



UP Squared 7100 Edge

UP System
UPS-EDGE-ASL

User's Manual 2nd Ed

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Packing List

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

Item	Quantity
● UP Squared 7100 Edge (UPS-EDGE-ASL)	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 product page at AAEON.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.

产品中有毒有害物质或元素名称及含量

AAEON System

QO4-381 Rev.A2

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	×	○	○	○	○	○
外壳	○	○	○	○	○	○
中央处理器 与内存	×	○	○	○	○	○
硬盘	×	○	○	○	○	○
液晶模块	×	○	○	○	○	○
光驱	×	○	○	○	○	○
触控模块	×	○	○	○	○	○
电源	×	○	○	○	○	○
电池	×	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。

○：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 GB/T 26572 标准规定的限量要求以下。

×：表示该有害物质的某一均质材料超出了 GB/T 26572 的限量要求，然而该部件仍符合欧盟指令 2011/65/EU 的规范。

环保使用期限(EFUP (Environmental Friendly Use Period))：10 年

备注：

一、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。

二、上述部件物质中央处理器、内存、硬盘、光驱、电源为选购品。

三、上述部件物质液晶模块、触控模块仅一体机产品适用。

China RoHS Requirement (EN)

Name and content of hazardous substances in product

AAEON System

QO4-381 Rev.A2

Part Name	Hazardous Substances					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
PCB Assemblies	×	○	○	○	○	○
Connector and Cable	×	○	○	○	○	○
Chassis	○	○	○	○	○	○
CPU and Memory	×	○	○	○	○	○
Hard Disk	×	○	○	○	○	○
LCD Modules	×	○	○	○	○	○
CD-ROM/DVD-ROM	×	○	○	○	○	○
Touch Modules	×	○	○	○	○	○
Power	×	○	○	○	○	○
Battery	×	○	○	○	○	○

The table is prepared in accordance with the provisions of SJ/T 11364.

○ : Indicates that said hazardous substance contained in all of the homogenous materials for this product is below the limit requirement of GB/T 26572.

× : Indicates that said hazardous substance contained in at least one of the homogenous materials used for this part is above the limit requirement of GB/T 26572. But this product still be compliance with 2011/65/EU Directive (allowed with 2011/65/EU Annex III of RoHS exemption with number 6(c),7(a),7(c)-1).

EFUP (Environment Friendly Use Period) value: 10 years.

Notes:

1. This product defined period of use is under normal condition.

2. In above part, CPU/Memory/ Hard Disk/CD-ROM/DVD-ROM/ Power are optional.

3. In above part, LCD Modules/ Touch Modules are for all-in-one product model.

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A.1 Cables and Connectors.....

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Chapter 1

Product Specifications

1.1 Specifications

System	
CPU	Intel® Processor N97 Intel® Processor N100
Memory	Up to 16GB LPDDR5
Graphics	Intel® UHD Graphics for 12th Gen Intel® Processors
Storage	Up to 128GB eMMC
Ethernet	GbE RJ-45 x 2
Wi-Fi/BT	Optional via M.2 2230 E-Key x 1
Expansion Slot	M.2 2230 E-Key x 1 (PCIe [x1], USB 2.0) M.2 2280 M-Key x 1 (PCIe Gen 3 [x2])
Security	Onboard TPM 2.0
OS Support	Microsoft® Windows 10/11 Ubuntu 22.04 LTS Yocto 5.1
I/O	
USB	USB 2.0 x 2 (via 10 Pin Header x 1) USB 3.2 Gen 2 (Type-A) x 3
Display Port	HDMI 2.0b x 1 DP 1.2 x 1
Ethernet	GbE RJ-45 x 2
COM	RS-232/422/485 x 2
Audio	Line-out x 1, Mic-in x 1
GPIO	—

Power Supply

Power Requirement	12V DC-in, 5A
Power Supply Type	AT/ATX
Power Consumption (Typical)	15W~37W

Mechanical

Mounting	VESA Mounting
Dimensions (W x H x D)	3.74" x 3.74" x 2.16" (95mm x 95mm x 55mm)
Net Weight	0.99 lb. (4.5Kg)
Gross Weight	1.32 lb. (6Kg)

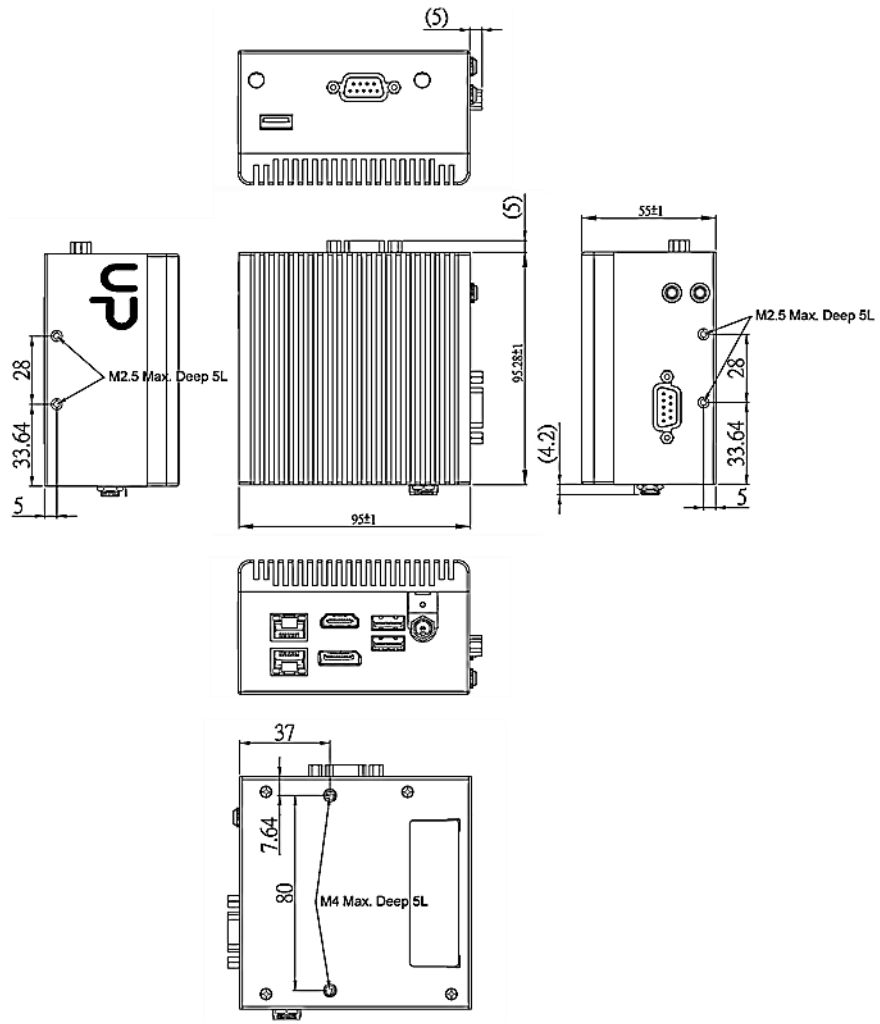
Environmental

Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) / 0.5 airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF	1,224,238
Certification	CE/FCC Class A, RoHS Compliant, REACH

Chapter 2

Hardware Information

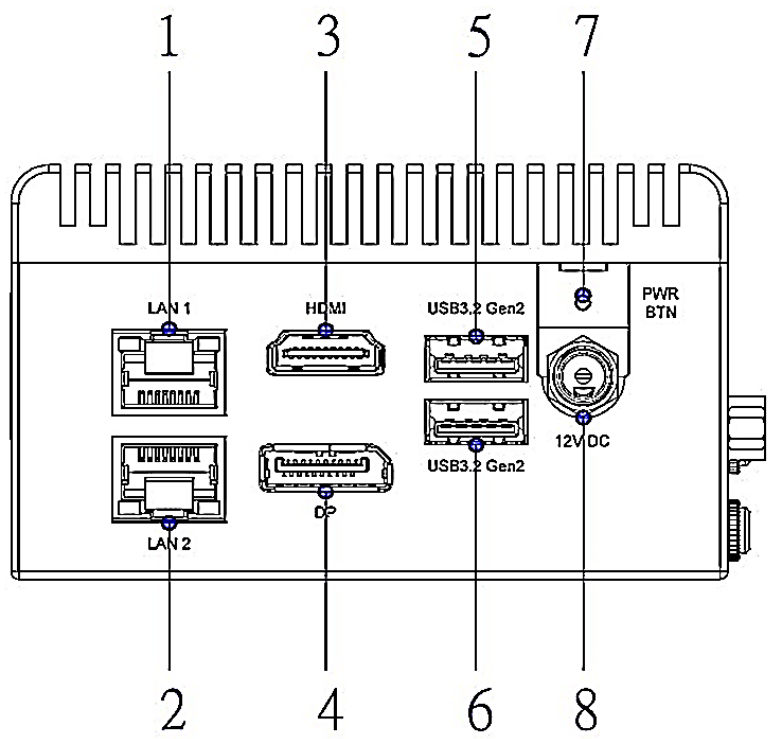
2.1 Dimensions



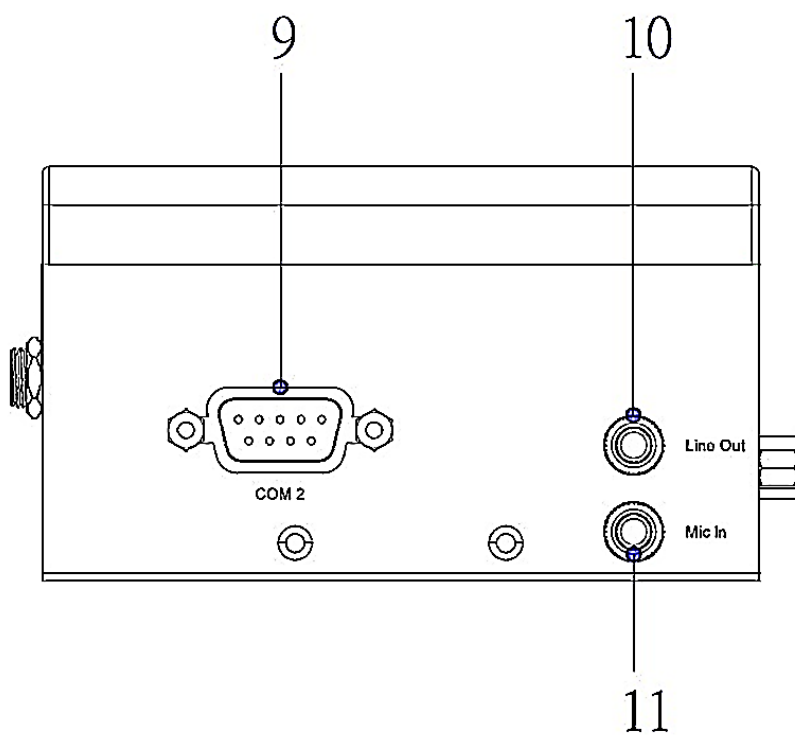
2.2 Jumpers and Connectors

System Level

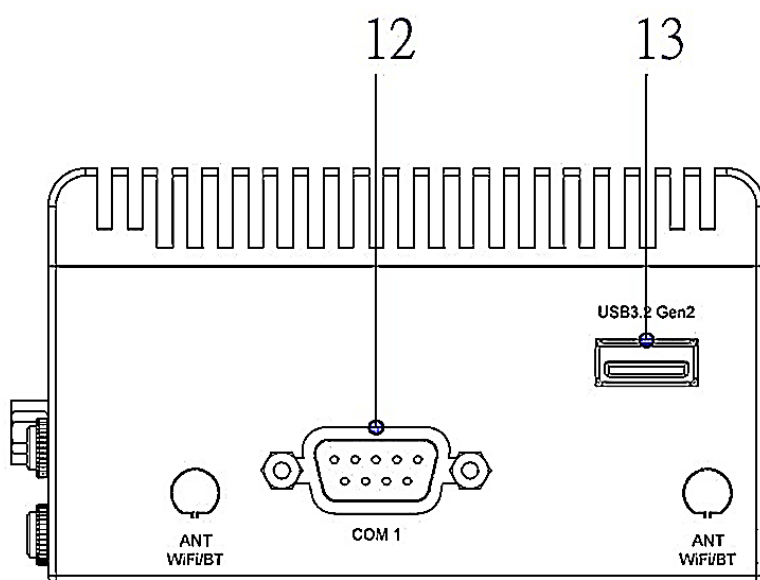
Front I/O



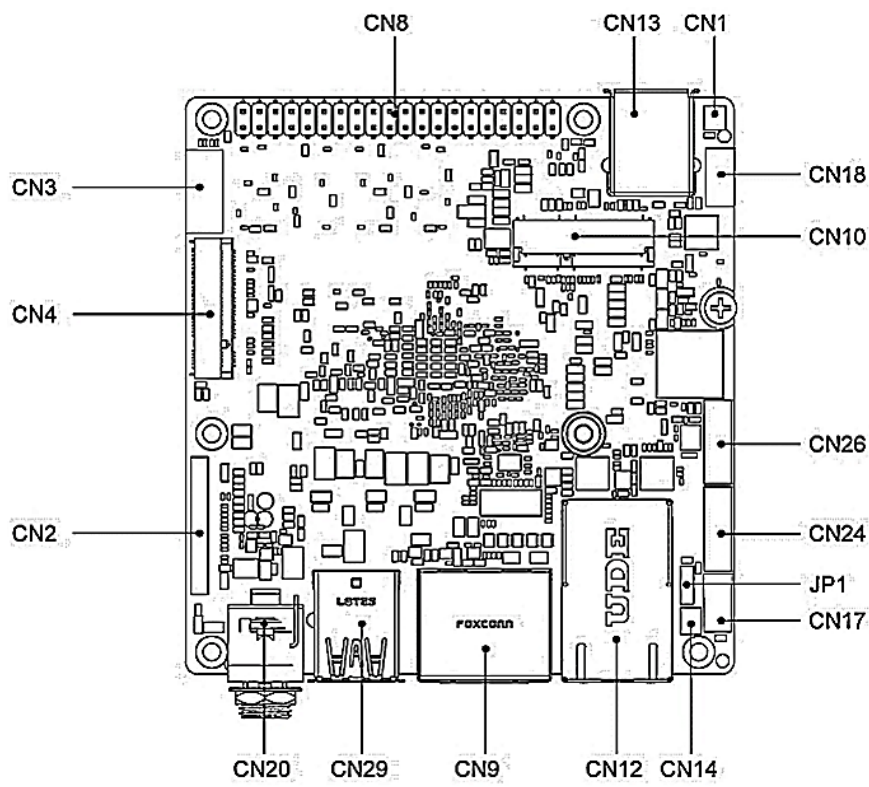
Right I/O:



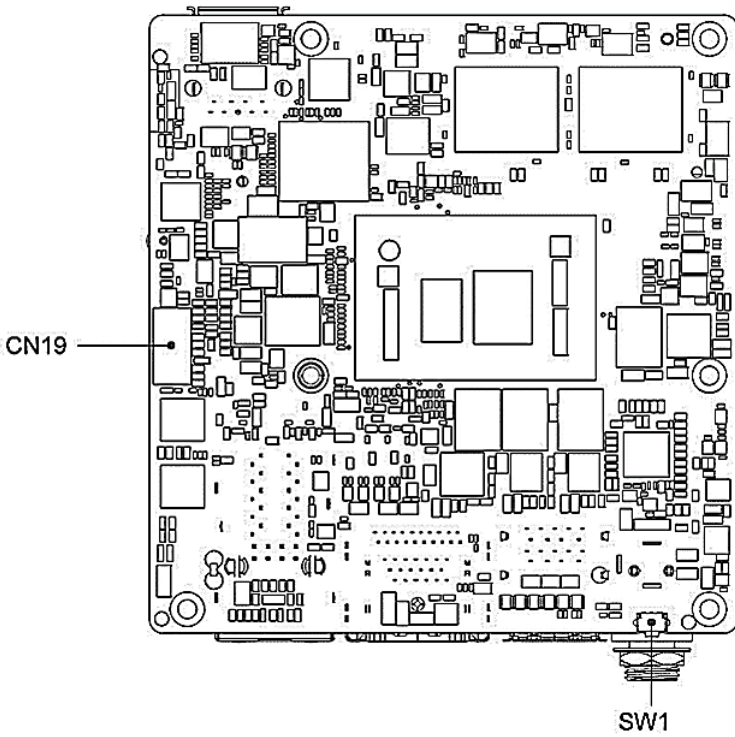
Left I/O:



Board Level
Component Side



Solder Side

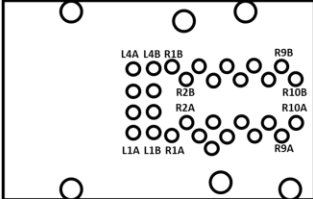
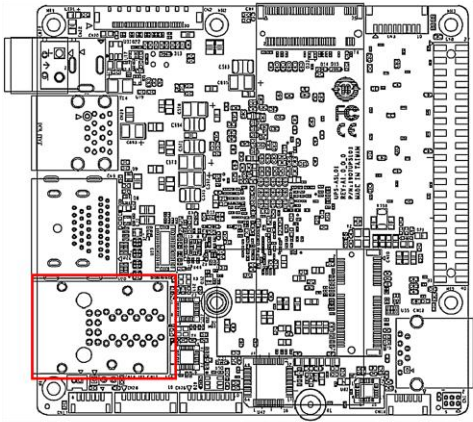


2.3 List of Jumpers, Connectors, & Physical Interfaces

Please refer to the table below for all of the system's physical ports and interfaces.

Label	Function
1	LAN 1 (GbE)
2	LAN 2 (GbE)
3	HDMI 2.0b Port
4	Display Port 1.2
5	USB 3.2 Gen 2 (Type-A)
6	USB 3.2 Gen 2 (Type-A)
7	Power Button
8	12V DC-in
9	COM 2
10	Audio Jack (Line-out)
11	Audio Jack (Mic-in)
12	COM 1
13	USB 3.2 Gen 2 (Type-A)

2.3.1 Dual GbE LAN (1/2)

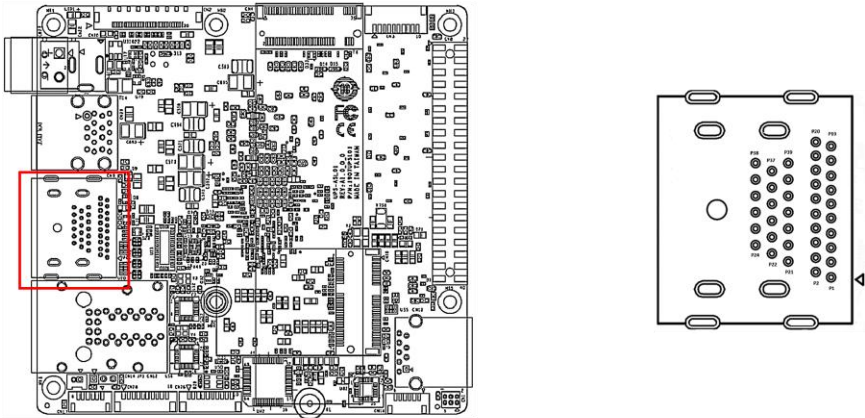


LAN 1			
Pin	Signal	Pin	Signal
R1A	LAN1_MDIO+	L1A	LAN1_ACTLED-
R2A	LAN1_MDIO-	L2A	LAN1_ACTLED+
R3A	LAN1_MDI1+	L3A	LAN1_LINK1000#
R4A	LAN1_MDI1-	L4A	LAN1_LINK100#
R5A	LAN1_MDI2+		
R6A	LAN1_MDI2-		
R7A	LAN1_MDI3+		
R8A	LAN1_MDI3-		
R9A	GND		
R10A	GND		

LAN 2			
Pin	Signal	Pin	Signal
R1B	LAN2_MDIO+	L1B	LAN2_ACTLED-
R2B	LAN2_MDIO-	L2B	LAN2_ACTLED+
R3B	LAN2_MDI1+	L3B	LAN2_LINK100#
R4B	LAN2_MDI1-	L4B	LAN2_LINK1000#
R5B	LAN2_MDI2+		
R6B	LAN2_MDI2-		
R7B	LAN2_MDI3+		
R8B	LAN2_MDI3-		

LAN 2			
Pin	Signal	Pin	Signal
R9B	GND		
R10B	GND		

2.3.2 HDMI/DP Port (3/4)

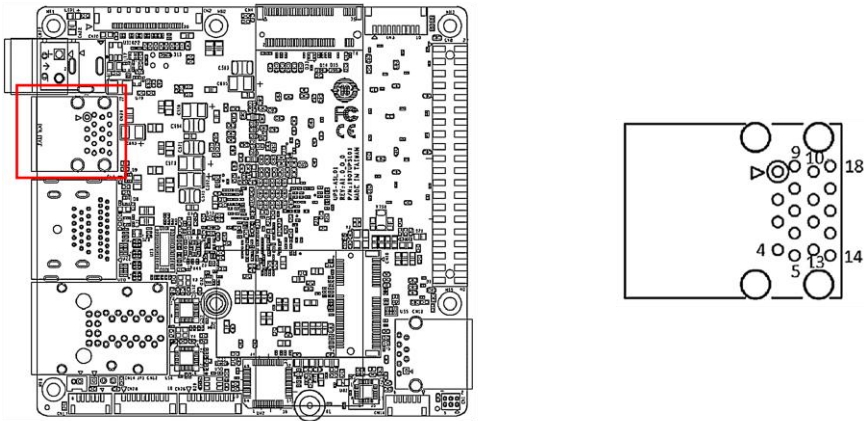


HDMI					
Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
P21	HDMI_TX2+	P22	GND	P23	HDMI_TX2-
P24	HDMI_TX1+	P25	GND	P26	HDMI_TX1-
P27	HDMI_TX0+	P28	GND	P29	HDMI_TX0-
P30	HDMI_CLK+	P31	GND	P32	HDMI_CLK-
P33	HDMI_CEC	P34	NC	P35	HDMI_SCL
P36	HDMI_SDA	P37	GND	P38	+5V/0.5A
P39	HDMI_Hot Plug Detect				

DP					
Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
P1	DP_TX0+	P2	GND	P3	DP_TX0-
P4	DP_TX1+	P5	GND	P6	DP_TX1-
P7	DP_TX2+	P8	GND	P9	DP_TX2-
P10	DP_CLK+	P11	GND	P12	DP_CLK-

DP					
Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
P13	DP_AUX_EN	P14	Pull down 1M to GND	P15	DP_AUX+
P16	GND	P17	DP_AUX-	P18	DP_Hot Plug Detect
P19	GND	P20	+3.3V/1A		

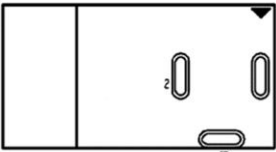
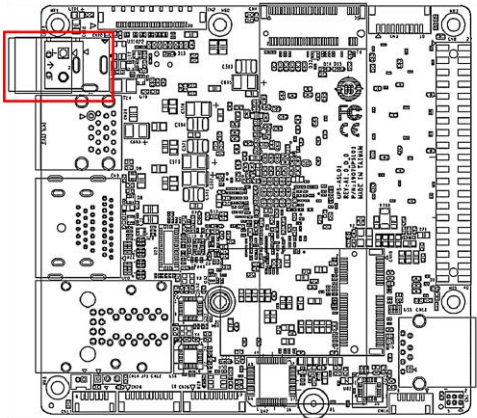
2.3.3 USB 3.2 Gen 2 (Type-A) Dual Stack (5/6)



USB #1					
Pin	Signal	Pin	Signal	Pin	Signal
1	+5V/2A	2	USB2_D1-	3	USB2_D1+
4	GND	5	USB3_RX1-	6	USB3_RX1+
7	GND	8	USB3_TX1-	9	USB3_TX1+

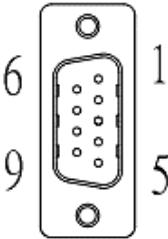
USB #2					
Pin	Signal	Pin	Signal	Pin	Signal
10	+5V/2A	11	USB2_D2-	12	USB2_D2+
13	GND	14	USB3_RX2-	15	USB3_RX2+
16	GND	17	USB3_TX2-	18	USB3_TX2+

2.3.4 12V DC-in (8)



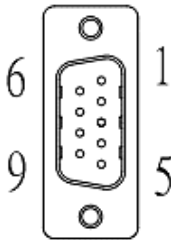
Pin	Signal	Pin	Signal
1	DC_IN	2	GND_Signal
3	GND	4	

2.3.5 COM 1 (12)



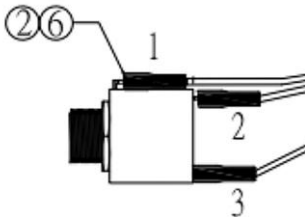
Pin	Signal	Pin	Signal
1	DCDN	2	SINN
3	SOUTN	4	DTRN
5	GND	6	DSRN
7	RTSN	8	CTSN
9	RIN		

2.3.6 COM 2 (9)



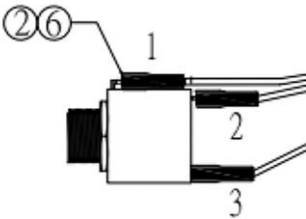
Pin	Signal	Pin	Signal
1	DCDN	2	SINN
3	SOUTN	4	DTRN
5	GND	6	DSRN
7	RTSN	8	CTSN
9	RIN		

2.3.7 Audio Jack (Line-out) (10)



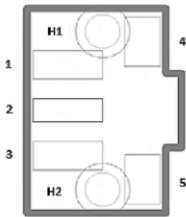
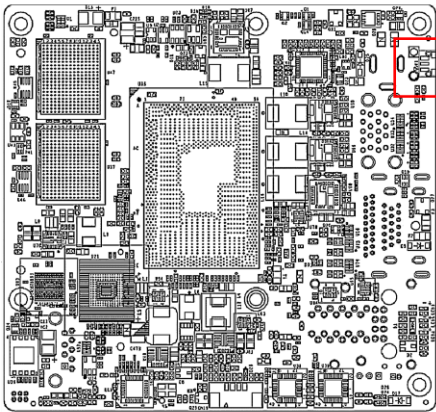
Pin	Signal	Pin	Signal
1	AUD_GND	2	LOUT_R
3	LOUT_L	4	

2.3.8 Audio Jack (Mic-in) (11)



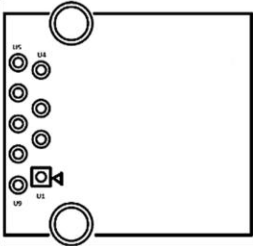
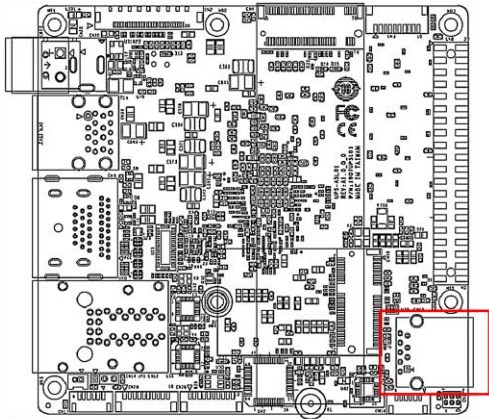
Pin	Signal	Pin	Signal
1	AUD_GND	2	MIC_LR_CN
3	MIC_LR_CN	4	

2.3.9 Power Button (7)



Pin	Signal	Pin	Signal
1	GND	2	Power Button Signal
3	GND	4	GND
5	GND		

2.3.10 USB 3.2 Gen 2 (Type-A) (13)



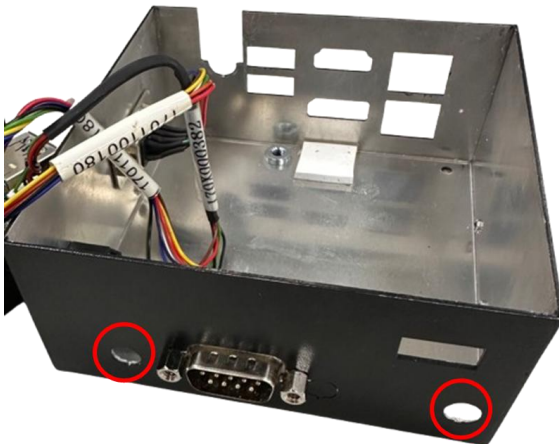
Pin	Signal	Pin	Signal
U1	+5V/2A	U2	USB2_D3-
U3	USB2_D3+	U4	GND
U5	USB3_RX-	U6	USB3_RX+
U7	GND	U8	USB3_TX-
U9	USB3_TX+		

2.4 Wi-Fi Module (M.2 2230 E-Key Slot) Installation

Step 1: Remove the four (4) M2.5*4L screws and the power nut and washer on the bottom plate.



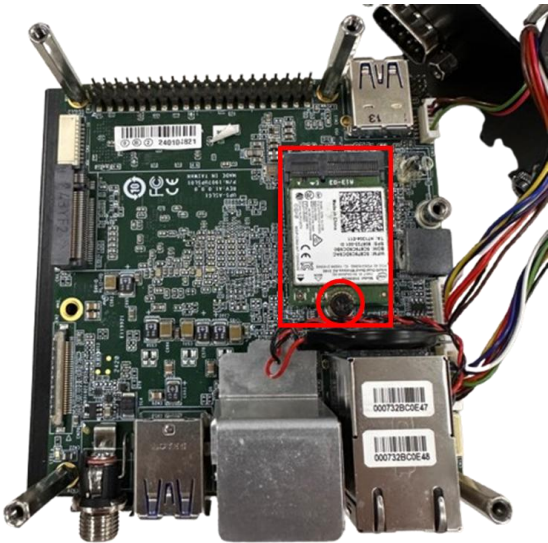
Step 2: Remove the metal cover on the ANT Wi-Fi/BT antenna holes (2 holes on the left and right sides of the system).



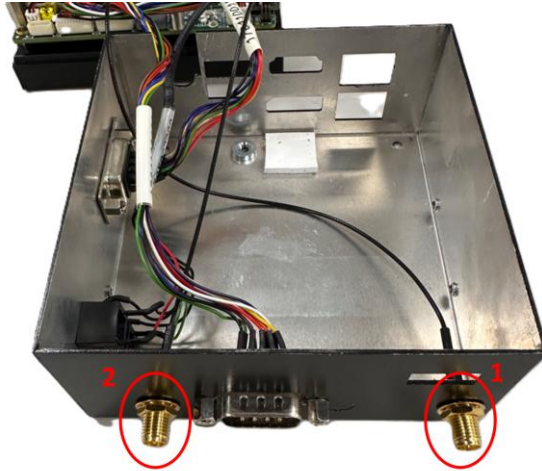
Step 3: Remove the M.2 screw.



Step 4: Install the M.2 2230 Wi-Fi module and secure with the M.2 nut.



Step 5: Install the 2 antenna cables, securing them with the nuts and washers. Connect the IPEX connectors to the Wi-Fi module in sequence, and apply adhesive to fix them in place.



Step 6: Reinstall the back cover and fasten the four (4) M2.5*4L screws and the power nut and washer in the order shown.



Step 7: Lock the external antennas, as shown.



Chapter 3

Software Installation

3.1 Linux Setup

The UP Squared 7100 Edge supports Linux operating systems (see Chapter 1 for specifications). For instructions on how to install a Linux OS onto your UP Squared 7100 Edge, you can find several guides and tutorials in the wiki section of the UP website at <https://up-board.org> for both ins talling supported distributions as well as porting your own Linux build.

3.2 Windows Drivers Installation

Drivers for the UP Squared 7100 Edge can be downloaded from the UP website by following the link <https://www.aaeon.com/tw/product/detail/up-system-up-squared-7100-edge/download> and navigating to the Downloads section, then clicking on the UP Squared 7100 Edge to find all relevant drivers.

Appendix A

Cables and Connectors

A.1 Cables and Connectors

This table provides detailed information about the cables and connectors used by the UP Squared 7100 Edge. If you have any questions about the configuration of your system, please contact your AAEON sales representative.

Label	Function	Mating Connector		AAEON P/N
		Vendor	Model No.	
CN18	Audio Wafer	CATCH	1204-700-06SMR	170X000382
CN24	COM Port Wafer	CATCH	1204-700-10SMR	1701100180
CN26	COM Port Wafer	CATCH	1204-700-10SMR	1701100180