

# **QBiP-1165G7B/ QBiP-1135G7B/ QBiP-1115G4EB**

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3.5" SBC Boards  
User's Manual 1st Ed

## Copyright Notice

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## Packing List

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

Item	Quantity
QBiP-1165G7B/ QBiP-1135G7B / QBiP-1115G4EB MB	1
SATA power cable	1

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

## About this Document

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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](http://GIGAIPC.com) for the latest version of this document.

## Safety Precautions

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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

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### **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.*



## China RoHS Requirements (CN)

产品中有毒有害物质或元素名称及含量

GIGAIPC Main Board/ Daughter Board/ Backplane

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

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

# China RoHS Requirement (EN)

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

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

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

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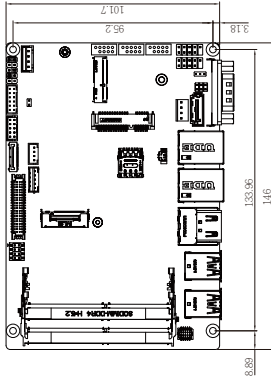
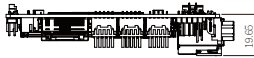
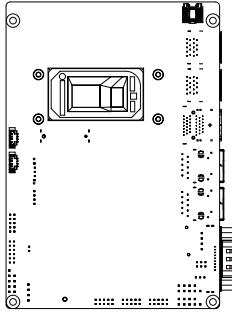
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# Chapter 1

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## Chapter 1 - Product Specifications



## 1.1 Specifications

Motherboard	QBiP-1165G7B	QBiP-1135G7B	QBiP-1115G4EB
Form Factor	3.5" SBC 146W x 101.7Dmm		
CPU	Intel® Core™ i7-1165G7 Processor 10nm SuperFin, 4 cores, 8 threads, up to 4.7 GHz, TDP28W 12 MB Smart Cache	Intel® Core™ i5-1135G7 Processor 10nm SuperFin, 4 cores, 8 threads, up to 4.2 GHz, TDP28W 8 MB Smart Cache	Intel® Core™ i3-1115G4E Processor 10nm SuperFin, 2 cores, 4 threads, up to 3.90 GHz, TDP28W 6 MB Smart Cache
Socket	1 x FCBGA1449		
Chipset	—		
Memory	2 x DDR4 SO-DIMM sockets, Max. Capacity 64 GB Support Dual channel DDR4 3200 MHz memory modules		
Ethernet	2 x GbE LAN Ports (Intel® i219V and Intel® i211AT)		
Video	Integrated Graphics Processor - Intel® Iris® X <sup>e</sup> Graphics: 2 x HDMI2.0 port, supporting a maximum resolution of 4096 x 2304 @60Hz 1 x LVDS port, supporting a maximum resolution of 1920 x 1080 @60 Hz * Support up to 3 displays at the same time		Integrated Graphics Processor - Intel® UHD Graphics: 2 x HDMI2.0 port, supporting a maximum resolution of 4096 x 2304 @60Hz 1 x LVDS port, supporting a maximum resolution of 1920 x 1080 @60 Hz * Support up to 3 displays at the same time
Audio	Realtek® Audio codec		
Storage	1 x SATA 6Gb/s port		
Raid	Intel® SATA RAID 0/1		

Motherboard	QBiP-1165G7B	QBiP-1135G7B	QBiP-1115G4EB
Expansion Slots	1 x 2280 M.2 M-Key (PCIe x2, SATA 6Gb/s) 1 x 2230 M.2 E-Key 1 x Full-size mini PCIe with SIM slot 1x PCIe x1 (Board to Wire connector, PCIe Gen3 x 1)		
Internal I/O	1 x 4 pin box power connector (DC in +9V ~ 48VDC) 1 x SATA Power header 1 x CPU fan header 1 x System fan header 1 x Front panel header 1 x Front panel audio header 1 x 2W Speaker out header 4 x USB 2.0 headers 3 x COM headers (RS-232/422/485) 1 x Backlight control header 1 x AT/ATX mode select jumper 1 x GPIO (8-bits) & SMBUS header 1 x SPI header		
Rear I/O	1 x COM Port (RS-232/422/485 and RI/5V/12V) 2 x HDMI 2 x RJ45 LAN Ports 4 x USB 3.2 Gen2x1		
TPM	1 x TPM Header		
OS Compatibility	Windows® 10 (x64)		
Operating Properties	Operating temperature: 0°C to 60°C Operating humidity: 0-90% (non-condensing) Non-operating temperature: -40°C to 85°C Non-operating humidity: 0%-95% (non-condensing)		

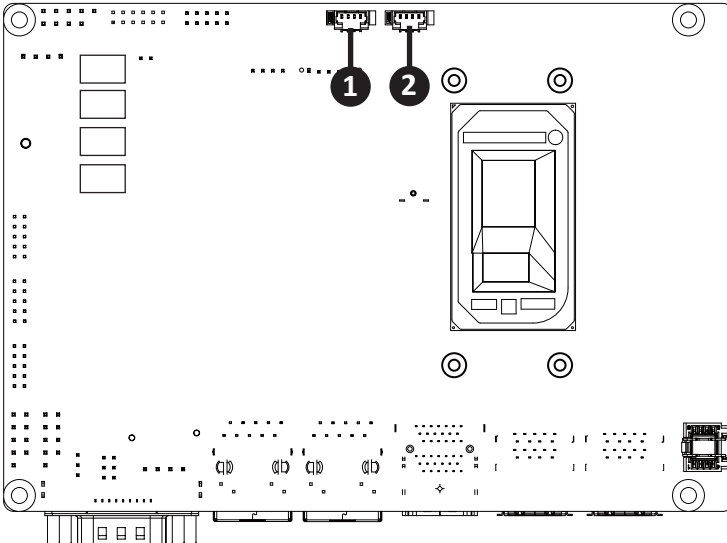
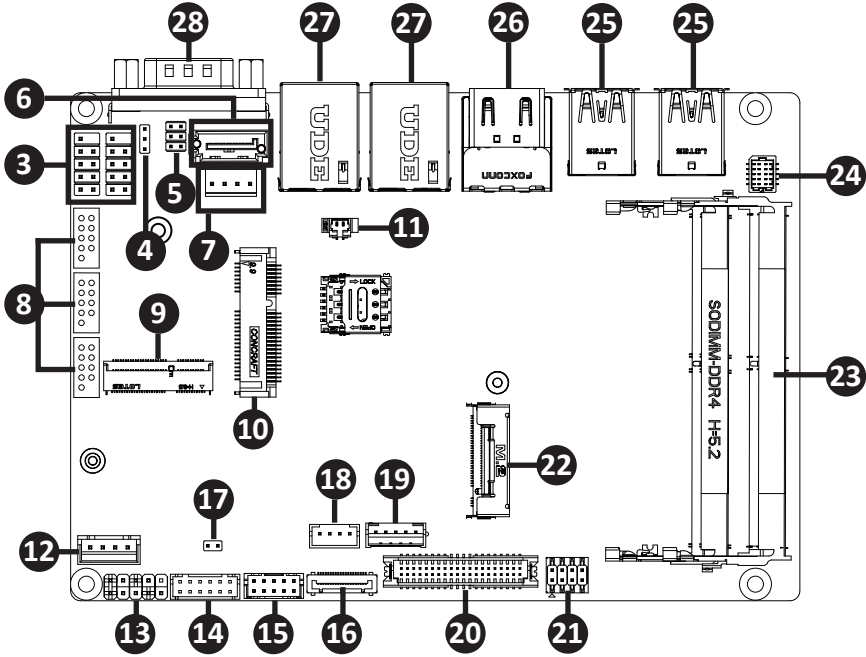


# Chapter 2

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## Chapter 2 – Hardware Information

## 2.1 Jumpers and Connectors

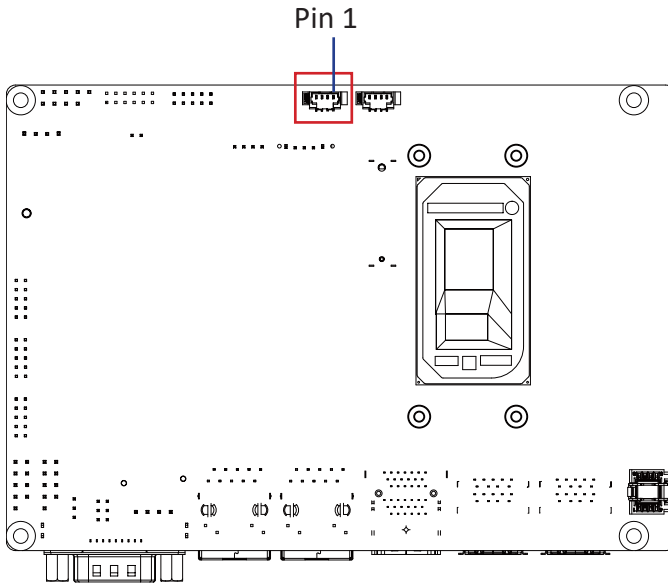


No	Code	Description
1	SYS_FAN	System fan connector
2	CPU_FAN	CPU fan connector
3	FUSB1, FUSB2	USB2.0 headers
4	AT_CN	AT/ATX power mode select jumper
5	JCOM1	COM 1 (COM RI# pin RI#/5V/12V Select)
6	SATA0	SATA 6Gb/s connector
7	SATAPW0	SATA 6Gb/s power connector
8	COM2, COM3, COM4	Serial port header (RS-232/422/485)
9	M2E	M.2 Slot, E-key, NGFF2230, WiFi & Bluetooth module
10	MPCIE	Mini PCIe full size, support 3G/4G module
11	BATTERY	Battery cable connector
12	DC_IN	DC IN 1x4 pin power connector
13	SYS_PANEL	Front panel header
14	GPIO_CNT	General purpose input / ouput header
15	FP_AUDIO	Front Audio connector
16	PCIEX1	PCIe Gen3 x1 connector
17	ME	ME Enable jumper
18	SPK_OUT	Speaker out connector
19	BKL_CN	Back light brightness control header
20	LVDS	LVDS connector
21	LSW	LVDS resolution jumper
22	M2M	M.2 Slot, SATA/PCIex2, NGFF 2280

No	Code	Description
23	SODIMM1 SODIMM2	DDR4 SO-DIMM Slot
24	TPM	Trusted Platform Module connector
25	USB31_1 USB31_2	USB 3.2 Gen2x1 connector
26	HDMI_21	HDMI connector
27	LAN1, LAN2	LAN connector
28	COM1	Serial Port

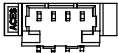
## 2.2.1 SYS\_FAN (System fan connector)

1



System fan Connector

4321



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

Connector PN

85205-0470N

A1250WV-S-04PC

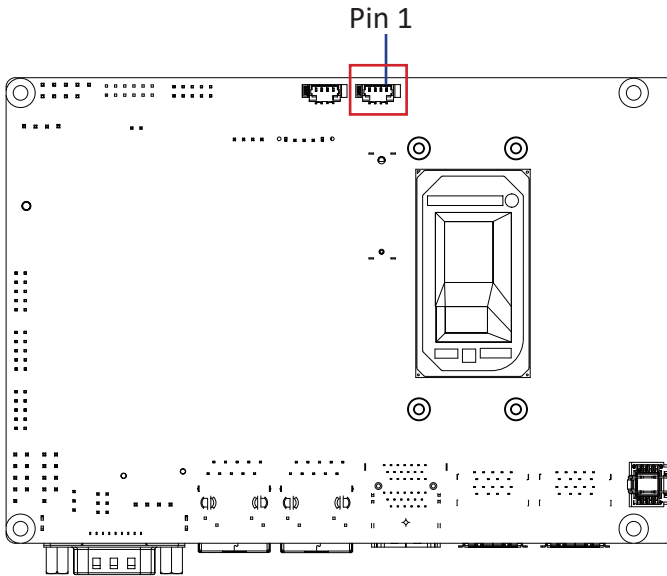
Vendor

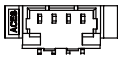
ACES

JOINT-TECH

## 2.2.2 CPU\_FAN (CPU fan connector)

2



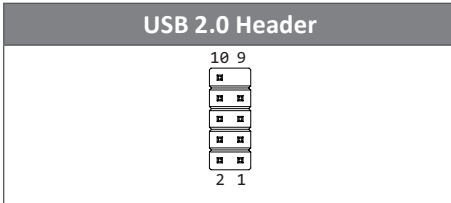
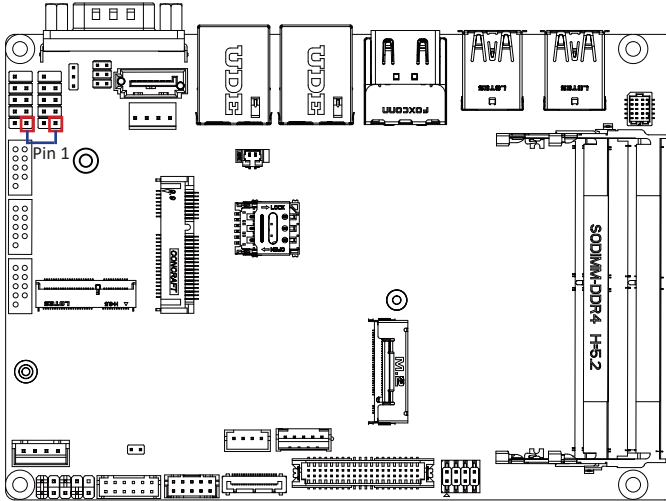
CPU fan Connector
4 3 2 1


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

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

## 2.2.3 FUSB1, FUSB2 (USB2.0 headers)

3

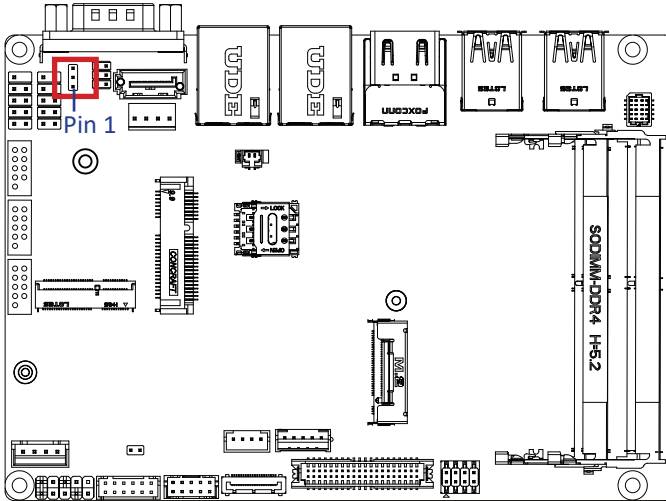


Connector PN	Vendor
210-92-05GB04	PINREX
PH10R53BAZ009	HORNGTONG

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

## 2.2.4 AT\_CN (AT/ATX power mode select jumper)

4



AT/ATX power mode select jumper



Connector PN

220-96-03GB01

Vendor

PINREX

PH03N2-7BAN000

HORNGTONG

Pin No.

Definition

1

AT MODE

2

TXD5

3

ATX MODE

Jumper setting

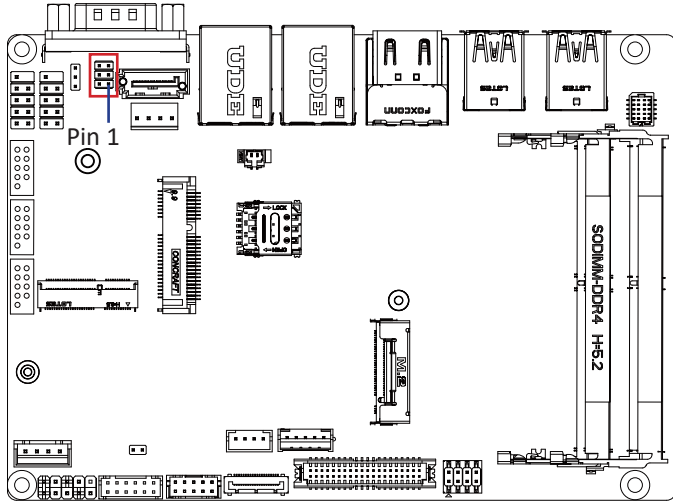
1-2 Close : AT mode.

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



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

5

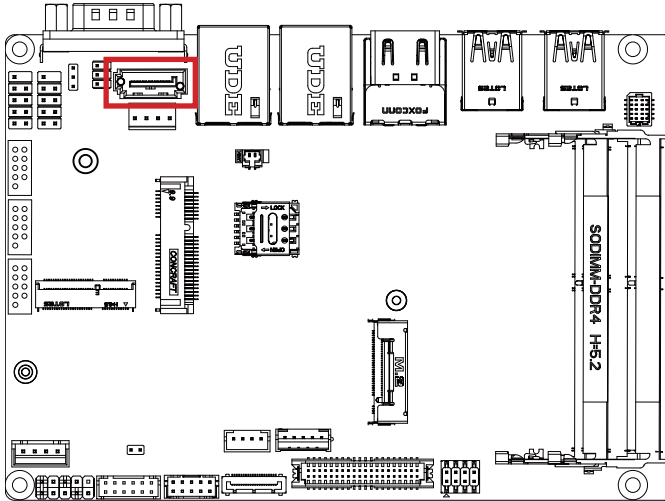


JCOM1 Jumper Select	
	1-2 Close: 5V (Power COM)
	3-4 Close: RI (Stand COM) (Default-Setting)
	5-6 Close: 12V (Power COM)

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

## 2.2.6 SATA0 (SATA 6Gb/s connector)

6

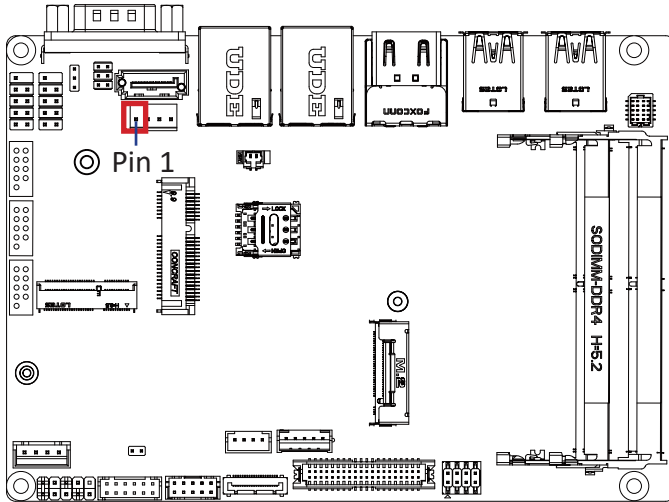


Connector PN	Vendor
WATF-07DBLBA1UW	WINWIN

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

## 2.2.7 SATAPW0 (SATA 6Gb/s power connector)

7



Hard Disk Power Connector



Connector PN

743-81-04TW00

WF04Q2-3BJQ000

Vendor

PINREX

HORNGTONG

Pin No.

Definition

1

12V

2

GND

3

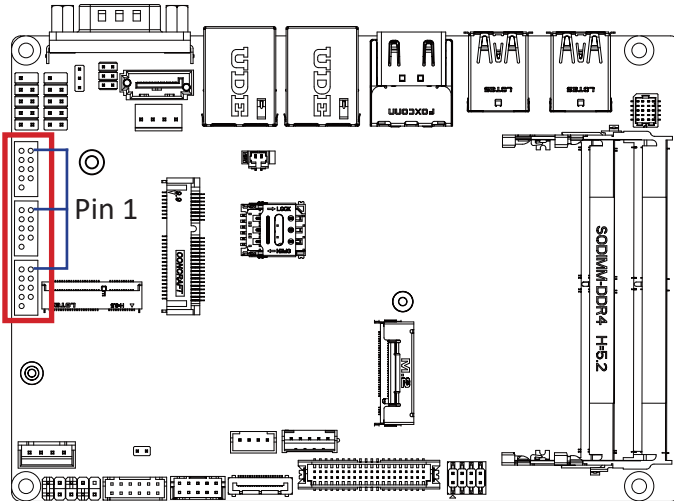
GND

4

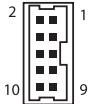
5V

## 2.2.8 COM2, COM3, COM4 (Serial port header, RS-232/422/485)

8



Serial Port Cable Connector



Connector PN

Vendor

725-81-10TW00

PINREX

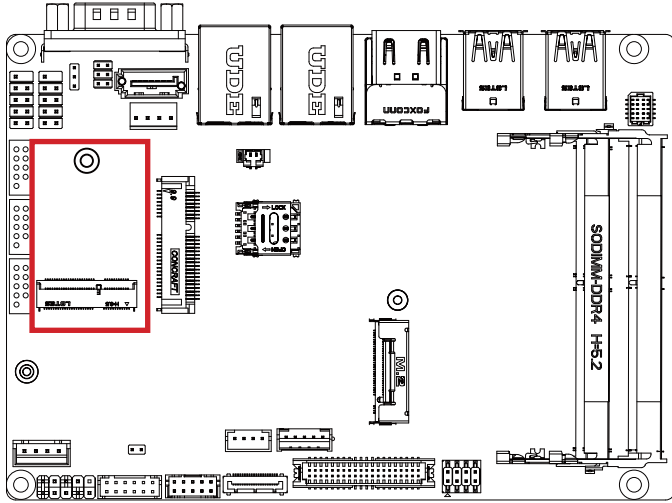
A2004WV-2X05P46

JOINT-TECH

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

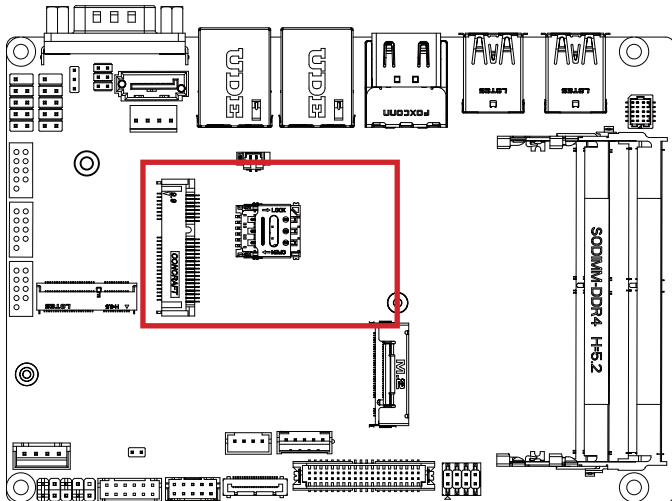
## 2.2.9 M2E (M.2 Slot, E-key, NGFF2230, WiFi & Bluetooth module)

9



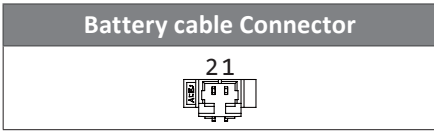
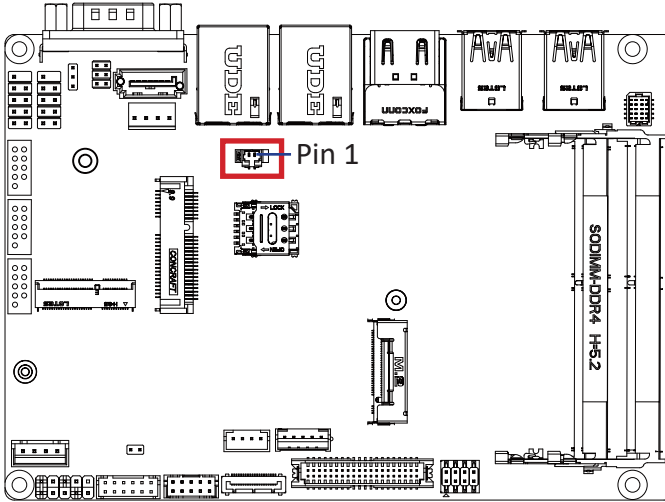
## 2.2.10 MPCIE (Mini PCIe full size, support 3G/4G module)

10



## 2.2.11 BATTERY (Battery cable Connector)

11

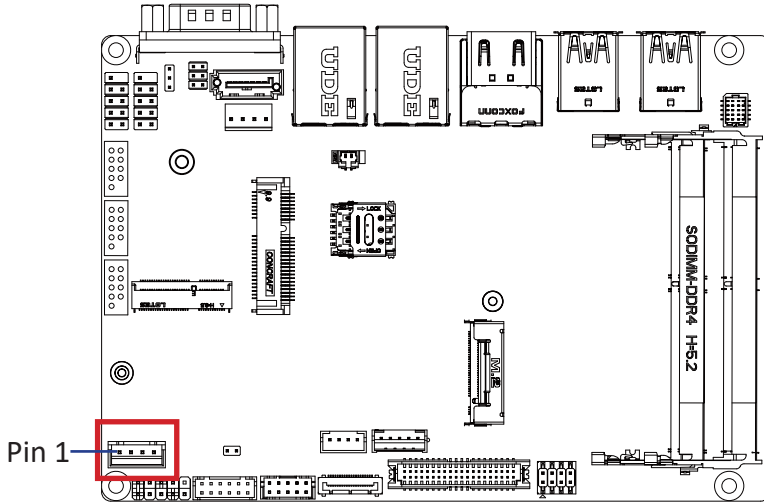


Connector PN	Vendor
85205-0270L	ACES
A1250WV-S-02PC	JOINT-TECH

Pin No.	Definition
1	3.3V
2	GND

## 2.2.12 DC\_IN (DC IN 1x4 pin power connector)

12



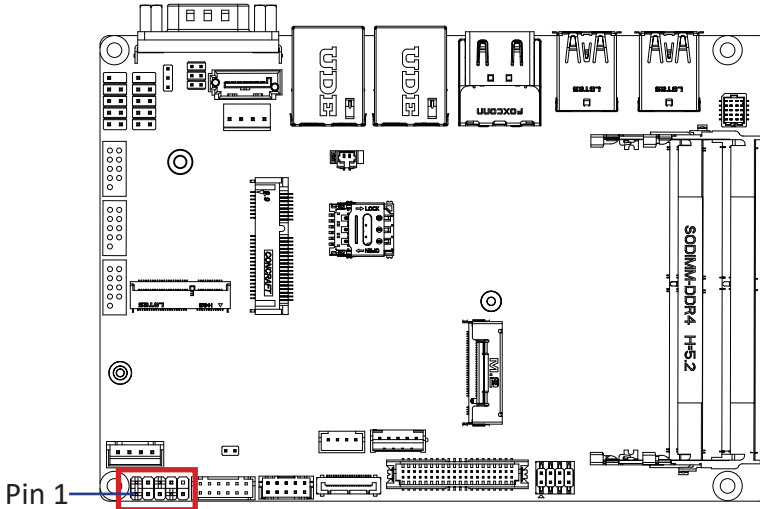
DC IN connector	

Connector PN	Vendor
753-81-04TW00	PINREX

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

## 2.2.13 SYS\_PANEL (Front panel header)

13



System Panel Header	
2	10
1	9

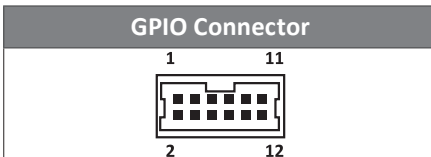
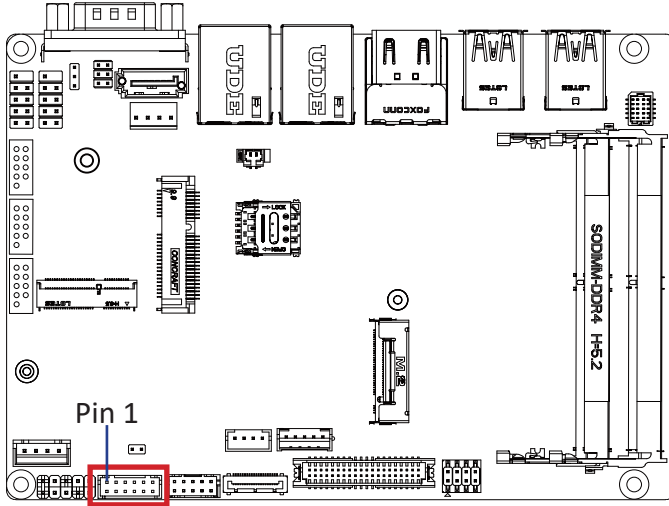
Connector PN	Vendor
210-92-05G111	PINREX

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



## 2.2.14 GPIO\_CNT (General Purpose input/output header)

14



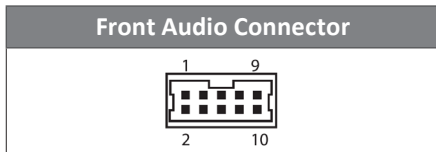
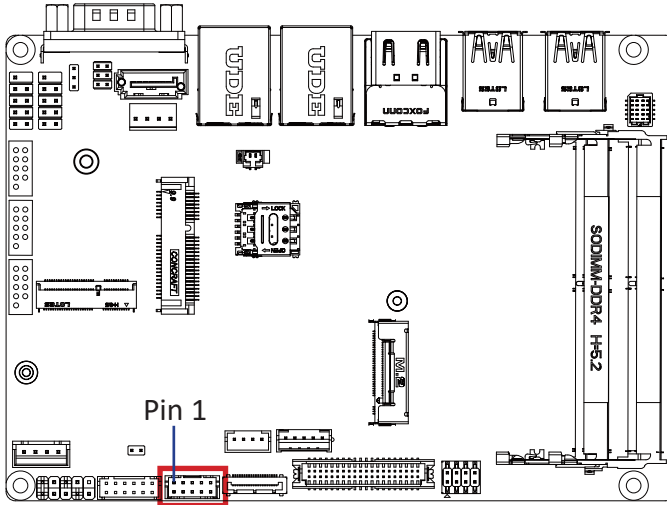
Pin No.	Definition
1	GPO1
2	GPI1
3	GPO2
4	GPI2
5	GPO3
6	GPI3
7	GPO4
8	GPI4
9	SMB_CLK

Pin No.	Definition
10	SMB_DATA
11	5V
12	GND

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

## 2.2.15 FP\_AUDIO (Front Audio connector)

15

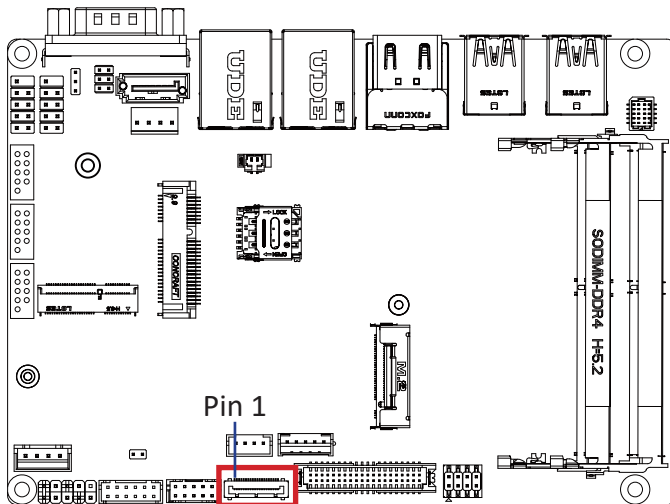


Connector PN	Vendor
725-81-10TW00	PINREX
A2004WV-2X05P46	JOINT-TECH

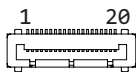
Pin No.	Definition	Pin No.	Definition
1	MIC_L	6	MIC_JD
2	GND	7	FAUDIO_JD
3	MIC_R	8	No Connect
4	Detect	9	HPOUT_L
5	HPOUT_R	10	GND

## 2.2.16 PCIeX1 (PCIe Gen3 x1 connector)

16



PCIe Gen3 x1 Connector



Connector PN

115B20-100020-G4-R

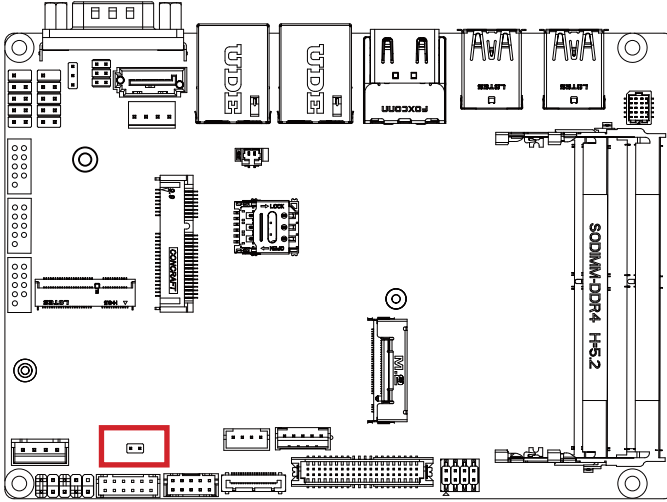
Vendor




STARCONN

Pin No.	Definition	Pin No.	Definition
1	SRC_DP	11	SMDATA
2	SRC_DN	12	CLK_REQ#
3	GND	13	PLTRST#
4	TX+	14	PEWAKE#
5	TX-	15	SLP_S3#
6	GND	16	GND
7	RX+	17	GND
8	RX-	18	+V12A
9	GND	19	+V12A
10	SMCLK	20	+V12A

## 2.2.17 ME (ME Enable jumper)

17

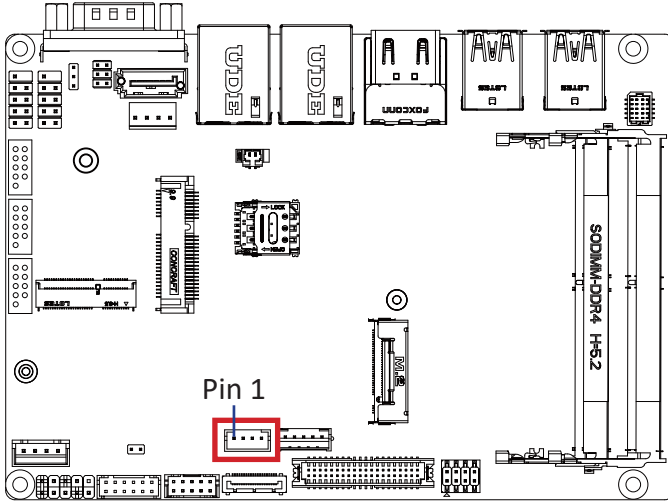


ME Enable Connector	
	
ME Enable jumper	
	Default
	Enable

Connector PN	Vendor
220-96-02GB01	PINREX

## 2.2.18 SPK\_OUT (Speaker out connector)

18



Audio Amplifier Connector



1

Connector PN

721-81-045W00

A2001WV-04P146

Vendor

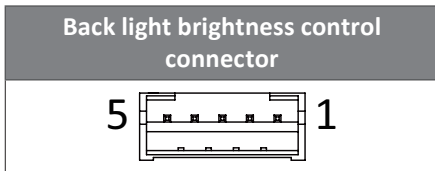
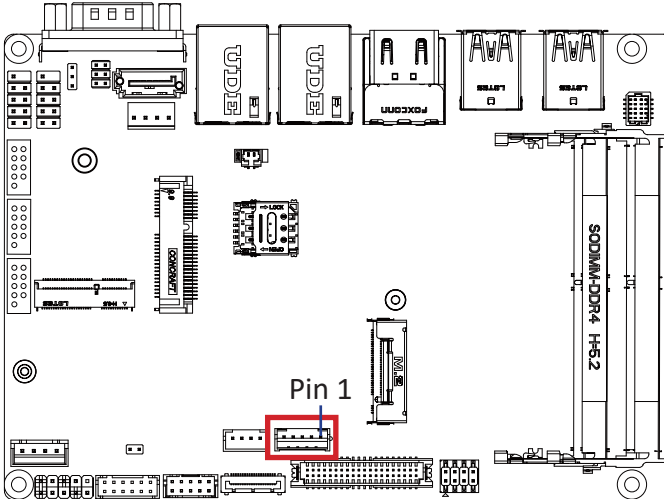
PINREX

JOINT-TECH

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

## 2.2.19 BKL\_CN (Back light brightness control header)

19

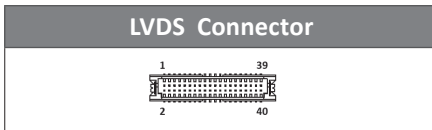
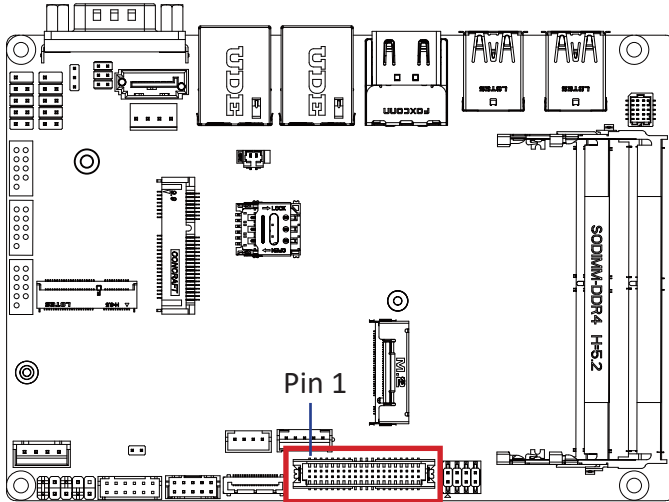


Connector PN	Vendor
721-81-05TW00	PINREX
A2001WV-05P146	JOINT-TECH

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

## 2.2.20 LVDS (LVDS connector)

20



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-

Pin No.	Definition	Pin No.	Definition
16	A2+	36	CLK1-
17	A3-	37	GND
18	A2-	38	GND
19	GND	39	12V
20	GND	40	12V

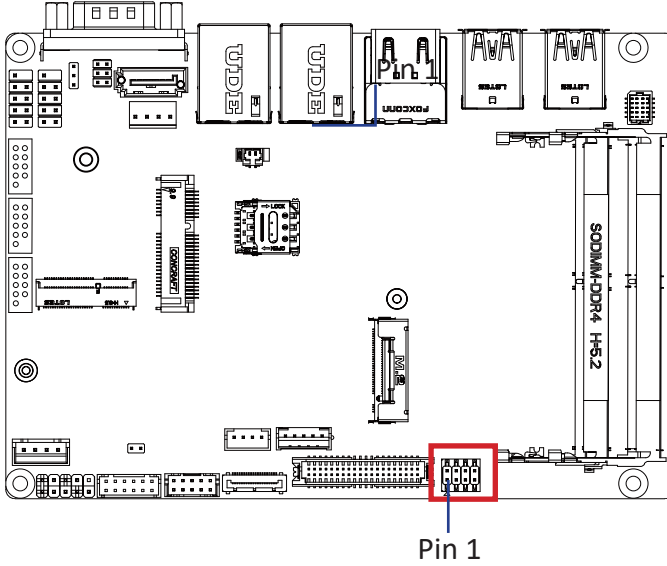
Connector PN	Vendor
712-76-40GWEO	PINREX
A1252WV-SF-2X20PD01	JOINT-TECH

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

## 2.2.21 LSW (LVDS resolution jumper)

21



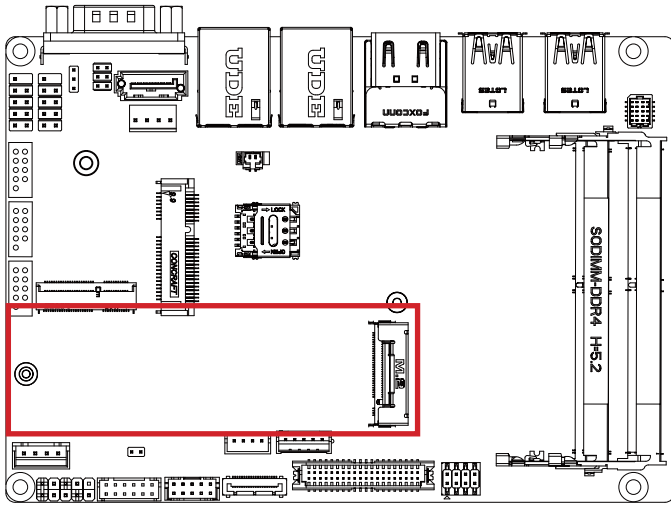
LVDS Resolution Jumper			
Jumper Setting	Resolution	Jumper Setting	Resolution
1	800 x 600 18bit	1	1366 x 768 24bit
1	1024 x 768 18bit	1	1440 x 900 24bit
1	1024 x 768 24bit	1	1400 x 1050 24bit
1	1024 x 600 18bit	1	1600 x 900 24bit
1	1280 x 800 18bit	1	1680 x 1050 24bit
1	1024 x 600 18bit	1	1600 x 1200 24bit
1	1280 x 1024 24bit	1	1920 x 1080 24bit
1	1366 x 768 18bit	1	1920 x 1200 24bit

Connector PN	Vendor
222-97-04GBE1	PINREX



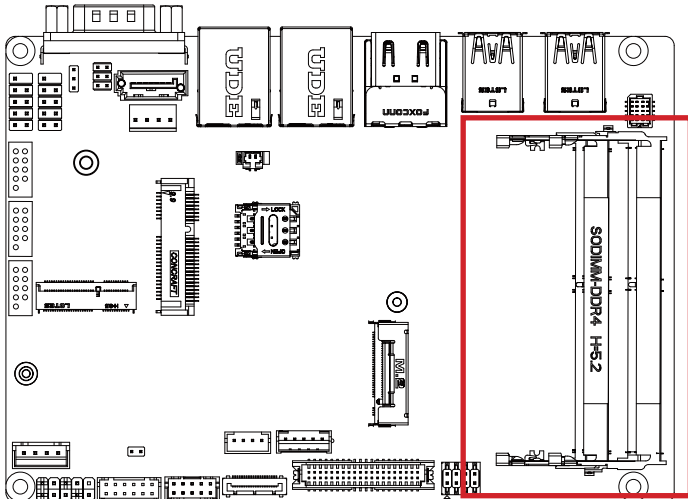
## 2.2.22 M2M (M.2 Slot, SATA/PCIeX2, NGFF 2280)

22



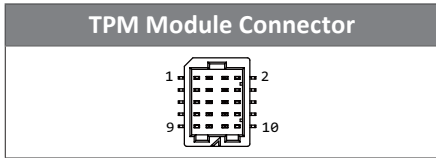
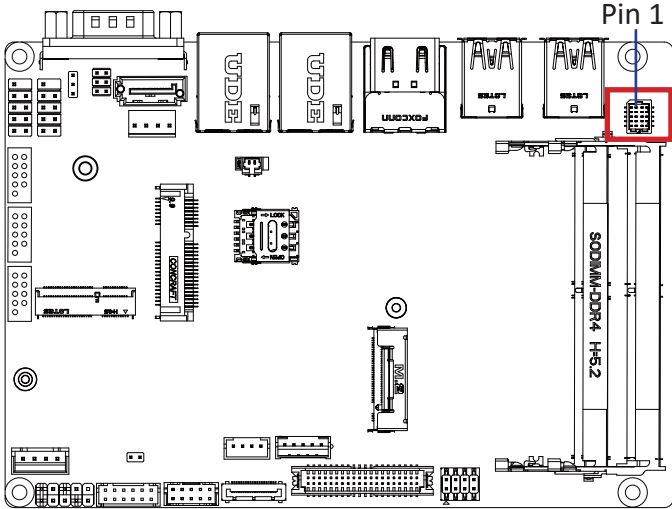
## 2.2.23 SODIMM1, SODIMM2 (DDR4 SO-DIMM Slot)

23



## 2.2.24 TPM (Trusted Platform Module Connector)

24



Connector PN	Vendor
87216-1004-06	ACES

Pin No.	Definition
1	SPI_CS#2
2	TPM_SO
3	TPM_RST#
4	TPM_SI
5	NC
6	TPM_CLK
7	NC
8	NC
9	+V3.3A
10	GND