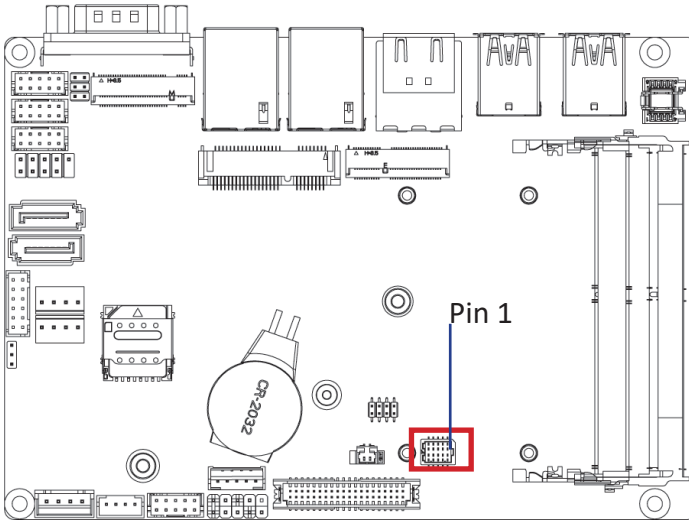
3.3V

2

GND

3.2.18 LPC_CN (LPC Connector)

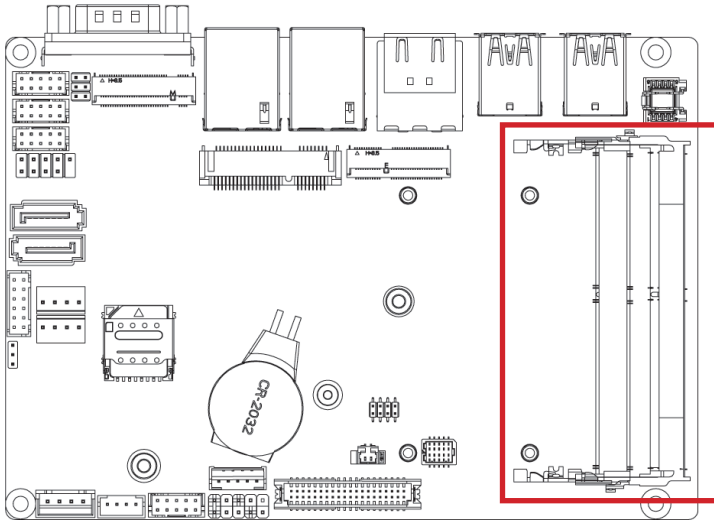
18



| Pin No. | Definition |
|---------|-------------|
| 1 | CK_LPC1 |
| 2 | GND |
| 3 | LFRAME# |
| 4 | LAD0 |
| 5 | PLT_RST_80H |
| 6 | LAD1 |
| 7 | LAD3 |
| 8 | LAD2 |
| 9 | 3.3V |
| 10 | SERIRQ |

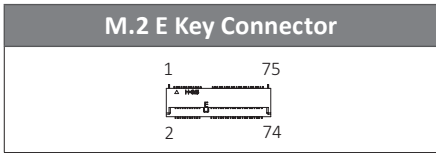
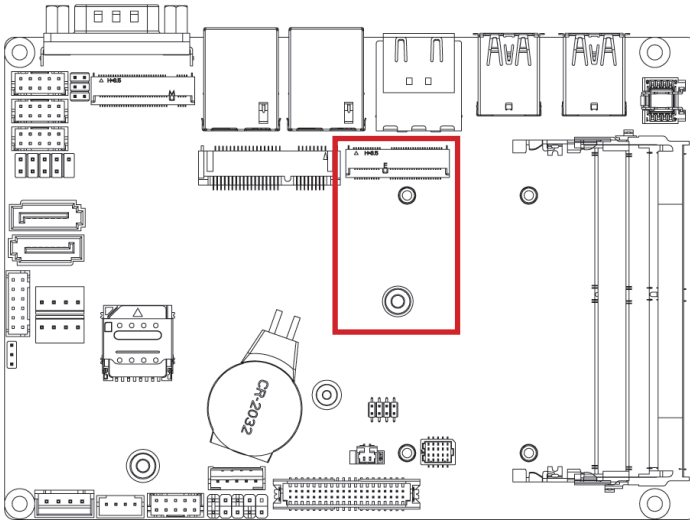
3.2.19 SODIMM1, SODIMM2 (DDR4 SO-DIMM Slot)

19



3.2.20 M2E (M.2 Slot, E-Key, NGFF2230, WiFi & Bluetooth module)

20



| Pin No. | Definition | Pin No. | Definition |
|---------|------------|---------|------------|
| 1 | GND | 2 | 3V |
| 3 | USB_D+ | 4 | 3V |
| 5 | USB_D- | 6 | NC |
| 7 | GND | 8 | NC |
| 9 | NC | 10 | NC |
| 11 | NC | 12 | NC |
| 13 | NC | 14 | NC |
| 15 | NC | 16 | NC |
| 17 | NC | 18 | GND |
| 19 | NC | 20 | BT_WAKE |
| 21 | NC | 22 | NC |
| 23 | NC | | |

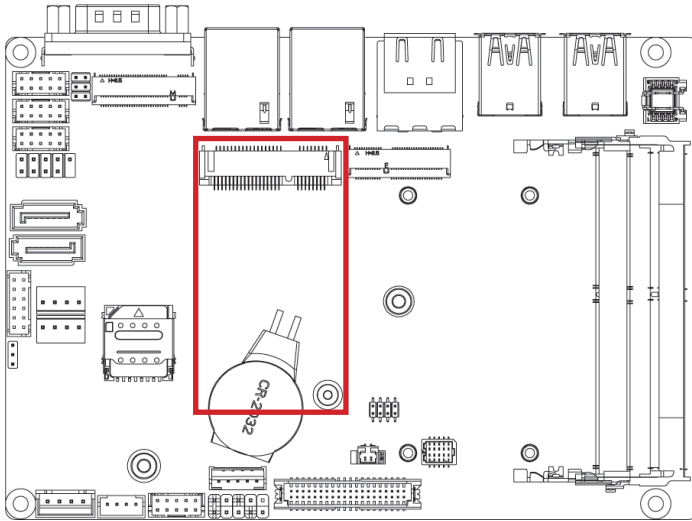
| Pin No. | Definition | Pin No. | Definition |
|---------|------------|---------|------------|
| 33 | GND | 32 | NC |
| 35 | WLAN_TXp | 34 | NC |
| 37 | WLAN_TXn | 36 | NC |
| 39 | GND | 38 | CL_RST# |

| | | | |
|----|-----------|----|---------------|
| 41 | WLAN_RXp | 40 | CL_DATA |
| 43 | WLAN_RXn | 42 | CL_CLK |
| 45 | GND | 44 | NC |
| 47 | CLK_DP | 46 | NC |
| 49 | CLK_DN | 48 | NC |
| 51 | GND | 50 | SUSCLK |
| 53 | CLK_REQ | 52 | PLT_RST# |
| 55 | PCIE_WAKE | 54 | BT_Disable# |
| 57 | GND | 56 | WIFI_Disable# |
| 59 | NC | 58 | NC |
| 61 | NC | 60 | NC |
| 63 | GND | 62 | NC |
| 65 | NC | 64 | NC |
| 67 | NC | 66 | NC |
| 69 | GND | 68 | NC |
| 71 | NC | 70 | NC |
| 73 | NC | 72 | 3V |
| 75 | GND | 74 | 3V |

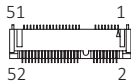
| Connector PN | Vendor |
|----------------|------------|
| APCI0095-P002A | LOTES |
| 80152-8521 | BELLWETHER |

3.2.21 MPCIE (Mini PCIe full size, support 3G/4G module)

21



Mini PCIe Connector



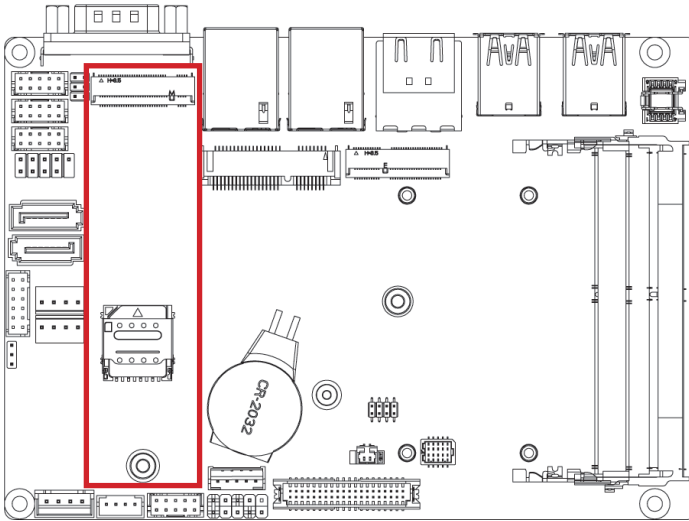
| Pin No. | Definition | Pin No. | Definition |
|---------|--------------|---------|--------------|
| 1 | PCIE_WAKE# | 2 | 3.3V |
| 3 | NC | 4 | GND |
| 5 | NC | 6 | 1.5V |
| 7 | PCIE_CLKREQ# | 8 | SIM_PWR |
| 9 | GND | 10 | SIM_DATA |
| 11 | PCIE_CLK# | 12 | SIM_CLK |
| 13 | PCIE_CLK | 14 | SIM_RST |
| 15 | GND | 16 | SIM_VPP |
| 17 | NC | 18 | GND |
| 19 | NC | 20 | PCIE_DISABLE |
| 21 | GND | 22 | PCIRST# |
| 23 | PCIE_RXn | 24 | 3.3V |
| 25 | PCIE_RXp | 26 | GND |
| 27 | GND | 28 | 1.5V |
| 29 | GND | 30 | SMBCLK |
| 31 | PCIE_TXn | 32 | SMBDATA |
| 33 | PCIE_TXp | 34 | GND |

| | | | |
|----|------|----|------|
| 35 | GND | 36 | USB- |
| 37 | GND | 38 | USB+ |
| 39 | 3.3V | 40 | GND |
| 41 | 3.3V | 42 | NC |
| 43 | GND | 44 | NC |
| 45 | NC | 46 | NC |
| 47 | NC | 48 | 1.5V |
| 49 | NC | 50 | GND |
| 51 | NC | 52 | 3.3V |

| Connector PN | Vendor |
|-----------------|---------|
| AS0B221-S99Q-7H | FOXCONN |

3.2.22 M2M (M.2 Slot, SATA/PCIe x4, NGFF2280)

22



M.2 M Key Connector



| Pin No. | Definition | Pin No. | Definition |
|---------|------------|---------|------------|
| 1 | GND | 2 | 3.3V |
| 3 | GND | 4 | 3.3V |
| 5 | NC | 6 | NC |
| 7 | NC | 8 | NC |
| 9 | GND | 10 | M2_LED |
| 11 | NC | 12 | 3.3V |
| 13 | NC | 14 | 3.3V |
| 15 | GND | 16 | 3.3V |
| 17 | NC | 18 | 3.3V |
| 19 | NC | 20 | NC |
| 21 | GND | 22 | NC |
| 23 | NC | 24 | NC |
| 25 | NC | 26 | NC |
| 27 | GND | 28 | NC |
| 29 | PCIe_RXn | 30 | NC |
| 31 | PCIe_RXp | 32 | NC |
| 33 | GND | 34 | NC |
| 35 | PCIe_TXn | 36 | NC |

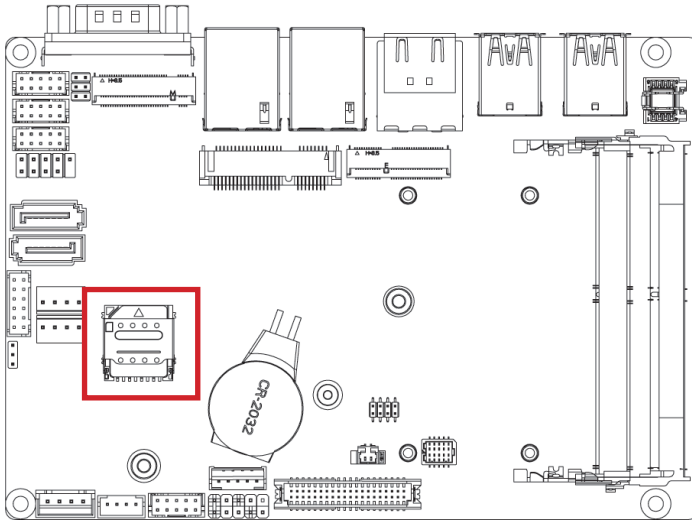
| Pin No. | Definition | Pin No. | Definition |
|---------|------------|---------|------------|
| 37 | PCIe_TXp | 38 | DEVSLP |
| 39 | GND | 40 | SMB Clock |
| 41 | SATA_RXp | 42 | SMB DATA |
| 43 | SATA_RXn | 44 | SMB ALERT |
| 45 | GND | 46 | NC |
| 47 | SATA_TXn | 48 | NC |
| 49 | SATA_TXp | 50 | PLT_RST |
| 51 | GND | 52 | CK_REQ |
| 53 | CLK_n | 54 | PCIe_WAKE# |
| 55 | CLK_p | 56 | NC |
| 57 | GND | 58 | NC |

| Pin No. | Definition | Pin No. | Definition |
|---------|---------------|---------|------------|
| 67 | NC | 68 | SUSCLK |
| 69 | M2_SSD_Detect | 70 | 3.3V |
| 71 | GND | 72 | 3.3V |
| 73 | GND | 74 | 3.3V |
| 75 | GND | | |

| Connector PN | Vendor |
|--------------|------------|
| 80159-8521 | BELLWETHER |

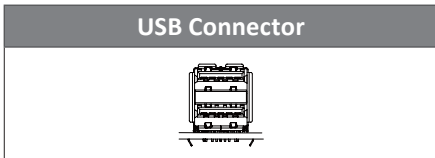
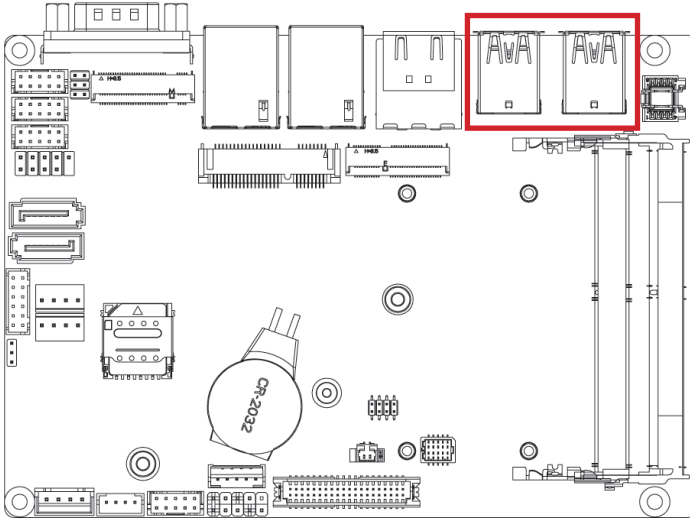
3.2.23 SIM_CARD (SIM Card slot)

23



3.2.24 RUSB31_1, RUSB31_2 (USB 3.2 Gen 2x1 connector)

24

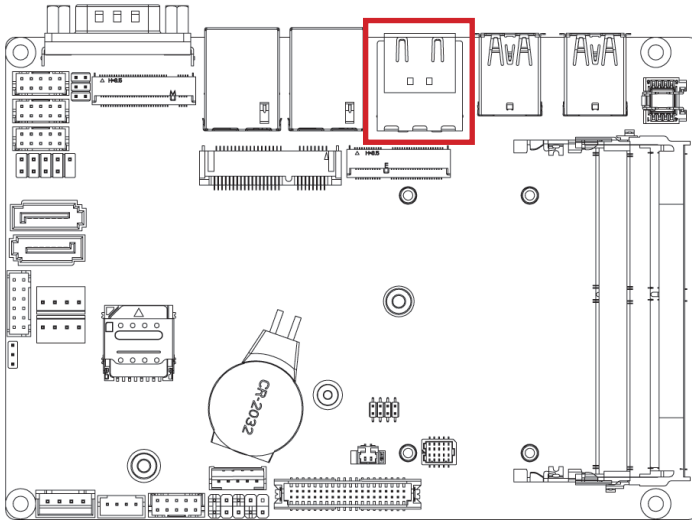


| Connector PN | Vendor |
|------------------|---------|
| UAA111C-841R1-4H | FOXCONN |

| Pin No. | Definition | Pin No. | Definition |
|---------|------------|---------|------------|
| 1 | 5V | 10 | 5V |
| 2 | USB_D- | 11 | USB_D- |
| 3 | USB_D+ | 12 | USB_D+ |
| 4 | GND | 13 | GND |
| 5 | USB3_RX- | 14 | USB3_RX- |
| 6 | USB3_RX+ | 15 | USB3_RX+ |
| 7 | GND | 16 | GND |
| 8 | USB3_TX- | 17 | USB3_TX- |
| 9 | USB3_TX+ | 18 | USB3_TX+ |

3.2.25 HDMI21 (HDMI connector)

25



HDMI Connector



Connector PN

QJ11191-DFB1-4F

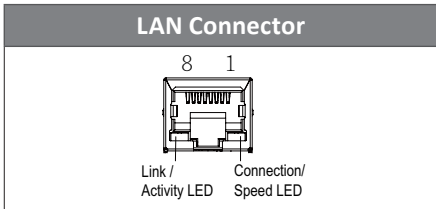
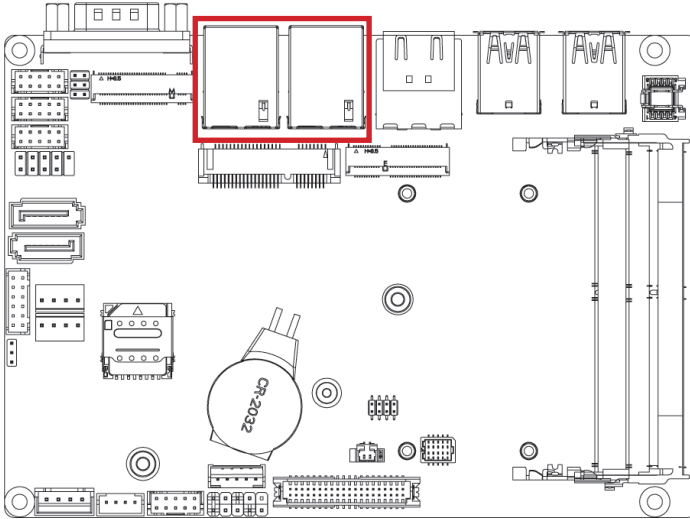
Vendor

FOXCONN

| Pin No. | Definition | Pin No. | Definition |
|---------|------------|---------|------------|
| 1 | HDMI_D2+ | 13 | NC |
| 2 | GND | 14 | NC |
| 3 | HDMI_D2- | 15 | HDMI_SCL |
| 4 | HDMI_D1+ | 16 | HDMI_SDA |
| 5 | GND | 17 | GND |
| 6 | HDMI_D1- | 18 | 5V |
| 7 | HDMI_D0+ | 19 | HDMI_HPD |
| 8 | GND | | |
| 9 | HDMI_D0- | | |
| 10 | HDMI_CLK+ | | |
| 11 | GND | | |
| 12 | HDMI_CLK- | | |

3.2.26 LAN1, LAN2 (LAN connector)

26



| State | Description |
|-----------|-------------------|
| Orange On | 1Gbps data rate |
| Green On | 100Mbps data rate |
| Off | 10Mbps data rate |

| Pin No. | Definition |
|---------|------------|
| 1 | TX1+ |
| 2 | TX1- |
| 3 | TX2+ |
| 6 | TX2- |
| 4 | TX3+ |
| 5 | TX3- |
| 7 | TX4+ |
| 8 | TX4- |

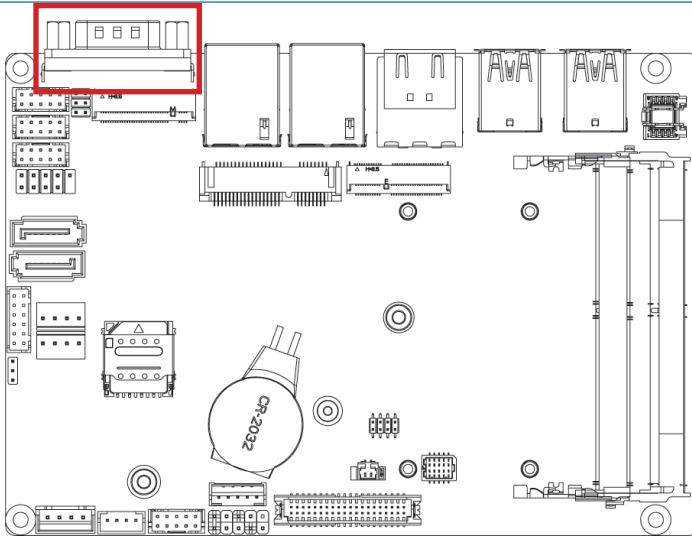
| Connector PN | Vendor |
|--------------|--------|
| RB1-13NB5N5A | UDE |

3.2.27 COM1 (Serial port connector, RS-232/422/485 & RI/5V/12V)

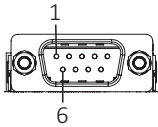
3.5" SBC Boards

QBIP-8565A/ QBIP-8265A/ QBIP-8145A

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Serial Port Connector



| Connector PN | Vendor |
|------------------|---------|
| SM41D1P1122N33N1 | FENYING |

| Pin No. | RS-232 | RS-422 Full Duplex | RS-485 Half Duplex |
|---------|--------|--------------------|--------------------|
| 1 | DCD | TXD- | D- |
| 2 | RXD | TXD+ | D+ |
| 3 | TXD | RXD+ | - |
| 4 | DTR | RXD- | - |
| 5 | GND | | |
| 6 | DSR | - | - |
| 7 | RTS | - | - |
| 8 | CTS | - | - |
| 9 | RI | - | - |

