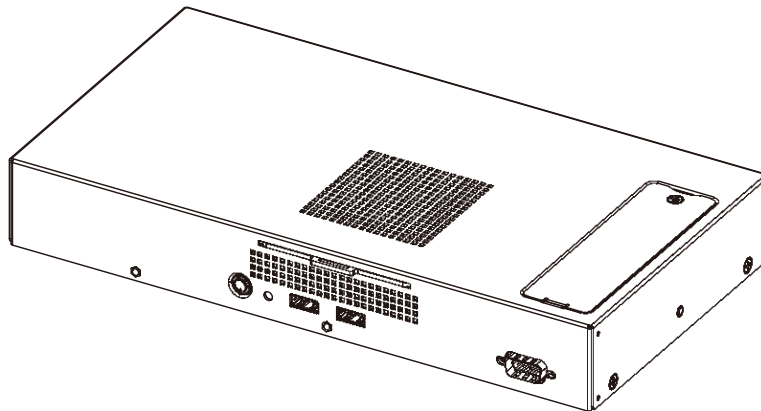


element™

B6140 Box PC



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Safety

IMPORTANT SAFETY INSTRUCTIONS

1. To disconnect the machine from the electrical power supply, turn off the power switch and remove the power cord plug from the wall socket. The wall socket must be easily accessible and in close proximity to the machine.
2. Read these instructions carefully. Save these instructions for future reference.
3. Follow all warnings and instructions marked on the product.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
9. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
10. This equipment must be grounded. The power cord for product should connect to a socket-outlet with earthing connection.



This device complies with the requirements of the EEC directive 2014/30/EU with regard to “Electromagnetic compatibility” and 2014/35/EU “Low Voltage Directive”.



This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

CAUTION ON LITHIUM BATTERIES

There is a danger of explosion if the battery is replaced incorrectly. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer’s instructions.



Battery Caution

Risk of explosion if battery is replaced by an incorrectly type. Dispose of used battery according to the local disposal instructions.



Safety Caution

Note: To comply with IEC60950-1 Clause 2.5 (limited power sources, L.P.S) related legislation, peripherals shall be 4.7.3.2 “Materials for fire enclosure” compliant.

4.7.3.2 Materials for fire enclosures

For MOVABLE EQUIPMENT having a total mass not exceeding 18kg.the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of V-1 CLASS MATERIAL or shall pass the test of Clause A.2.

For MOVABLE EQUIPMENT having a total mass exceeding 18kg and for all STATIONARY EQUIPMENT, the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of 5VB CLASS MATERIAL or shall pass the test of Clause A.1

CAUTION

1. Lithium Battery Caution: Danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type. Dispose batteries according to manufacturer's instructions.
2. Disposal of a BATTERY into fire or a hot oven, or mechanically crushing or cutting of a BATTERY, that can result in an EXPLOSION.
3. Leaving a BATTERY in an extremely high temperature surrounding environment that can result in an EXPLOSION or the leakage of flammable liquid or gas.
4. A BATTERY subjected to extremely low air pressure that may result in an EXPLOSION or the leakage of flammable liquid or gas.

LEGISLATION AND WEEE SYMBOL

2012/19/EU Waste Electrical and Electronic Equipment Directive on the treatment, collection, recycling and disposal of electric and electronic devices and their components.



The crossed dust bin symbol on the device means that it should not be disposed of with other household wastes at the end of its working life. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure.

To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.

This product should not be mixed with other commercial wastes for disposal.

Revision History

Changes to the original user manual are listed below:

Revision	Description	Date
1.0	• Initial release	December 2021

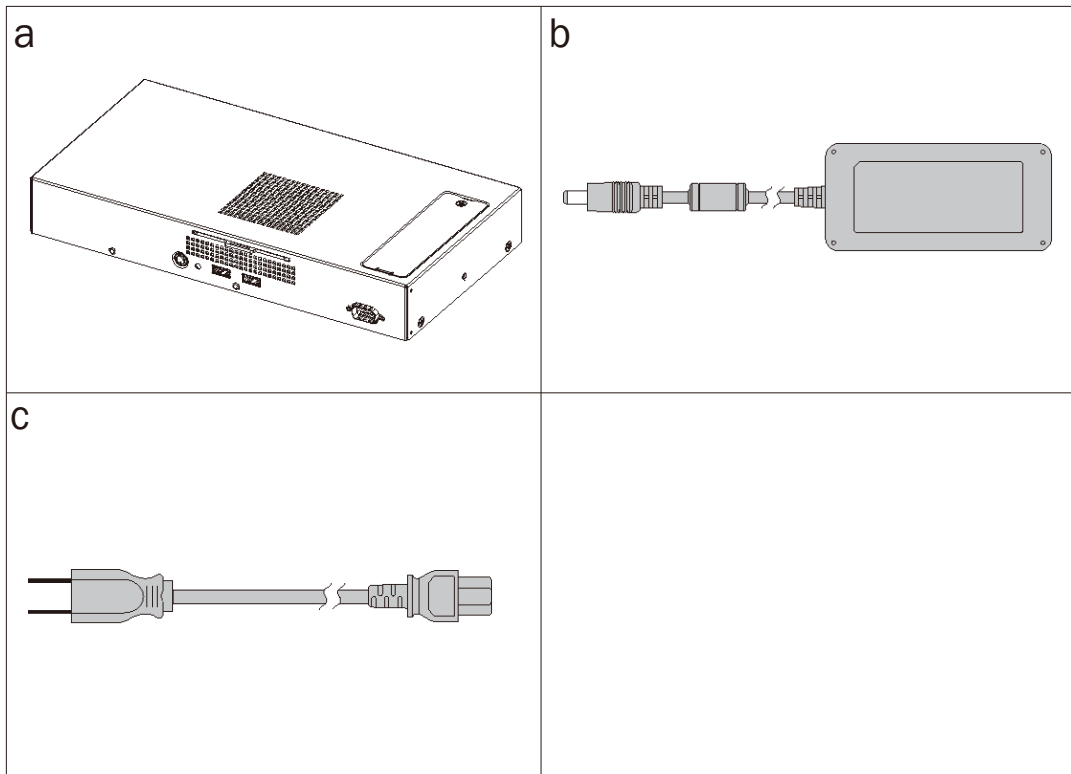
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1. Packing List

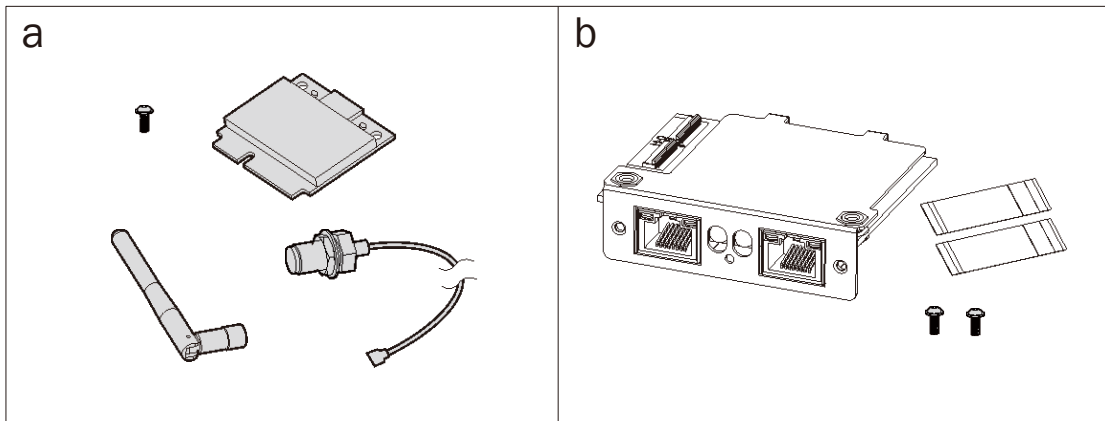
1-1. Standard Accessories



- a. System
- b. Power adapter
- c. Power cord

Note: Power cord will be supplied differently according to various region or country.

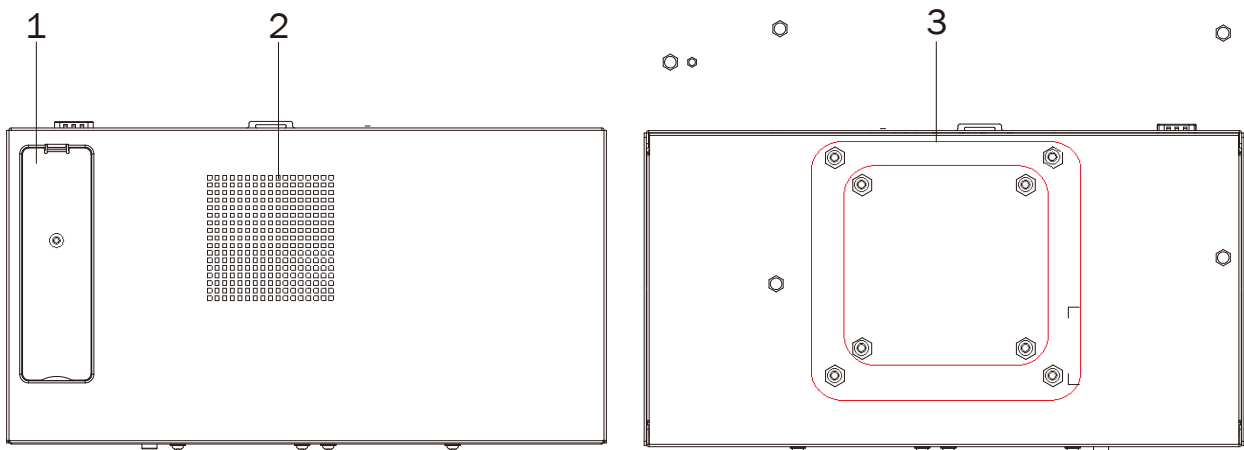
1-2. Optional Accessories



- a. WLAN card (with external antenna)
- b. HDBaseT module

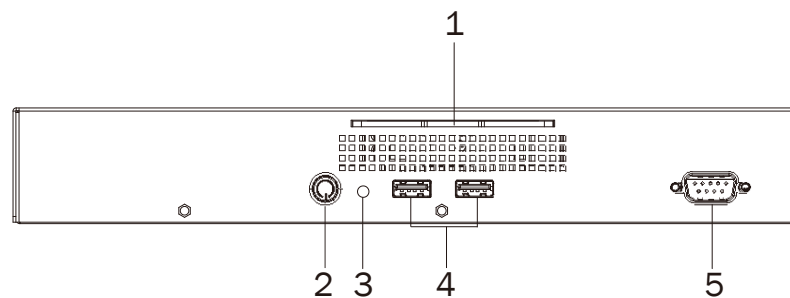
2. System View

2-1. Top & Bottom View



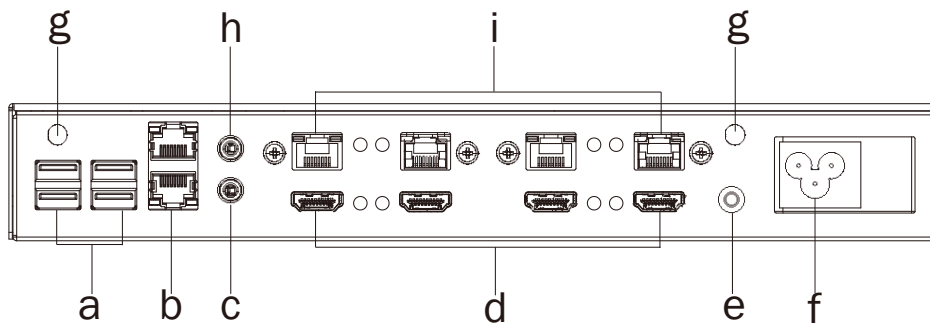
No.	Description
1	Service door for M.2 SATA SSD
2	Ventilation
3	Standard VESA holes (75 x 75mm & 100 x 100mm)

2-2. Front View



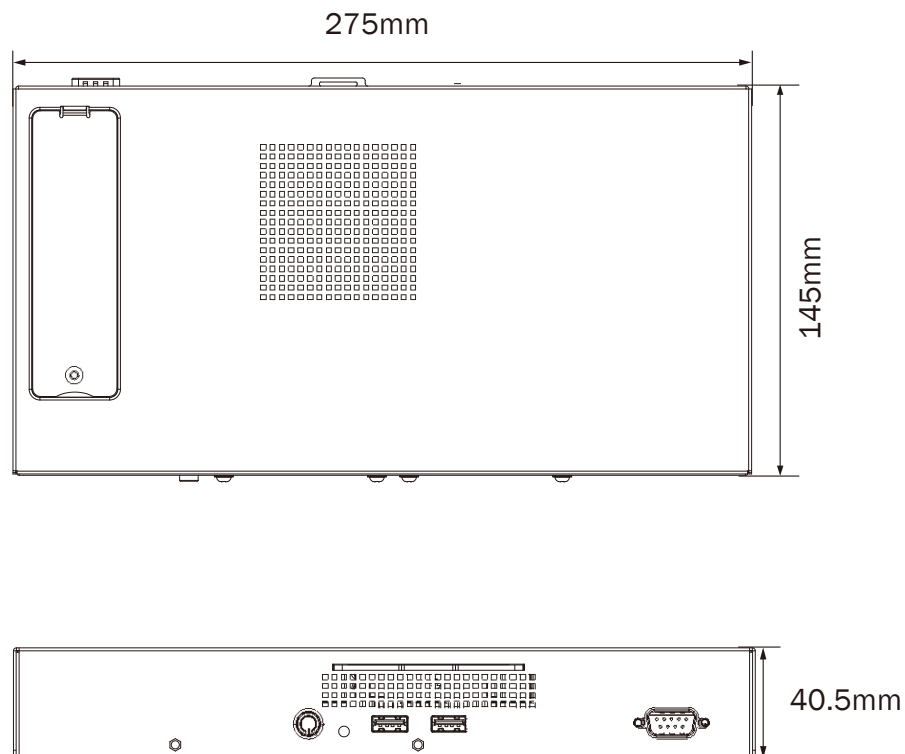
No.	Description
1	Dust filter slot
2	Power button
3	Power LED
4	USB 2.0 x 2
5	COM

2-3. Rear & IO Ports View



No.	Description
a	USB 3.0 x 4
b	LAN x 2
c	Mic in
d	HDMI x 4
e	Power button
f	Power connector
g	Antenna (option)
h	Line out
i	HDBaseT x 4 (option)

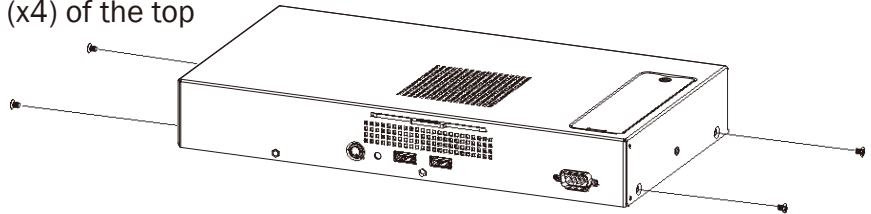
2-4. Dimensions



3. System Assembly & Disassembly

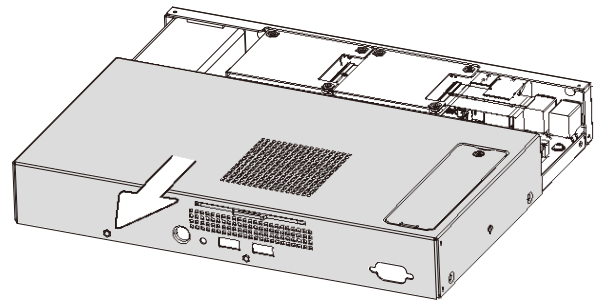
3-1. Removing the Top Cover

1. Remove the screw (x4) of the top cover.



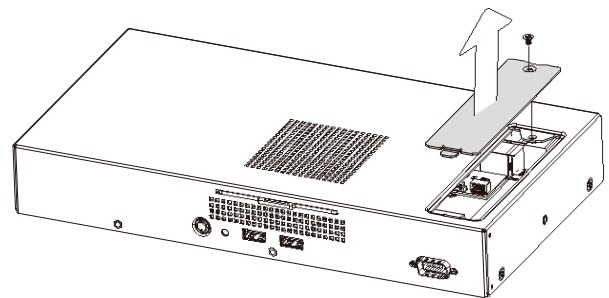
2. Pull the top cover outwards as shown in the picture.

***The machine can only be installed in the restricted area, which shouldn't be easy access for anyone. Disassembling the machine should follow the instruction and be operated by a skilled person.**

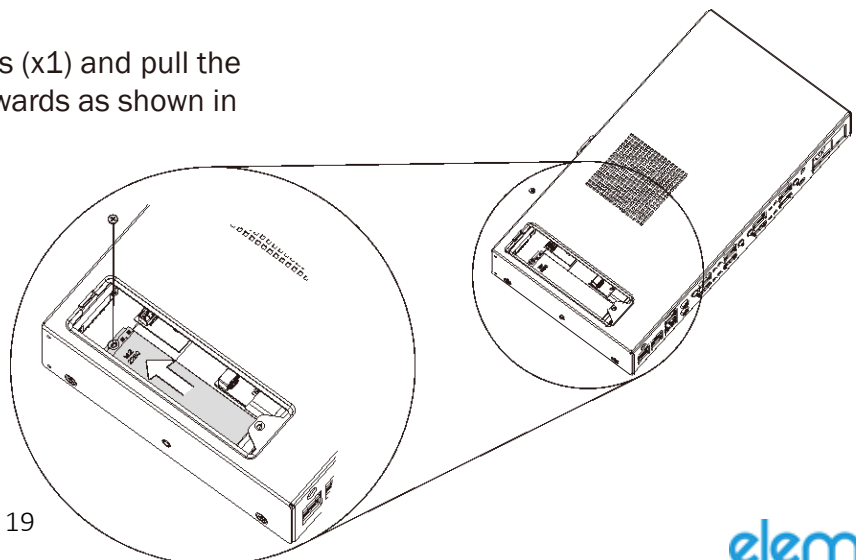


3-2. Replacing the M.2 SSD

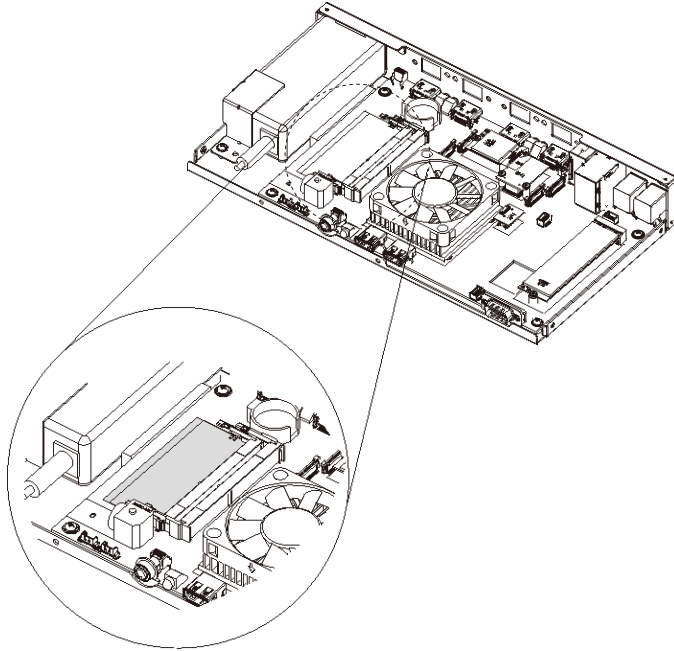
1. Remove the screw (x1) of the SSD door and then pull it upwards.



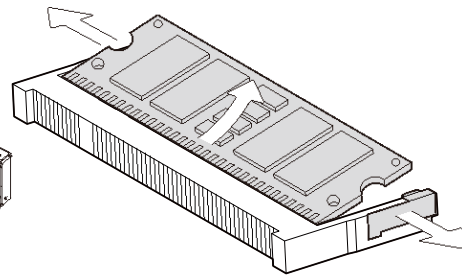
2. Remove the screws (x1) and pull the M.2 SSD card outwards as shown in the picture.



3-3. Replacing the RAM

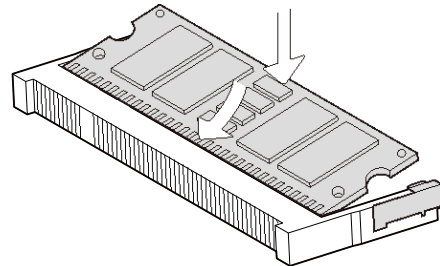


1. Follow the steps described in Chapter 3-1 to release the top cover first.
2. Find the RAM location on the motherboard (refer to Chapter 6-1).



Removing the RAM module

Flip the ejector clips outwards to remove the memory module from the memory slot.

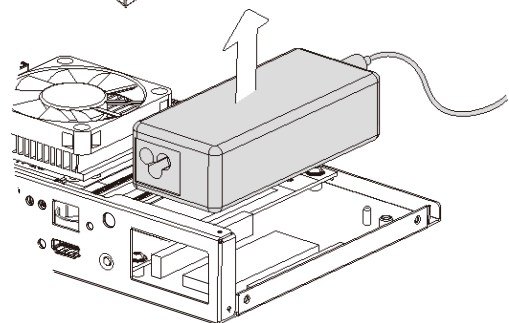
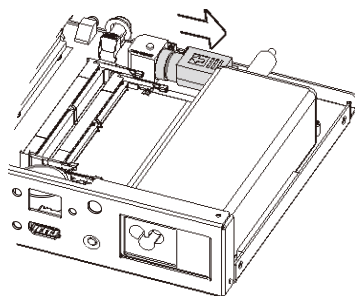
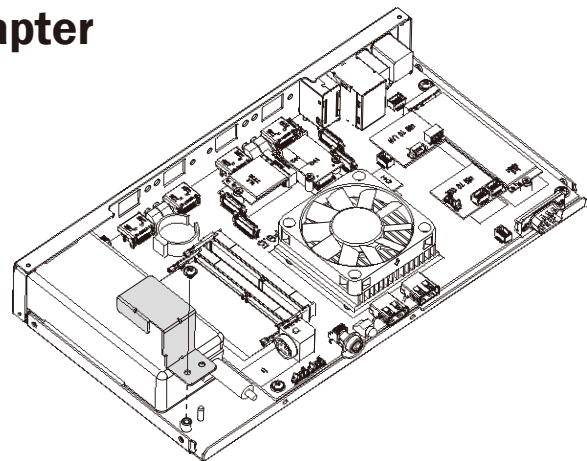


Installing a RAM module

Slide the memory module into the memory slot and press down until the ejector clips snaps in place.

3-4. Replacing the Power Adapter

1. Follow the steps described in Chapter 3-1 to release the top cover first.
2. Remove the screw (x1) to release the fix bracket of the power adapter.

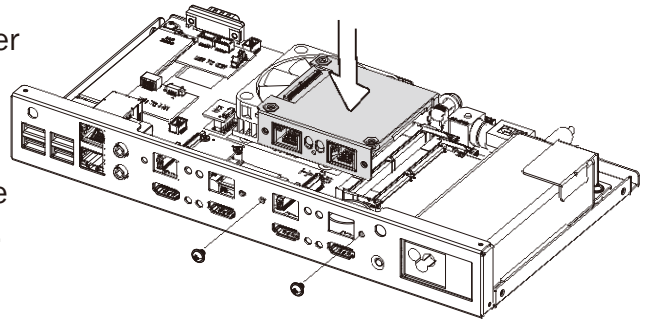


3. Disconnect the cable from the DC-in connector.
4. Lift the power adapter as shown in the picture.

4. Peripheral Installation

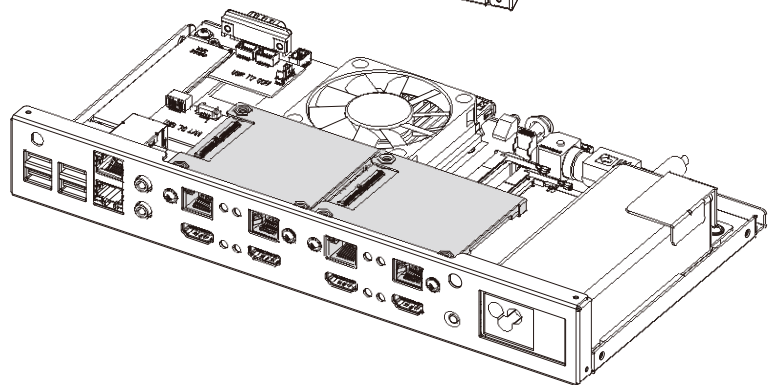
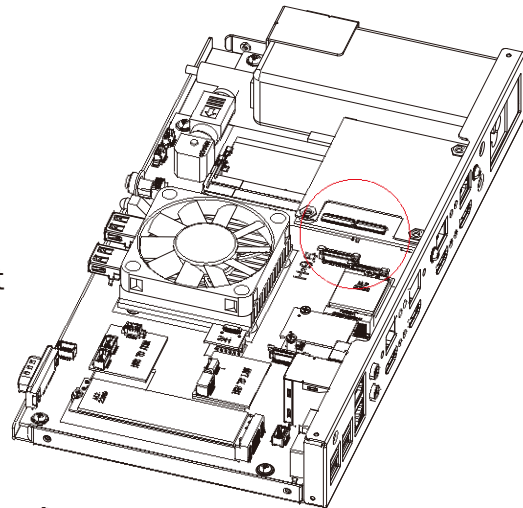
4-1. Installing the HDBaseT Module

1. Follow the steps described in Chapter 3-1 to release the top cover first.
2. Open the blind holes (x2) on the IO bracket.
3. Attach the HDBaseT module in place and fasten the screws (x2) provided.

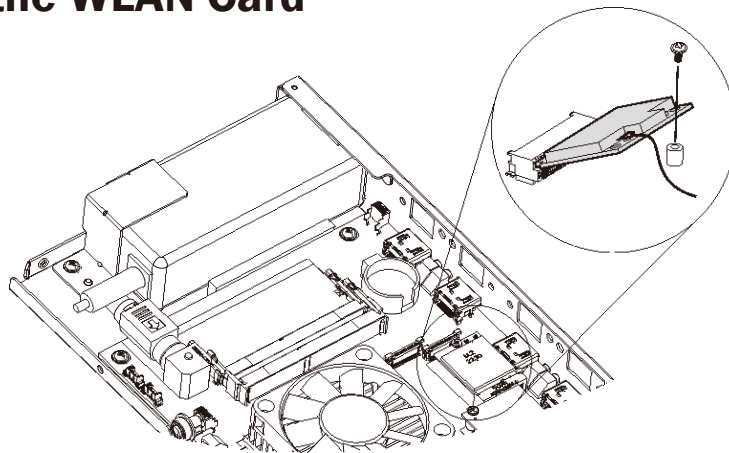


4. Connect the FPC cables (x2) to the HDBaseT module and connect the other ends to the connectors (CN3 & CN21) on the motherboard.
5. Follow the same steps to install another HDBaseT module and connect the other ends of FPC cables to the connectors (CN2 & CN25) on the motherboard.

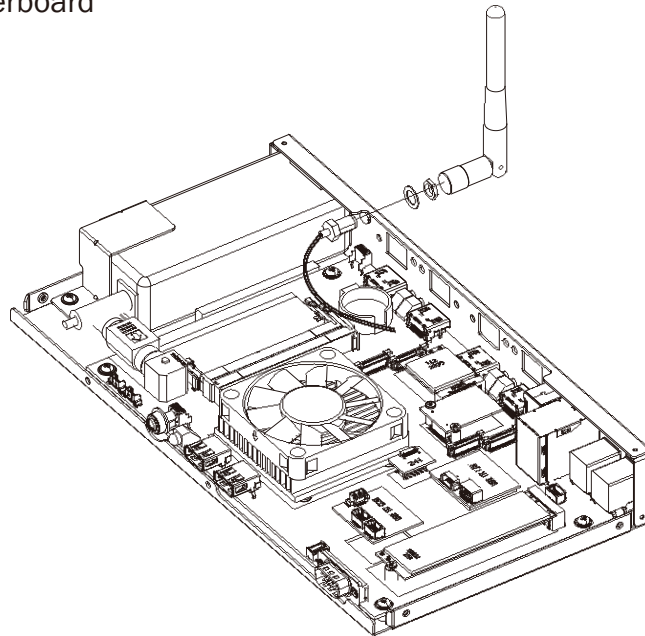
* **Please refer to Chapter 6-1 Motherboard Layout for connectors locations.**



4-2. Installing the WLAN Card



1. To Install the wireless LAN, please open the top cover first (see chapter 3-1).
2. Connect the WLAN cable to the “Main Connector“ of the Mini PEIC WLAN card.
3. Slide the Mini PCIE WLAN card into the slot.
4. Press down the Mini PCIE WLAN card and fasten the screw (x1) to fix the WLAN card to the motherboard



5. Open the blind hole on the IO bracket.
6. Thread the other end of the WLAN cable through the blind hole.
7. Rotate the washer to fix the cable to bracket.
8. Screw the external antenna.

5. Specification

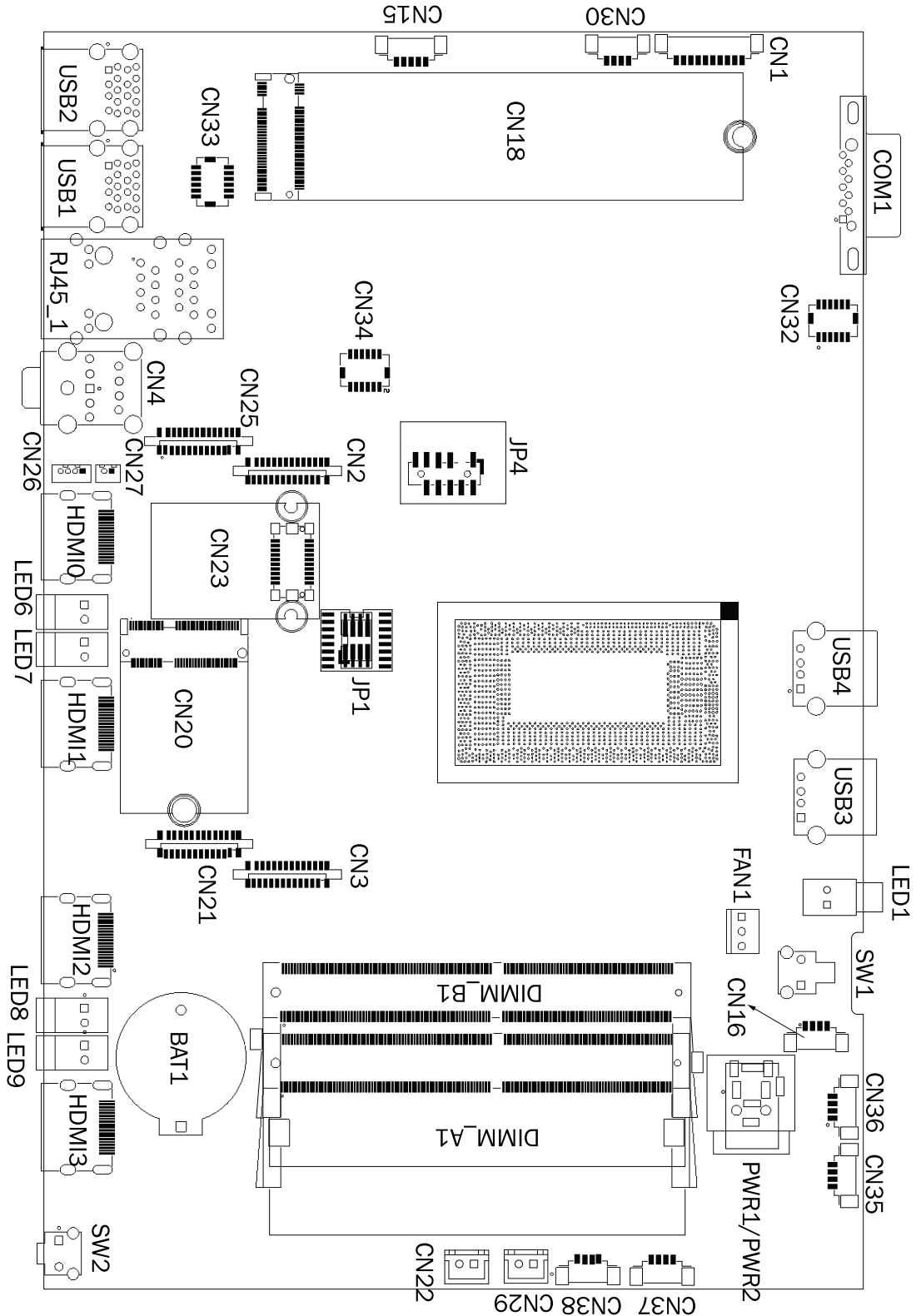
Model Name		B6140
Mainboard		F8AU
CPU support		Intel TIGER LAKE U CPU EIA(IOTG) Celeron 6305E(15W) 2Core/1.8GHz/4MB IA(Consumer) i5-1135G7(12-28W) 4Core/2.4/0.9GHz/8MB
System memory		1. Support dual channel DDR4 64GB Max (check SE) FSB 3200MHz 2. One channel one SO-DIMM (32GB Max, 1 Channel)
Graphic memory	i5-1145G7E i5-1145G7	Intel® Iris® Xegraphics 80EU 4x4k or 2x8k Displays 2 VDBOX
	Celeron 6305E	Intel® UHD Graphics 48EU 4x4k or 1x8k Displays 1 VDBOX
Storage		
Flash memory		M.2 SATA SSD 128G & NVMe SSD 128~256G
External I/O Ports		
Front I/O		
USB	USB 2.0 x 2	
Power Button	1	
Power LED	1	
COM	1	
Rear I/O		
Power button	1	
USB	USB 3.0 x 4	
LAN (10/100/1000)	2 x RJ-45 (10/100/1000 baseT)	
HDMI	4	
HDMI LED	4 (green)	
Mic in	1	
Lint out	1	
HDBaseT	4 (option)	
HDBaseT LED	4 (green) option	
Power		
Power adapter	Internal power adapter 19V/65W	
Control / Indicator		
Power button	2 (1 in front I/O, 1 in rear I/O)	
Power LED	1 (blue, front I/O)	
Optional		
Wireless LAN	antenna	
VESA hole	75 x 75mm & 100 x 100mm (screw size: M4*4mm)	

Model Name	B6140
Mainboard	F8AU
Wall mount kit	1 (1U rack tray, 19" in length, 1.75" in height)
Certificate	
EMC & Safety	CE, LVD
ESD	4 KV Contact discharge, 8 KV Air discharge
Environment	
Operating temperature	0 °C ~ 35 °C (32 °F ~ 95 °F)
Storage temperature	-20 °C ~ 60 °C (-4 °F ~ 140 °F)
Humidity	20% ~ 85% RH non-condensing
Dimension (W x D x H)	275 X 145 x 40.5mm
Weight (N.W. / G.W)	
OS supported	Windows 10 (64-bit), Windows IOT 10(64-bit) Linux : Ubuntu After 20.10, Fedora After 23, OpenSUSE 42.1 no support (Kernel 5.12)

*** This specification is subject to change without prior notice (E&OE).**

6. Configuration

6-1. F8AU Motherboard Layout



6-2. Connectors & Functions

Connector	Function
CN1	COM2 connector
CN2/3/21/25	HDBaseT connector
CN4	Audio jack
CN5/6/7/15	EC debug
CN16	LED / Power button connector
CN18	M.2 Key M socket
CN20	M.2 Key E socket
CN22/29	+19V power for PSE
CN23	OOB
CN26	Mic (input) reserve
CN27	Line out (input) reserve
CN30	+12V output
CN32	COM1/COM2 (input) reserve
CN33/34	LAN (input) reserve
CN35/36/37/38	USB connector
COM1	COM1 connector
FAN1	System FAN connector
BAT1	Battery connector
PWR1/PWR2	DC jack
RJ45_1	LAN connector
DIMM_A1/DIMM_B1	DDR4 SO-DIMM
USB1/USB2	USB3.0
USB3/USB4	USB2.0
HDMI0/HDMI1/ HDMI2/HDMI3	HDMI connector
SW1/SW2	Power button
LED1	Power button LED
LED6/LED7/ LED8/LED9	HDMI LED