QBiP-1900A/ QBiP-1900AT

3.5” SBC Boards- QBiP-1900A/ QBiP-1900AT
User’s Manual 1st Ed

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Packing List

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

Item	Quantity
QBiP-1900A/ QBiP-1900AT	1
SATA power cable	1

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

About this Document

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

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

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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.

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FCC Statement

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

Caution:

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

Attention:

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

China RoHS Requirements (CN)

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

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

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

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China RoHS Requirement (EN)

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

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

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

Table Contents

3.5” SBC Boards- QBiP-1900A/ QBiP-1900AT 1
User’s Manual 1st Ed

Copyright Notice 2
Acknowledgement 3
Packing List 4
About this Document 5
Safety Precautions 6
FCC Statement 8
China RoHS Requirements (CN) 9
China RoHS Requirement (EN) 10

Chapter1 - Product Specifi cations 13

1.1 Specifications- QBiP-1900A/ QBiP-1900AT 15

Chapter 2 – Hardware Information 17

2.1 Jumpers and Connectors 18
2.2.1 BATTERY 21
2.2.2 LVDS (LVDS connector) 22
2.2.3 LSW (LVDS resolution jumper) 23
2.2.4 BKL_CN (Backlight brightness control connector) 24
2.2.5 SODIMM (DDR3L SO-DIMM) 25
2.2.6 BUZZER 26
2.2.7 FUSB20_1, FUSB2_2 (USB 2.0 header) 27
2.2.8 SATA (SATA 3 Gb/s Connector) 28

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2.2.9 SATAPW (SATA 6 Gb/s power connector) 29
2.2.10 GPIO_CNT (General Purpose input/output header) 30
2.2.11 JCOM11 (RI# pin RI#/5V/12V Select jumper for COM1 port) 31
2.2.12 DC IN (DC IN 1x4pin power connector) 32
2.2.13 SYS_PANEL (Front panel header) 33
2.2.14 COM1, COM2, COM3, COM4 (Serial port header) 34
2.2.15 SPK_OUT (Speaker out connector) 35
2.2.16 AT_CN (AT/ATX power mode select jumper) 36
2.2.17 M2M (M.2 Slot, SATA, NGFF2280) 37
2.2.18 MPCIE (Mini PCIe slot)..... 38
2.2.19 LPC_CN (LPC Connector) 39
2.2.20 FAN (FAN Connector) 40

Chapter 1

Chapter1 - Product Specifi cations
QBiP-1900A/ QBiP-1900AT

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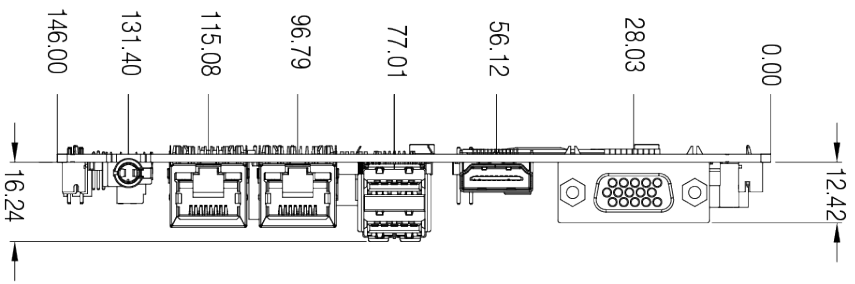
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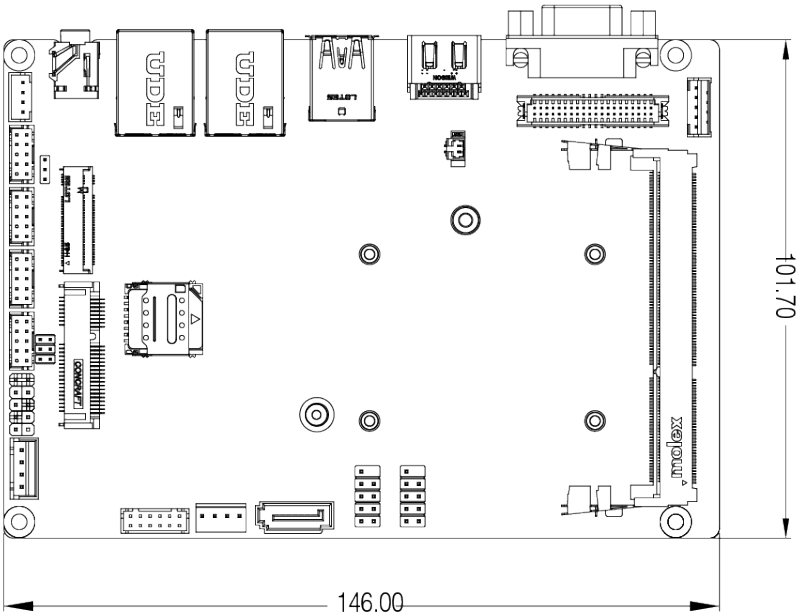
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1.1 Specifications- QBiP-1900A/ QBiP-1900AT

Motherboard	QBiP-1900A	QBiP-1900AT
Form Factor	3.5'' SBC 146W x 101.7Dmm	
CPU	Intel® Celeron® J1900 Processor 22nm, 4 cores, 4 threads, up to 2.42 GHz TDP 10W	
Socket	1 x FCBGA1170	
Chipset	—	
Memory	1 x DDR3L SO-DIMM socket, Max. Capacity 8 GB Support Single channel DDR3L 1333 MHz memory module	
Ethernet	2 x GbE LAN Ports (Intel® I211AT)	
Video	Integrated Graphics Processor -Intel® HD Graphics 500 1 x HDMI port, supporting a maximum resolution of 1920x1200 @60Hz 1 x D-SUB port, supporting a maximum resolution of 2560x1600 @60Hz (with compatible displays) 1 x LVDS port, supporting a maximum resolution of 1920x1080 @60Hz	
Audio	Realtek® Audio Codec	
Storage	1 x SATA 3Gb/s Port	
Raid	—	
Expansion Slots	1 x 2280 M.2 M-Key (SATA 3Gb/s) 1 x Full-size Mini PCIe with SIM slot (PCIe x1 + USB2.0) -- support 3G/4G module	

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Motherboard	QBiP-1900A	QBiP-1900AT
Internal I/O	1 x 4-pin box power connector (DC in +9V~36VDC) (+48VDC optional) 1 x SATA Power header 1 x System fan header 1 x Front panel header 1 x 2W Speaker out header 4 x USB 2.0 headers 2 x COM headers (RS-232) 1 x COM header (RS-232/422/485) 1 x COM header (RS-232/422/485 & RI/5V/12V) 1 x Backlight Control header 1 x AT/ATX mode select jumper 1 x GPIO (8-bits) & SMBUS header 1 x Buzzer header		
Rear I/O	1 x Headphone Jack 1 x HDMI 1 x VGA 2 x RJ45 LAN Ports 1 x USB 2.0 1 x USB 3.2 Gen 1		
TPM	1 x TPM header		
OS Compatibility	Windows 10 (x64)		
PSU Connectors	1 x 4-pin Box header power connector (+9~36V Full Range) (+48VDC optional)		
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)	Operating temperature: -40°C to 85°C Operating humidity: 0-90% (non-condensing) Non-operating temperature: -40°C to 85°C Non-operating humidity: 0%-95% (non-condensing)	

Chapter 2

Chapter 2 – Hardware Information

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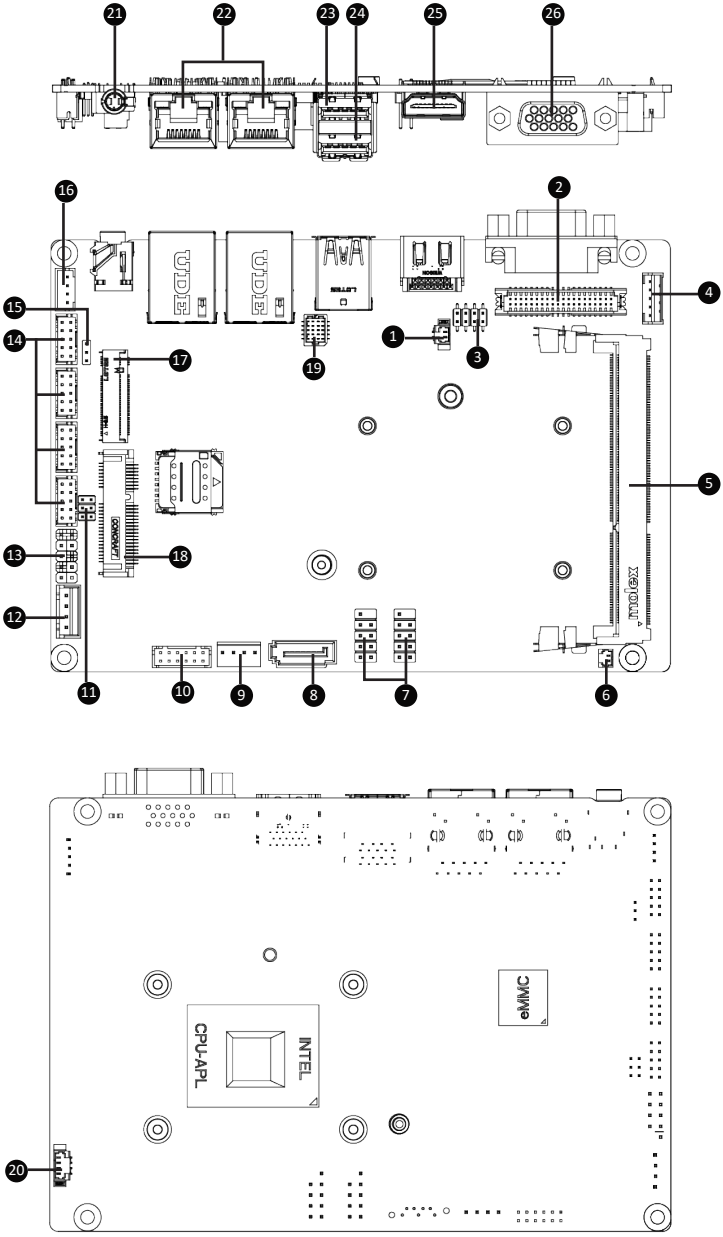
2.1 Jumpers and Connectors



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

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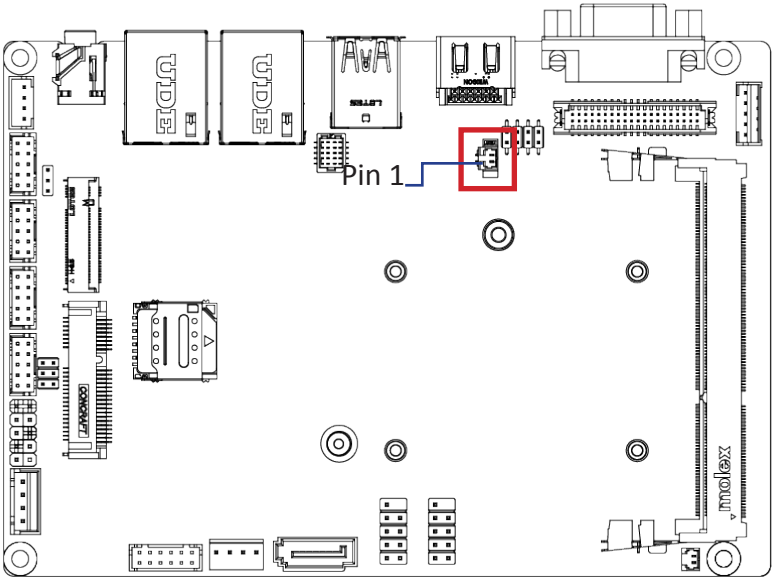
	Code	Description
20	FAN	FAN Connector
21	HP	Audio out Connector
22	LAN1, LAN2	LAN Connectors
23	RUSB1	USB3.0 Connector
24	RUSB2	USB2.0 Connector
25	HDMI	HDMI Connector
26	VGA	D-Sub VGA Port

2.2.1 BATTERY

1



Battery Cable Connector

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

Pin No.	Definition
1	3.3V
2	GND

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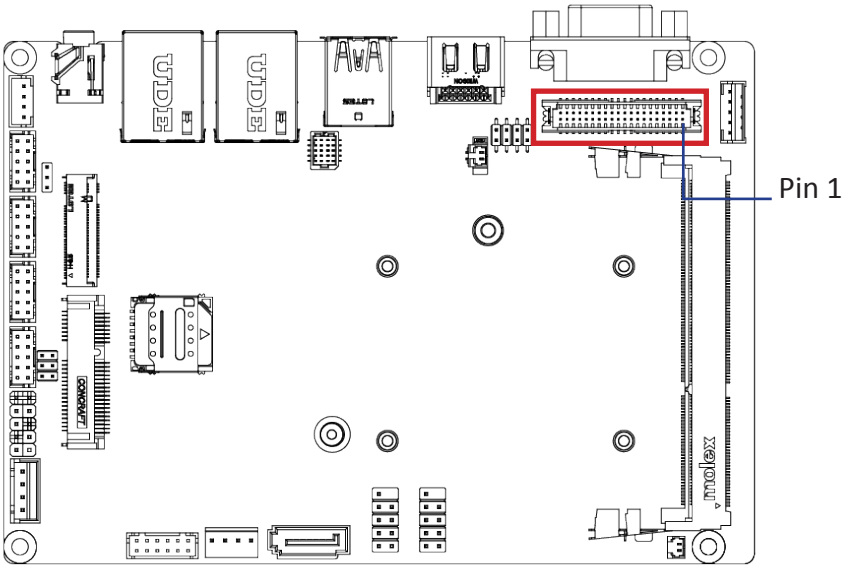
2.2.2 LVDS (LVDS connector)

2



LVDS Connector

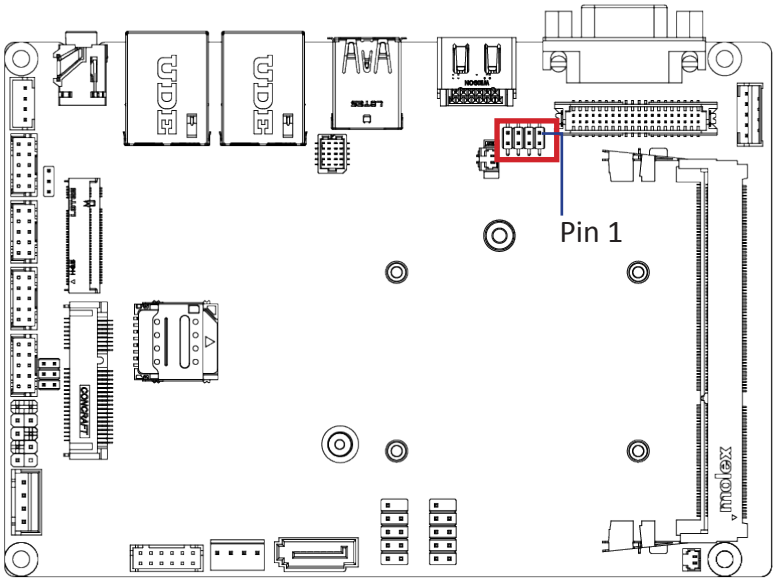
Pin No.	Definition	Pin No.	Definition
17	A3-	37	GND
18	A2-	38	GND
19	GND	39	12V
20	GND	40	12V

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

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

2.2.3 LSW (LVDS resolution jumper)

3



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

Connector PN	Vendor
222-97-04GBE1	PINREX

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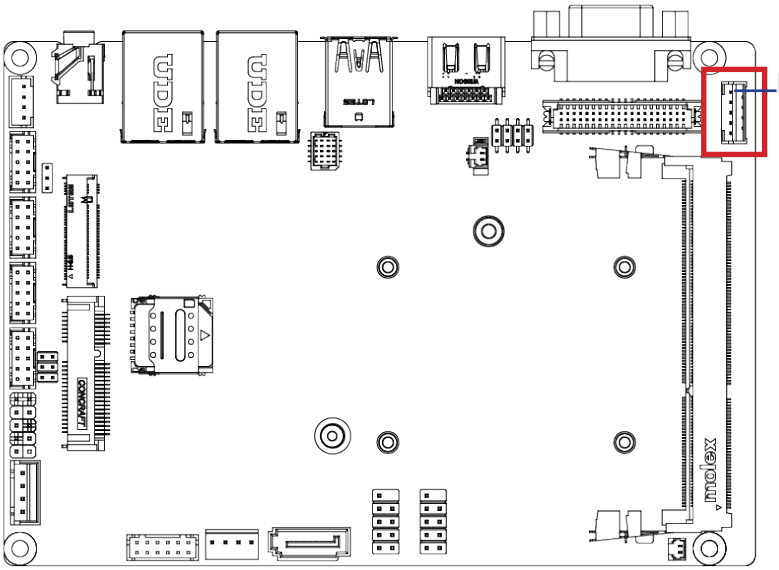
2.2.4 BKL_CN (Backlight brightness control connector)

4



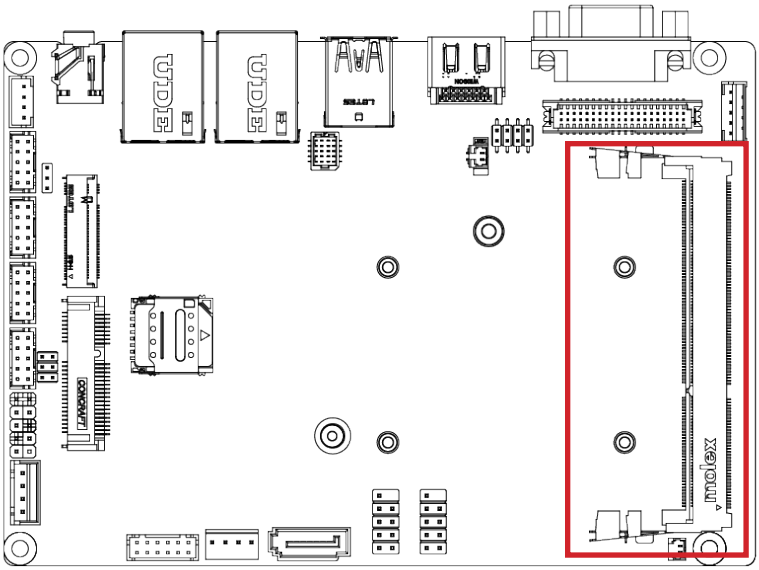
Back light brightness control connector

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

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

2.2.5 SODIMM (DDR3L SO-DIMM)

5



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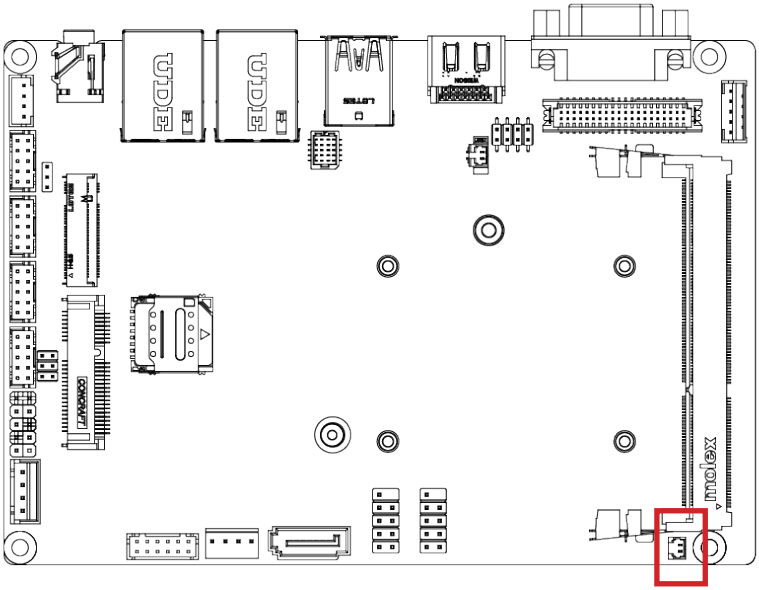
2.2.6 BUZZER

6



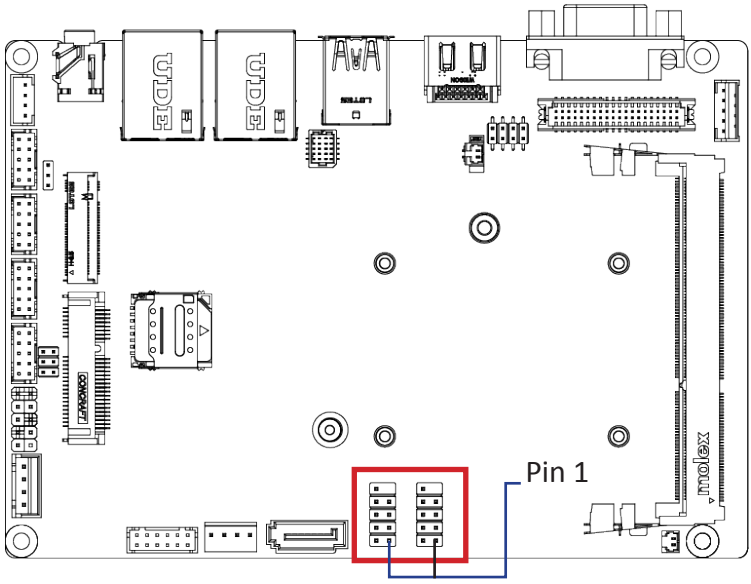
Buzzer

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

Pin No.	Definition
1	SPK
2	5V

2.2.7 FUSB20_1, FUSB2_2 (USB 2.0 header)

7



USB 2.0 Header

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

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

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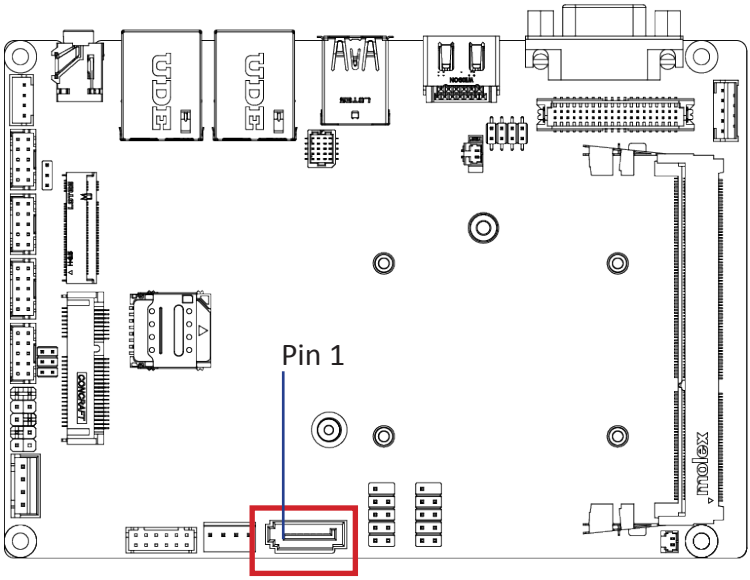
2.2.8 SATA (SATA 3 Gb/s Connector)

8



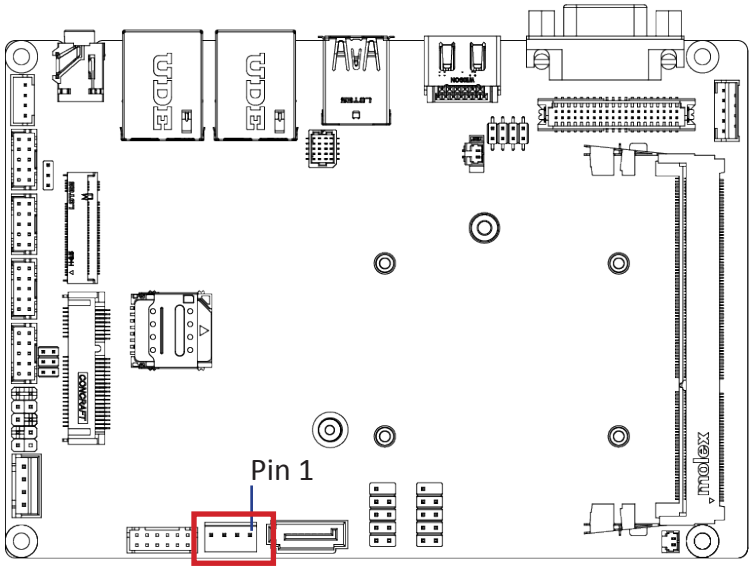
SATA 3 Gb/s Connector
1 7

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

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

2.2.9 SATAPW (SATA 6 Gb/s power connector)

9



Hard Disk Power Connector
4 ■■■■ 1

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

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

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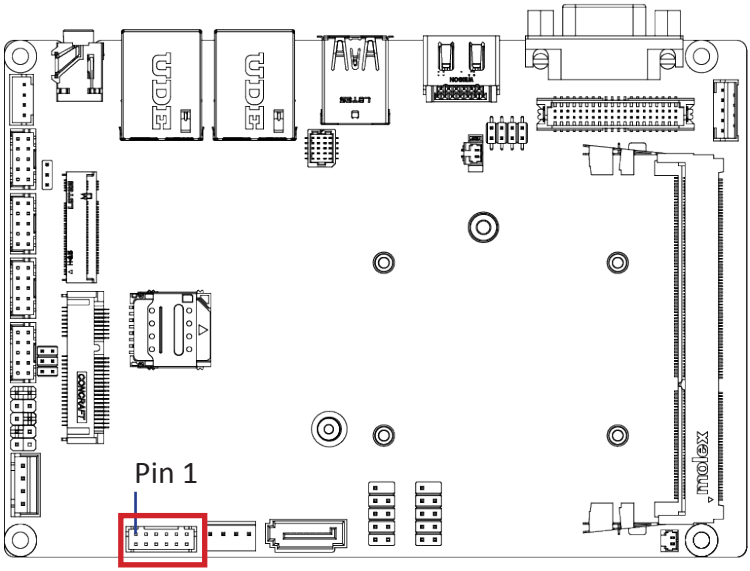
2.2.10 GPIO_CNT (General Purpose input/output header)

10



GPIO Connector

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

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

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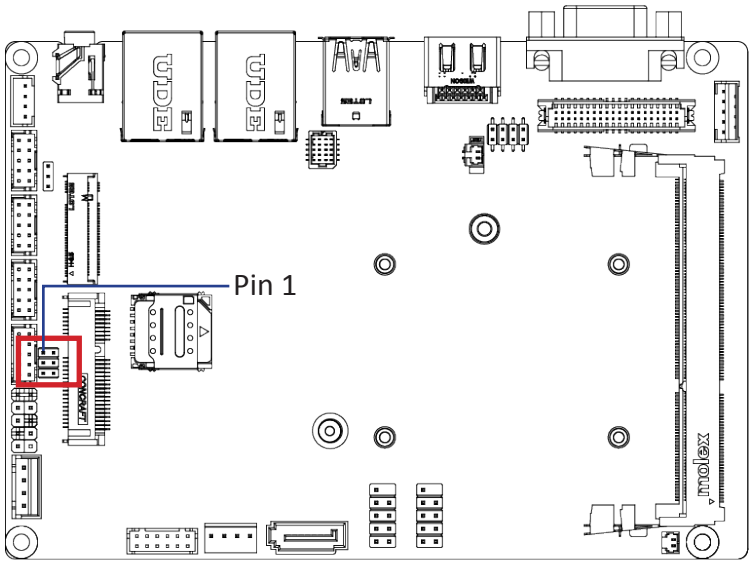
2.2.11 JCOM11 (RI# pin RI#/5V/12V Select jumper for COM1 port)

11



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

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

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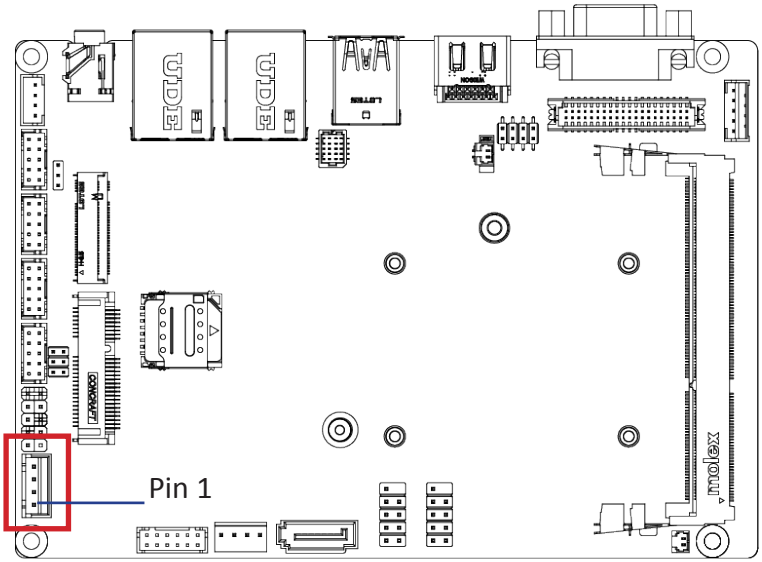
2.2.12 DC IN (DC IN 1x4pin power connector)

12



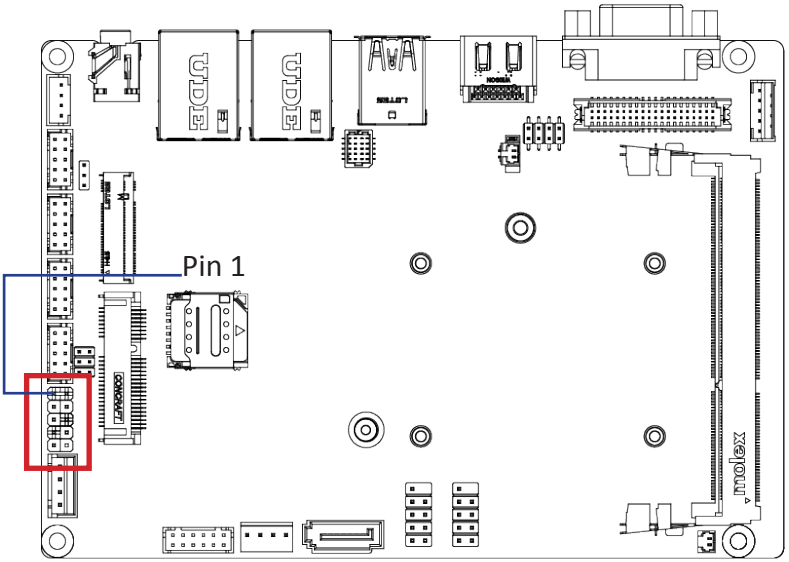
Battery Cable Connector

Connector PN	Vendor
753-81-04TW00	PINREX

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

2.2.13 SYS_PANEL (Front panel header)

13



System Panel Header

Connector PN	Vendor
210-92-05G111	PINREX

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

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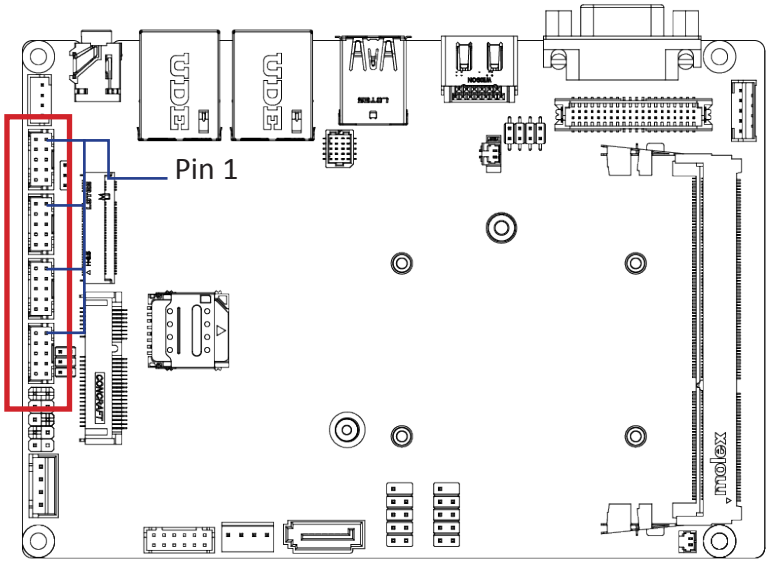
2.2.14 COM1, COM2, COM3, COM4 (Serial port header)

14



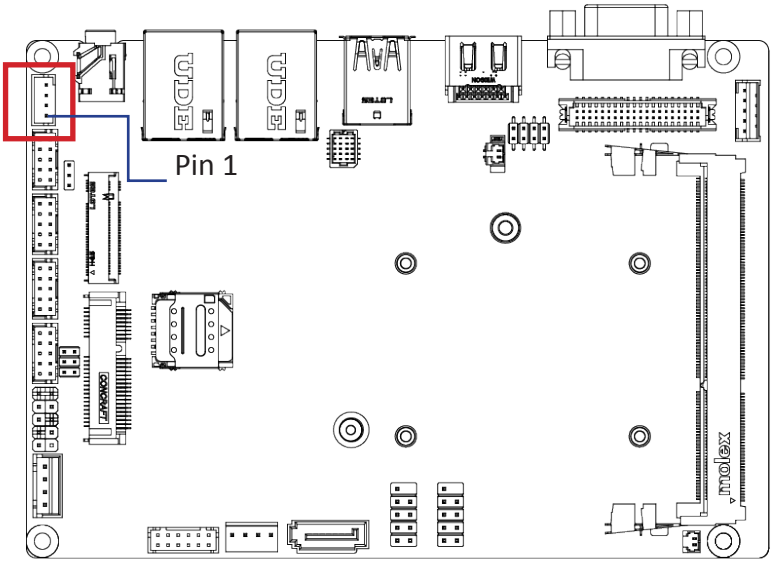
Serial Port Cable Connector

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

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

2.2.15 SPK_OUT (Speaker out connector)

15



Speaker out connector

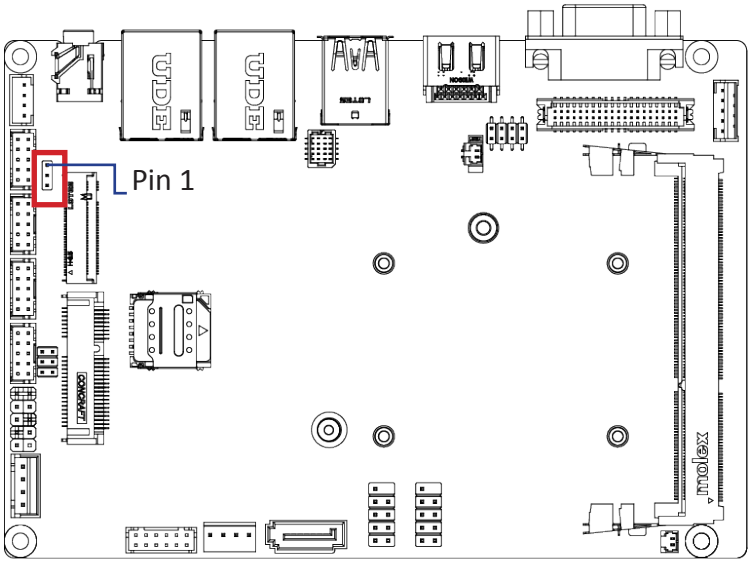
Pin No.	Definition
1	Speaker Out R+
2	Speaker Out R-
3	Speaker Out L-
4	Speaker Out L+

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

GIGAIPC reserves the right to modify or revise the content at anytime without prior notice.

2.2.16 AT_CN (AT/ATX power mode select jumper)

16



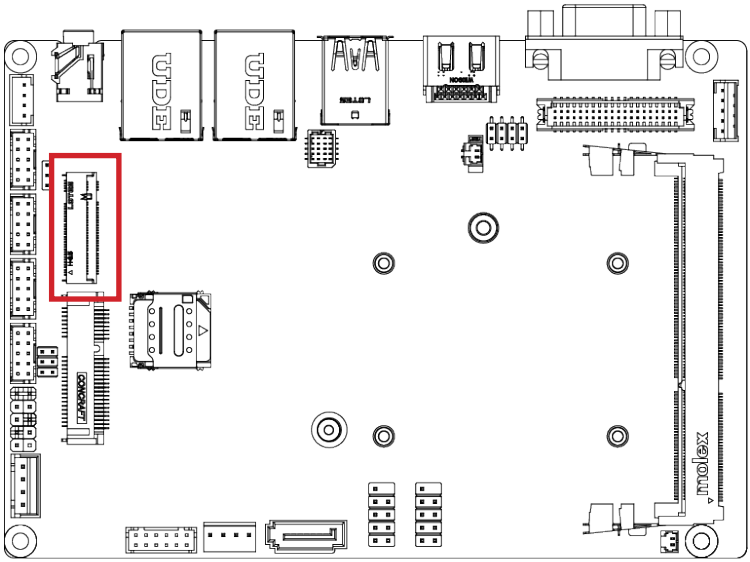
AT/ATX power mode select jumper	
	1-2 Close : AT mode.
	2-3 Close : ATX mode. (Default setting)

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

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

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

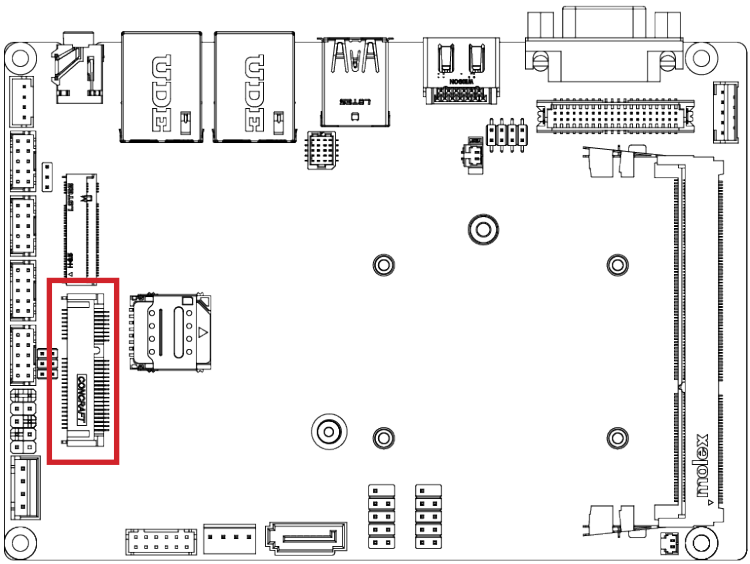
17



GIGAIPC reserves the right to modify or revise the content at anytime without prior notice.

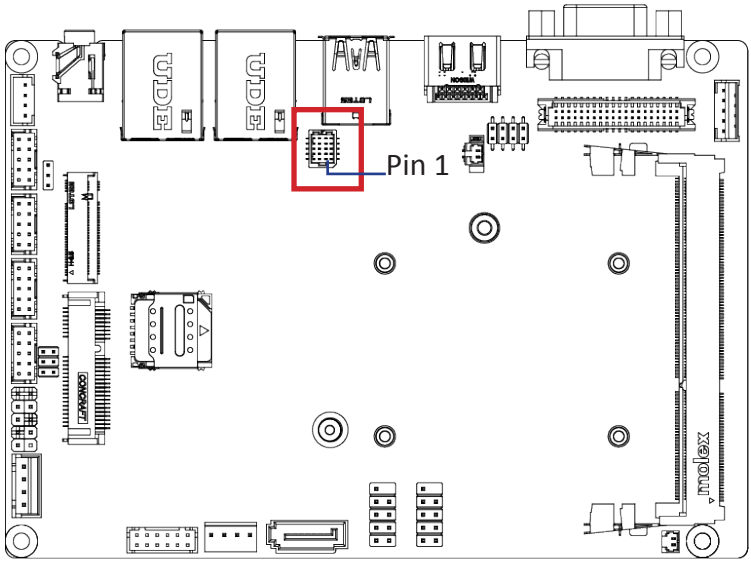
2.2.18 MPCIE (Mini PCIe slot)

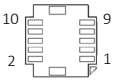
18



2.2.19 LPC_CN (LPC Connector)

19



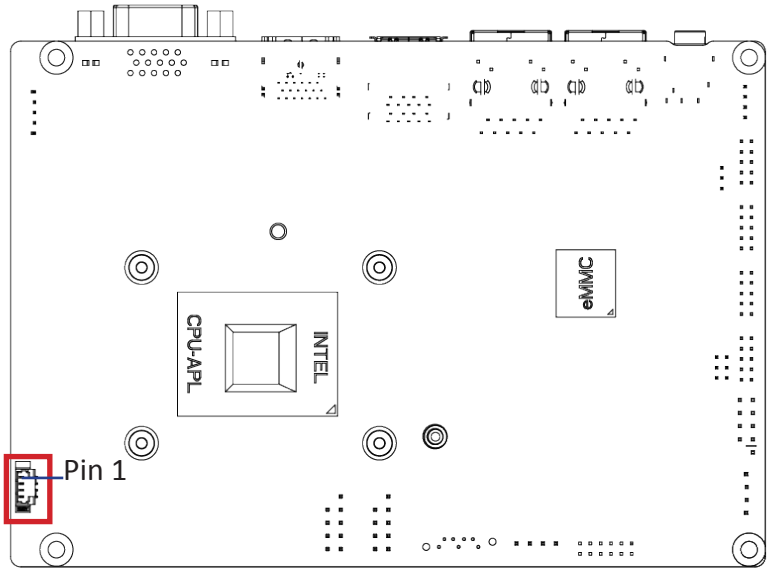
LPC_CN


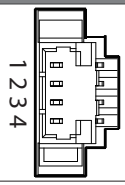
Pin No.	Definition
1	LPC_CLK
2	GND
3	LFRAME#
4	LAD0
5	PCI_RST
6	LAD1
7	LAD3
8	LAD2
9	3.3V
10	SERIRQ

GIGAIPC reserves the right to modify or revise the content at anytime without prior notice.

2.2.20 FAN (FAN Connector)

20



CPU/System FAN


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

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