AVerMedia F8P1M (8x POE Board)



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PREFACE

Disclaimer

The information contained in this user manual, including but not limited to any product specification, is subject to change without notice. AVerMedia assumes no liability for any damage incurred directly or indirectly from any technical or typographical errors or omissions contained herein or for discrepancies between the product and the user manual.

Technical Support

If you experience the difficulty after reading this manual and/or using the product, please contact the reseller from which you purchased the product. In most cases, the reseller can help you with the product installation and the difficulty you encountered.
In case the reseller is not able to resolve your problem, our highly capable global technical support team can certainly assist you. Our technical support section is available 24 hours a day and 7 days a week through our website, with the click here. For more contact information, you may find it in the section of AVerMedia Global Offices.

Contact Enquiry

For more information of our products, pricing, and order placement, please fill in our inquiry form here, we will contact you within 24 hours.

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REVISION HISTORY

Revision	Date	Updates
V0.1	Nov,5, 26	1st Released

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Product Warranty

Please refer to Support | Warranty And Rma Services | AVerMedia

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ESD Warning

Electronic components and circuits are sensitive to Electrostatic Discharge (ESD). When handling any circuit board assemblies including AVerMedia products, it is highly recommended that ESD safety precautions can be observed. ESD safe best practices can include but are not limited to the following ones.

1. Leave the circuit board in the antistatic package until it is ready to be installed.
2. Use a grounded wrist strap when handling the circuit board. At a minimum, you need to touch a grounded metal object to dissipate any static charge, which may be present on you.
3. Avoid handling the circuit board in the carpeted areas.
4. Handle the board by the edges and avoid contact with the components.
5. Only handle the circuit boards in ESD safe areas, which may include ESD floor and/or table mats, wrist strap stations, and ESD safe lab coats.

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Safety Precaution:

1. All cautions and warnings on the device should be noted.
2. For safety consideration, do NOT open the device if not a qualified service stuff.
3. Place the device on a solid surface during installation to prevent falls.
4. Keep the device away from humidity.
5. Do NOT leave this device in an un-controlled environment with temperatures beyond the device's permitted storage temperature to avoid damage.
6. All adaptors and cables supplied by AVerMedia are verified. Do NOT use any others not supplied by AVerMedia to avoid any malfunction or fires.
7. Make sure the power source matches the power rating of the device.
8. Place the power cord where people cannot step on it. Do not put anything on the power cord.
9. Always completely disconnect the power while the device is not used or idle for a long time.
10. Disconnect the device from any AC supply before cleaning. While cleaning, use damp cloth instead of liquid or spray detergents.
11. Make sure the device is installed near a power outlet and easy for accessibility.
12. Do not cover the openings on the device to ensure optimal heat dissipation.
13. Watch out the heatsink or heat spreader of the device when the system is running.
14. Never pour any liquid into the openings. This could cause fire or electrical shock.
15. The static electricity should be noted while installing any internal components. Consider using a grounding wrist strap and put all electronic parts in static-shielded containers.

If the following situations occur, please contact our service personnel:

(1) The device is dropped or damaged
(2) Damaged power cord or plug
(3) Exposure to moisture
(4) Liquid intrusion into the device
(5) Any obvious signs of damage displayed on the device
(6) The device is not working as expected or in a manner as described in this manual

16. The static electricity should be noted while installing any internal components.

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1. Introduction

The AVerMedia POE Daughter Board is a Ethernet expansion board that provides POE-PSE multicamera input capability over the connected D331, D333 and D317 edge AI platforms.

This product offers 3 SKUs for use with different models.

SKUs	PoE Ports	DC Input/Output	M.2 Key.B Slot for 5G Module	Suitable for Model
SKU1	8 Port	DC IN: Internal Mini-Fit 4Pin DC 12V Output: No	No	D331
SKU2	8 Port	DC IN: External 3pin Terminal Block Internal Mini-Fit 4Pin DC 12V Output: Yes	Yes	D333,D317
SKU3	4 Port	External 3pin Terminal Block DC 12V Output: Yes	Yes	D115S

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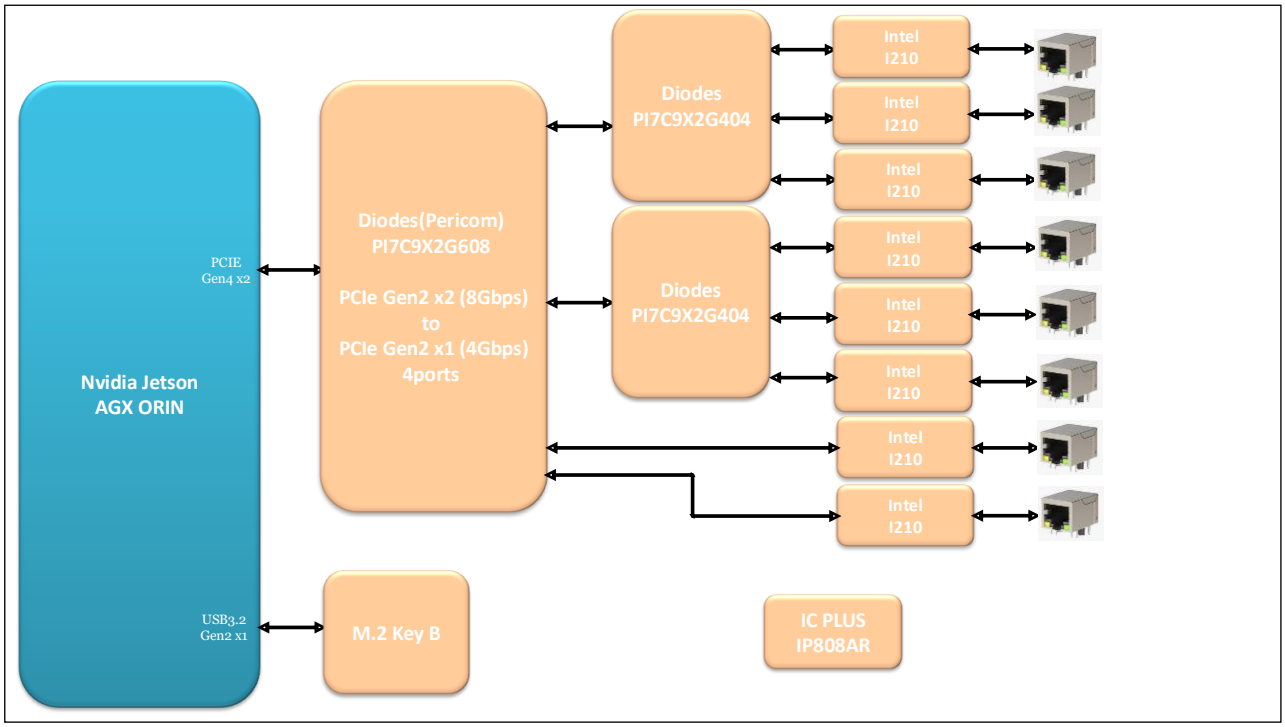
2. Feature Description

2.1 Specification

Item	Specification
Applicable Product	D331, D333, D317, D115S
Model	F8P1M (PoE Board)
PCIe Switch	PCIe Gen2x2 packet switch, DIODES PI7C9X2G608GP
Product Type	4/8 port Gigabit Ethernet with PoE expansion daughter board (By SKU)
Connect interface	40pin 0.5mm High Speed Coaxial connector, 150mm micro coaxial cable
Network	4x/8x Gigabit ethernet Independent Intel I210 network control IC for each port 4 port support PoE-PSE 802.3at 25.4W, 4 port support 802.3af 15.4W, total power budget 120W M.2 Key. B 3042/3052 for 4G/5G Module (By SKU)
Power output	Molex Mini-Fit 4pin compatible, DC 12V output to Carrier Board (7A, 84 Watt) (By SKU)
Power Input	External DC 12-54V Input, terminal Block with lock (PWR control (AGND, V-, V+)) by SKU Internal DC 12-54V Input, Molex Mini-Fit 4pin compatible (By SKU)
Mechanical	Dimensions: 150mm x 95mm x 33mm
Temperature	Operating temperature: -40 to 45°C (-40°F to +113°F) Storage temperature -40°C ~ 85°C Relative humidity 40 °C @ 95%, Non-Condensing

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2.2 Block Diagram

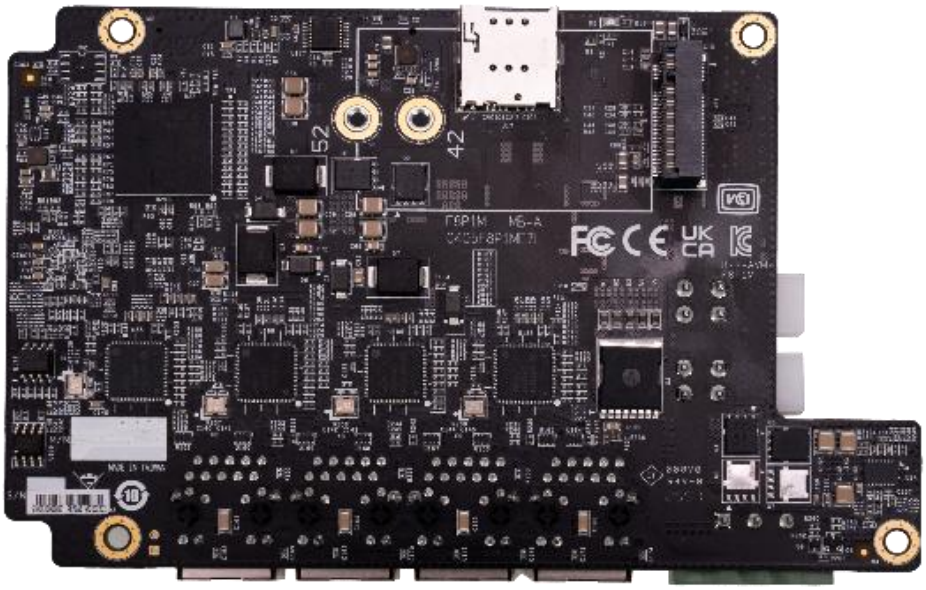


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2.3 Front View and Back View of Carrier board

Pictures are for illustrative purposes only. Actual components may vary depending on the SKU. Please note that the DC output wafer will be updated to black.

Mother Board (Front View)

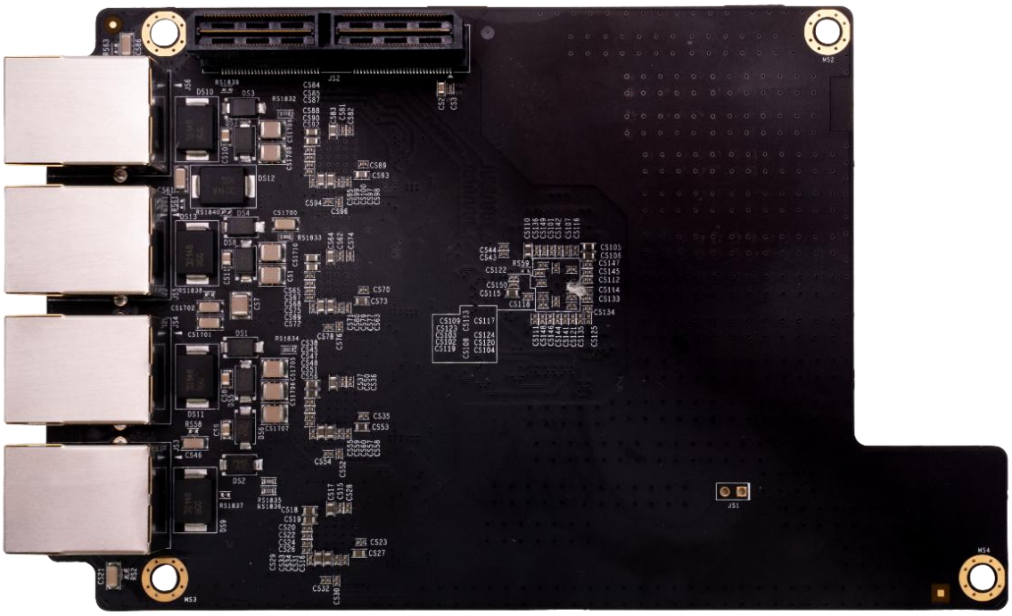


Mother Board (Back View)

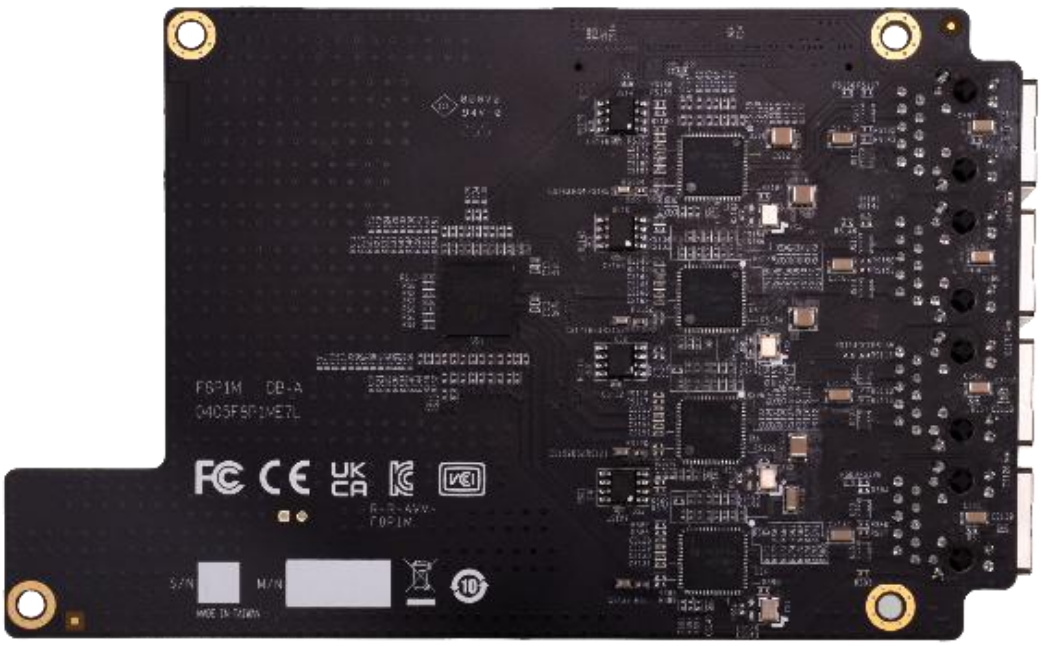


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Daughter Board (Front View)



Daughter Board (Back View)

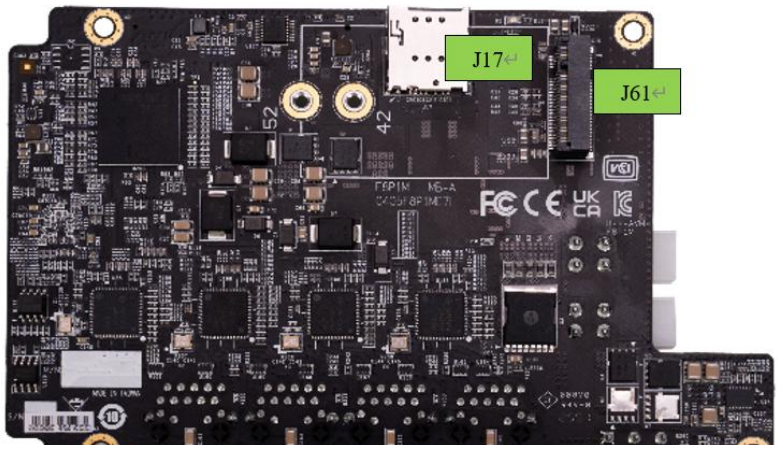


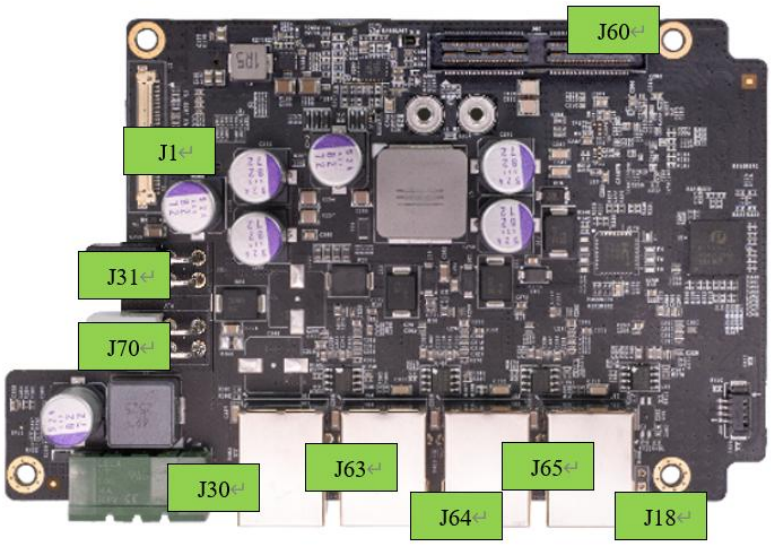
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2.4 Carrier Board Interface

Mother Board include 51F8P1M001AC(SKU1) /51F8P1M001AE(SKU2)

J18	Gigabit Ethernet Connector w/LEDs & PSE
J63	Gigabit Ethernet Connector w/LEDs & PSE
J64	Gigabit Ethernet Connector w/LEDs & PSE
J65	Gigabit Ethernet Connector w/LEDs & PSE
J17	MICRO SIM SOCKET
J1	40pin coaxial connector for PCIe expansion
J70	Input Power – 4.2mm Pitch 90° ATX Power 4P
J60	120-pin high speed board to board connector (to Daughter Board)
J61	M.2 B-Key Socket (only @AE_BOM)
J30	Input Power –TERMINAL BLOCK_1*3PIN_90°(only @AE_BOM)
J31	Output Power –4.2mm Pitch 90° ATX Power 4P Black (only @AE_BOM)

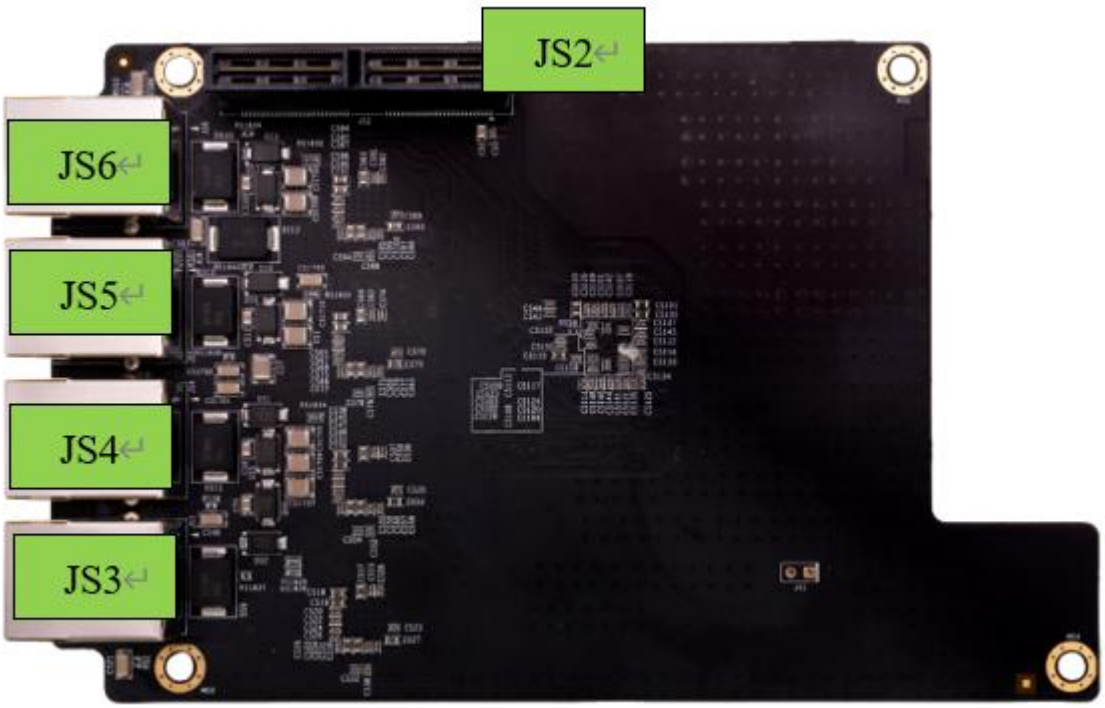




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Daughter Board 51F8P1M001AD

JS3	Gigabit Ethernet Connector w/LEDs & PSE
JS4	Gigabit Ethernet Connector w/LEDs & PSE
JS5	Gigabit Ethernet Connector w/LEDs & PSE
JS6	Gigabit Ethernet Connector w/LEDs & PSE
JS2	120-pin high speed board to board connector (to Mother Board)



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2.5 Feature Description

2.5.1 Board to board connector (to Daughter board)

Function	Board to board connector	
Location	J60	
Type Description	WAFER_2*60PIN_0.5㎜_180°_SMD	
Manufacturer and Part Number	SAMTEC QSH-060-01-L-D-A-K-TR BTB-RECEPTACLE	
Mating Connector	SAMTEC_QTH-060-04-L-D-A-K-TR_BTB-PLUG	
Pinout	Comply with Daughter Board pinout.	
Remarks	None	

2.5.2 Gigabit Ethernet & PSE Connector

Function	PSE & 1Gb single-port Ethernet connector, used to connect to the host system.	
Location	J18/J63/J64/J65/JS3/JS4/JS5/JS6	
Type Description	RJ45_POE TRANSFOMER+LED_90°_DIP	
Manufacturer and Part Number	建倚_MJ45-111QC4A-GY-S307_1G-LEFT(G)+RIGHT(Y)-DOWN	
Mating Connector	Any standard 1Gb Ethernet mating connector can be applicable.	
Pinout	Comply with Ethernet & PSE standards.	
Remarks	None	

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2.5.3 Expansion 40pin coaxial

Function	Expansion 40pin coaxial
Location	J1
Type Description	WAFER_40PIN_0.5㎜_90°_SMD
Manufacturer and Part Number	I-PEX 20455-040E-12



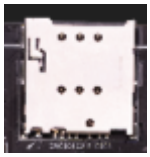
Pinout

PIN#	Description	PIN#	Description
40	N.C	20	GND
39		19	5G_DP
38		18	5G_DN
37		17	GND
36		16	UPHY_TX3_CAP_N
35		15	UPHY_TX3_CAP_P
34	GND	14	GND
33	GND	13	UPHY_TX2_CAP_P
32	GNSS	12	UPHY_TX2_CAP_N
31	AIRPLANE	11	GND
30	LTE_PWR	10	UPHY_RX3_N
29	PCIE_WAKE_N	9	UPHY_RX3_P
28	PCIE3_CLKREQ	8	GND
27	PCIE0_RST_N	7	UPHY_RX2_P
26	GND	6	UPHY_RX2_N
25	USB_SS0_TX_CAP_P	5	GND
24	USB_SS0_TX_CAP_N	4	PCIE0_CLK_P
23	GND	3	PCIE0_CLK_N
22	USB_SS0_RX_P	2	GND
21	USB_SS0_RX_N	1	5G_RST

Remarks	None

2.5.4 Micro SIM Card Socket

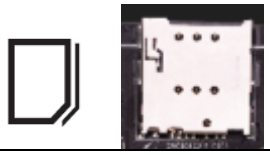
Function	Micro SIM Card
Location	J17
Type Description	SOCKET_MICRO SIM_8PIN_90°_SMD
Manufacturer and Part Number	福軒 Fullglory FG-0271AAAG06A PUSH PUSH 1.42H
Pinout	Refer to Micro SIM card standard



Remarks

*Push Push type

*Inserting directing as below



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2.5.5 Input Power -ATX 4P

Function	Input Power -ATX 4P
Location	J70
Type Description	WAFER_2*2PIN_4.2㎜_90°_DIP
Manufacturer and Part Number	燦達 Jiont Tech C4255WR-2X02PN2NT1N00B
Mating Connector	Follow ATX 4pin power standard
Pinout	Pin Number / Description 1 GND 2 GND 3 DC-IN 4 DC-IN
Remarks	None





2.5.6 M.2 B key 3042/3052

Function	M.2 B key
Location	J61
Type Description	SOCKET_M.2-KEY B_75PIN_90°_SMD
Manufacturer and Part Number	鴻海_Foxconn 2E0BC21-S85BB-7H_H8.5㎜
Mating Connector	Any M.2 B key card standard interface device.
Pinout	Please refer to M.2 B key card standard for the pinout details.
Remarks	None



2.5.7 Input Power –TERMINAL BLOCK_1*3PIN

Function	Input Power –TERMINAL BLOCK_1*3PIN
Location	J30
Type Description	TERMINAL BLOCK_1*3PIN_90°
Manufacturer and Part Number	進聯_ME050-50803_GREEN-P5.08㎜-PIN L4.5㎜
Mating Connector	PLUG_TERMINAL BLOCK_1*3PIN_GREEN-P5.08㎜ 進聯_MC101-50803-1
Pinout	Pin # / Description 1 DC_IN 2 GND 3 CGND
Remarks	None



1	2	3

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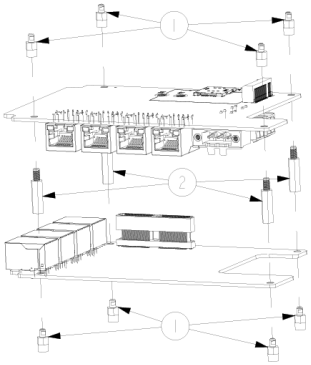
2.5.8 Output power- ATX 4P Black

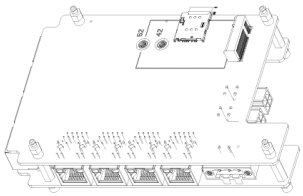
<table>
<tr><td>Function</td><td colspan="2">Output power- ATX 4P</td><td rowspan="6">

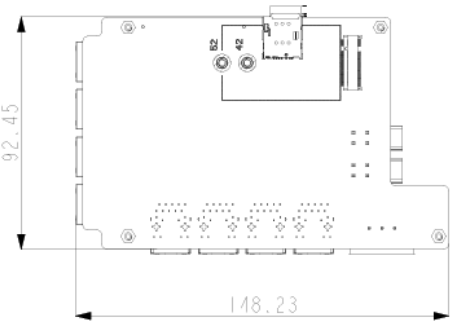

DC output wafer will be changed to black</td></tr>
<tr><td>Location</td><td colspan="2">J31</td></tr>
<tr><td>Type Description</td><td colspan="2">WAFER_2*2PIN_4.2 ㎜_90°_DIP</td></tr>
<tr><td>Manufacturer and Part Number</td><td colspan="2">福軒_FPWD-42R2-04BKT_ATX POWER</td></tr>
<tr><td>Mating Connector</td><td colspan="2">Follow ATX 4pin power standard</td></tr>
<tr><td>Pinout</td><td>Pin Number</td><td>Description</td></tr>
<tr><td></td><td>1</td><td>GND</td></tr>
<tr><td></td><td>2</td><td>GND</td></tr>
<tr><td></td><td>3</td><td>DC-OUT</td></tr>
<tr><td></td><td>4</td><td>DC-OUT</td></tr>
<tr><td>Remarks</td><td colspan="3">None</td></tr>
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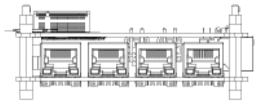
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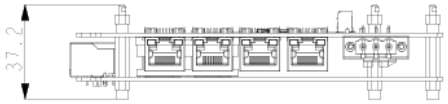
3. Mechanical Drawing

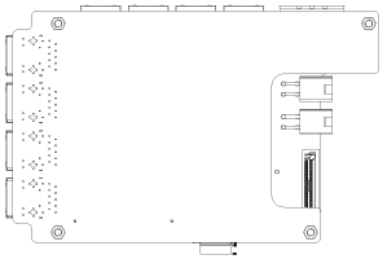


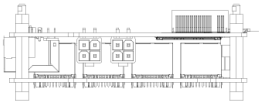


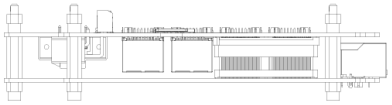












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