

# SEPC-KA

Fanless Onboard AMD Embedded G-Series SOC Quad core  
Processor Tiny Box PC

## Quick Reference Guide

1<sup>st</sup> Ed – 13 February 2015

### Copyright Notice

Copyright © 2015 Avalue Technology Inc., ALL RIGHTS RESERVED.

## 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.
- (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

## Notice

This guide is designed for experienced users to setup the system within the shortest time. For detailed information, please always refer to the electronic user's manual.

## Copyright Notice

Copyright © 2015 Avalue Technology Inc., ALL RIGHTS RESERVED.

No part of this document may be reproduced, copied, translated, or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the prior written permission of the original manufacturer.

## Trademark Acknowledgement

Brand and product names are trademarks or registered trademarks of their respective owners.

## Disclaimer

Avalue Technology Inc. reserves the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. Avalue Technology assumes no responsibility or liability for the use of the described product(s), conveys no license or title under any patent, copyright, or masks work rights to these products, and makes no representations or warranties that

these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. Applications that are described in this manual are for illustration purposes only. Avalue Technology Inc. makes no representation or warranty that such application will be suitable for the specified use without further testing or modification.

### Life Support Policy

Avalue Technology's PRODUCTS ARE NOT FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE PRIOR WRITTEN APPROVAL OF Avalue Technology Inc.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into body, or (b) support or sustain life and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

### A Message to the Customer

#### *Avalue Customer Services*

Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

#### *Technical Support*

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at:

<http://www.avalue.com.tw/>

# Content

- 1. Getting Started .....5**
  - 1.1 Safety Precautions .....5
  - 1.2 Packing List .....5
  - 1.3 System Specifications .....6
  - 1.4 System Overview.....8
    - 1.4.1 Front View ..... 8
    - 1.4.2 Rear View..... 8
  - 1.5 System Dimensions.....10
- 2. Hardware Configuration.....11**
  - 2.1 SEPC-KA connector mapping .....12
    - 2.1.1 Serial port connector (COM) ..... 12
    - 2.1.2 Gigabit LAN (RJ-45) connector (LAN) ..... 12
  - 2.2 Installing Hard Disk & Memory .....13

# 1. Getting Started

## 1.1 Safety Precautions

### Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

### Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

## 1.2 Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:

- 1 x SEPC-KA Fanless Onboard AMD Embedded G-Series SOC Quad core Processor Tiny Box P
- 1 x DVD-ROM contains the followings:
  - Quick Reference Guide
  - Driver Utility
- Other major components include the followings:
  - Adapter X 1
  - Power cord X 1
  - Rubber x 4
  - Screws



If any of the above items is damaged or missing, contact your retailer.

## 1.3 System Specifications

System	
<b>CPU</b>	Onboard AMD Embedded G-Series SOC Quad core GX-415GA 1.5GHz Processor
<b>BIOS</b>	AMI uEFI BIOS 32Mbit SPI Flash ROM
<b>I/O Chip</b>	Nuvoton NCT5532D
<b>System Memory</b>	One 204-pin DDR3/DDR3L 1600/1333MHZ SO-DIMM socket, supports up to 16GB Max
<b>Storage</b>	1 x 2.5" Drive Bay
<b>Watchdog Timer</b>	Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
<b>H/W Status Monitor</b>	Monitoring CPU & System Temperature and Voltage
<b>Expansion</b>	1 x Half size Mini PCI-e supported mSATA 1 x Full size Mini PCI-e supported WiFi
<b>External I/O</b>	
<b>USB port</b>	4 x USB 2.0, 2 x USB 3.0
<b>COM port</b>	1 x RS-232 port (Pin 9 without power)
<b>LAN port</b>	1 x RJ45
<b>DP port</b>	1 x DP
<b>HDMI port</b>	1 x HDMI
<b>SD card</b>	1 x SD card socket
<b>Audio port</b>	Line-out , Mic-in
<b>DC Jack</b>	1 x DC Jack 2.5mm
<b>WiFi</b>	1 x Full size Mini PCI-e (supported WiFi)
<b>Others</b>	1 x Power on/off button 1 x Power LED 1 x HDD LED 1 x 4 bit GPIO 1 x SMA connector 1 x CIR, 1 x S/PDIF
<b>Display</b>	
<b>Chipset</b>	AMD Embedded G-Series Integrated supports dual display
<b>Resolution</b>	DP: 3840 x 2160 @ 24 Hz/ 2560 x 1600 @ 60 Hz HDMI Display: 3840 x 2160 @ 24 Hz /1920 x 1080 @ 60 Hz
<b>Dual Display</b>	DP + HDMI
<b>Audio</b>	
<b>Audio Codec</b>	Realtek ALC892 HD Audio Decoding controller supports 2-CH

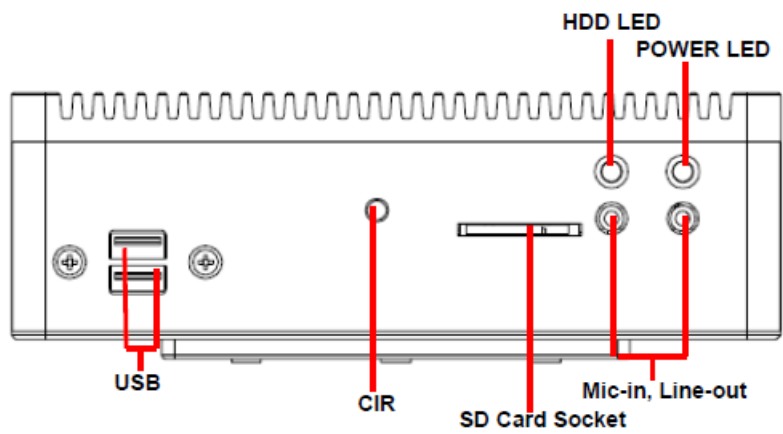
<b>Audio Interface</b>	1 x Mic-in, 1 x Line out
<b>Ethernet</b>	
<b>LAN Chip</b>	1 x Realtek RTL8111G PCI-e Gigabit Ethernet
<b>Ethernet Interface</b>	10/100/1000 Base-Tx GbE compatible
<b>SIM card</b>	
<b>SIM card</b>	1 x SIM Card socket
<b>SD card socket</b>	
<b>SD card socket</b>	1 x SD Card socket
<b>Environment &amp; Mechanical</b>	
<b>Power Type</b>	12V 5A 60W adapter
<b>Operating Temp.</b>	0 ~ 45°C (32 ~ 113°F), (w/SSD, mSATA), ambient w/ air flow 0 ~ 40°C (32 ~ 104°F), (w/HDD), ambient w/ air flow
<b>Storage Temp</b>	-20 ~ 75°C (-4 ~ 167°F) w/SSD -20 ~ 65°C (-4 ~ 149°F) w/HDD
<b>Operating Humidity</b>	0 ~ 90% Relative Humidity, Non-condensing
<b>Size (L x W)</b>	181mm x 126mm x 58 mm



**Note:** Specifications are subject to change without notice.

1.4 System Overview

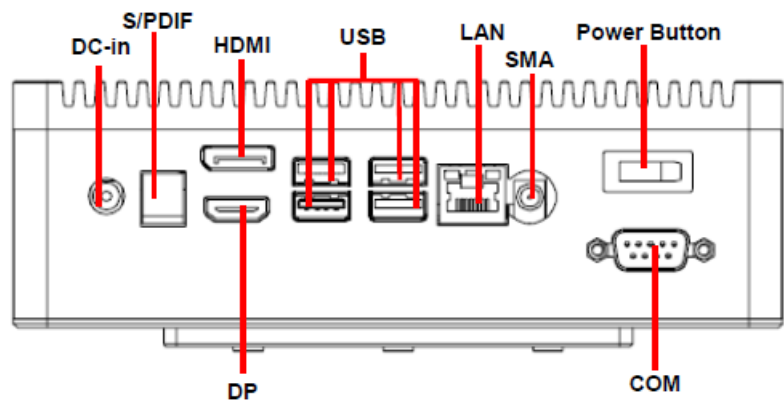
1.4.1 Front View



Connectors

Label	Function	Note
HDD LED	HDD LED indicator	
Power LED	Power LED indicator	
CIR	Consumer IR	
USB	2 X USB 3.0 Type A connector	
Line-out	Line-out jack	
Mic-in	Microphone-in audio jack	
SD Card Socket	SD/MS/MMC socket	

1.4.2 Rear View



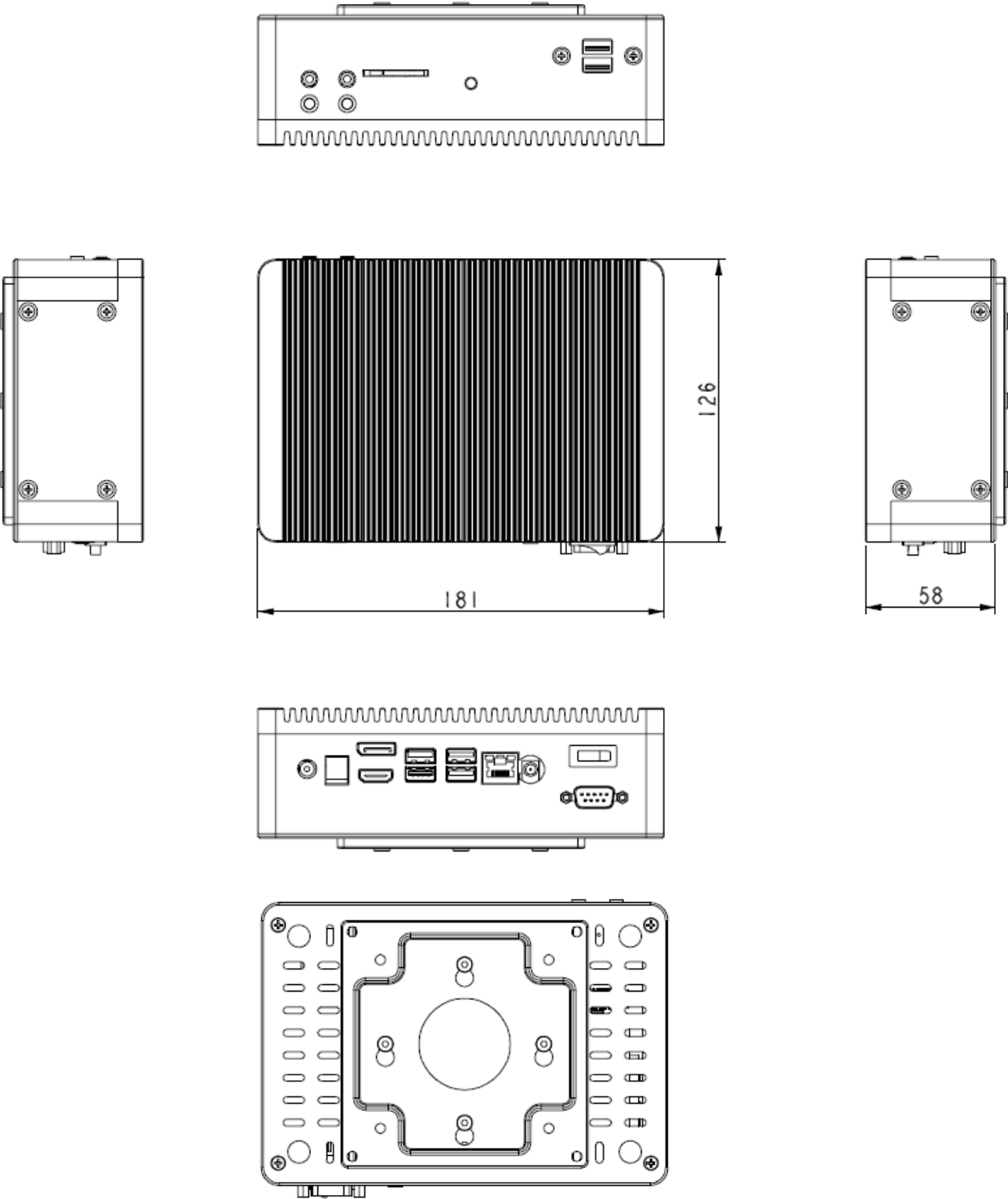
Connectors

Label	Function	Note
COM	Serial port connector	DB-9 male connector
Power Button	Power on button	



<b>DC-in</b>	DC power-in connector
<b>HDMI</b>	HDMI connector
<b>S/PIDF</b>	Sony/Philips Digital Interface
<b>SMA</b>	Onboard SMA connector
<b>LAN</b>	Gigabit LAN (RJ-45) connector
<b>USB</b>	4 X USB 3.0 Type A connector
<b>DP</b>	DP Port

1.5 System Dimensions



**Note:** VESA bracket optional

(Unit: mm)

## 2. Hardware Configuration

---

Please refer to SENX-KA User's Manual for advanced information.

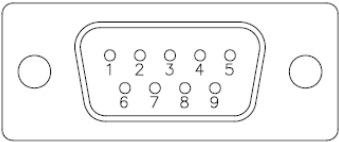
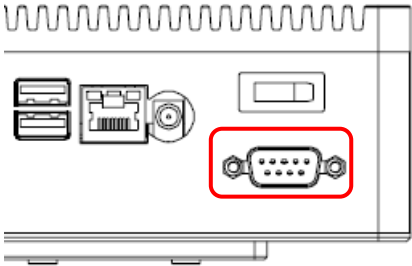


**Note:** If you need more information, please visit our website:

<http://www.avalue.com.tw>

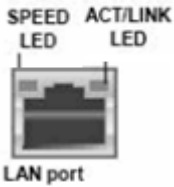
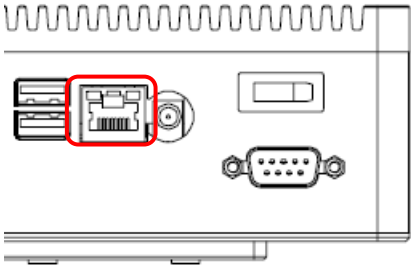
2.1 SEPC-KA connector mapping

2.1.1 Serial port connector (COM)



Signal	PIN	PIN	Signal
DCD#	1	6	DSR#
RXD	2	7	RTS#
TXD	3	8	CTS#
DTR#	4	9	RI#
GND	5		

2.1.2 Gigabit LAN (RJ-45) connector (LAN)

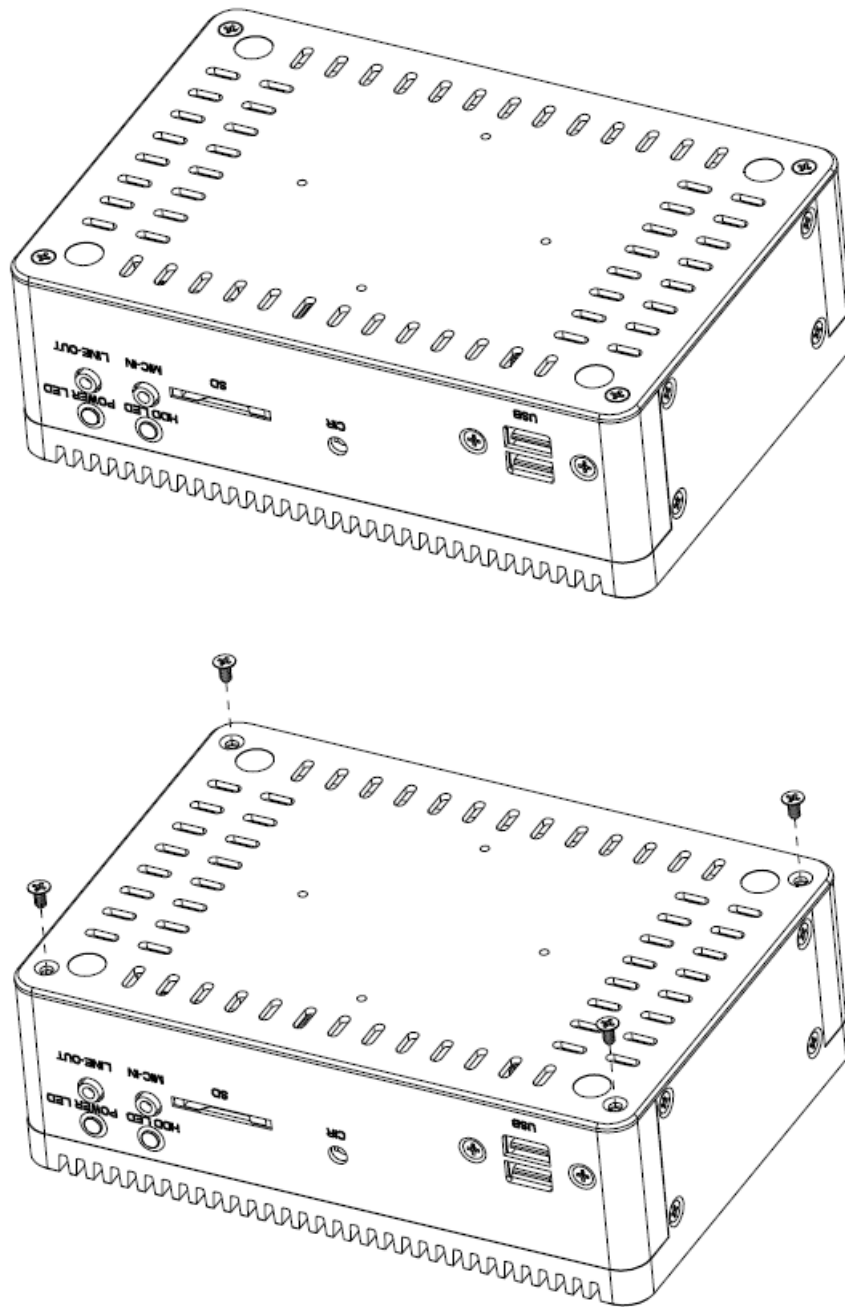


**Note:**

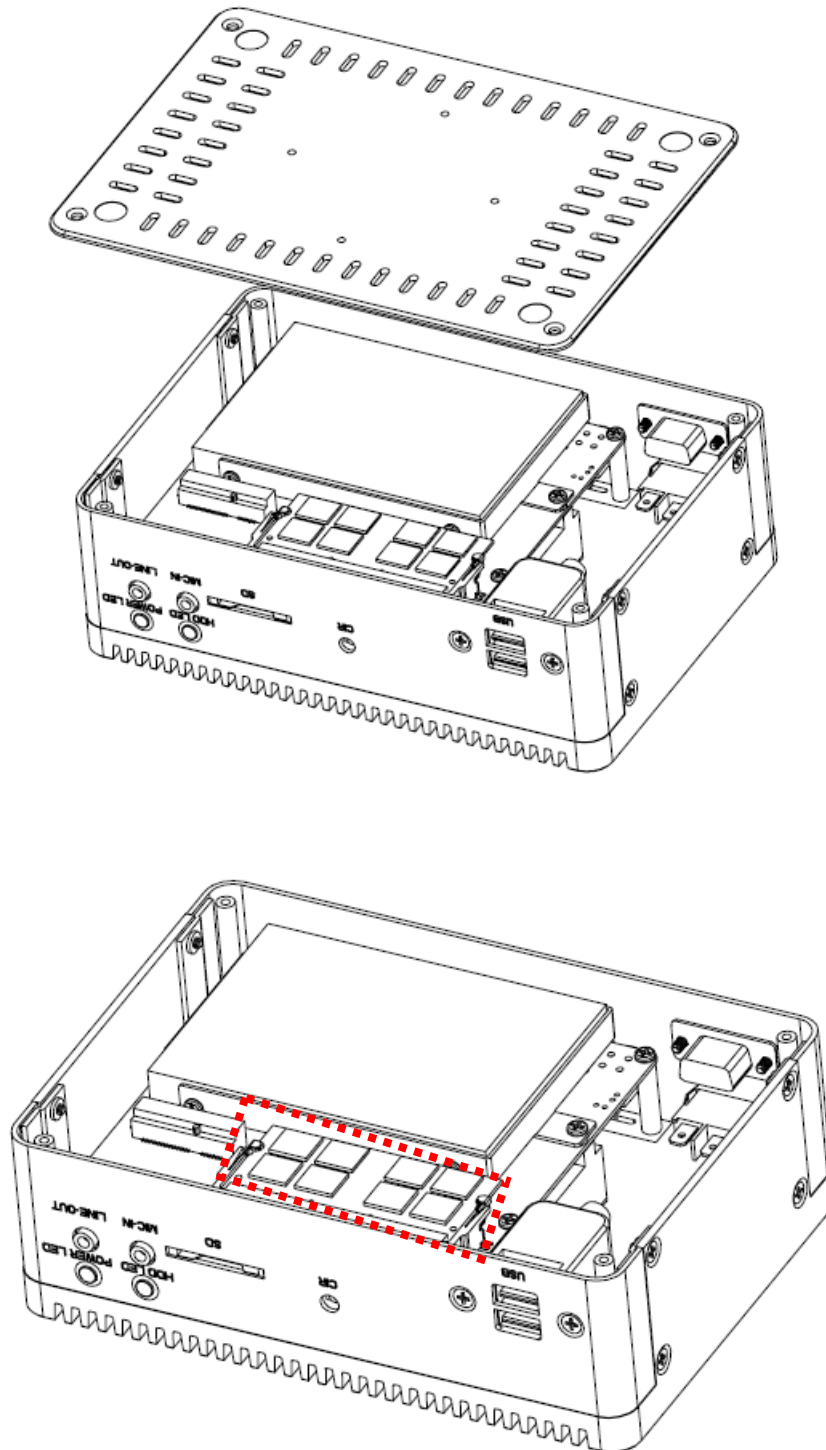
This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.

Speed Status	Speed Description	ACT/Link Status	ACT/Link Description
OFF	10Mbps connection	OFF	Disconnection
Green	100Mbps connection	Orange On	Linked
Green	1Gbps connection	Orange Blinking	Data activity

## 2.2 Installing Hard Disk & Memory



**Step1.** Unfasten 4 screws to remove the back cover.



**Step2. Memory Installation:** Insert the SODIMM into the memory socket.

**Step3. HDD Installation:** Insert the HDD and fasten 2 screws.

**Step4.** Assemble the back cover back as step 3 to step 1.

