EES-AT270

Fanless Intel® Atom™ N270 Tiny Box PC

Quick Reference Guide

1st Ed – 31 May 2011

Part No. E2017AT27A0R

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 UNDESIRED 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 INSTATLLED 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.

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/

If you still cannot find the answer, gather all the information or questions that apply to your problem, and with the product close at hand, call your dealer. Our dealers are well trained and ready to give you the support you need to get the most from your Avalue's products. In fact, most problems reported are minor and are able to be easily solved over the phone.

In addition, free technical support is available from Avalue's engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. Please do not hesitate to call or e-mail us.

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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

- 1 x EES-AT270 Intel® Atom™ N270 Tiny Box PC

    1 x Quick Reference Guide

- 1 x DVD-ROM contains the followings:
    — User's Manual (this manual in PDF file)
    — Ethernet driver and utilities
    — VGA drivers and utilities
    — Audio drivers and utilities

- Other major components include the followings:
    — 1 x AC to DC adapter

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

Contents

## 1.3 System Specifications

System	
CPU	Onboard Intel® Atom™ N270 1.6GHz with 512K Cache CPU
BIOS	Award 8MB Flash BIOS
System Chipset	Intel 945GSE/ICH7-M
System Memory	One 200-pin SODIMM Up to 2GB DDR2 533 SDRAM
I/O Chip	ITE 8712F
SSD	1 x CompactFlash Type I/II socket
HDD	2.5" HDD
Watchdog Timer	Reset: 1 sec.~255 min. and 1 sec. or 1 min./step
H/W Status Monitor	Monitoring system temperature, voltage, and cooling fan status. Auto trotting control when CPU overheats
External I/O	
COM Port	1xRS232,1xRS232/422/485 (Setting by BIOS)
LAN Port	2xRJ45
Wi-Fi	Optional Wi-Fi Module (USB Module)
Display Output	1xDB-15, 1 x DVI (optional)
Audio Port	Mic in, Line in, Line out
USB Port	4xUSB 2.0
Other	1xeSATA
Display	
Chipset	Intel 945GSE Integrated
Display Memory	Intel DVMT 3.0 Supports 224 MB Video Memory
Resolution	CRT mode: 2048 x 1536 @ 75 Hz
Audio	
Chipset	Realtek ALC655 supports 5.1-CH Audio
Audio Interface	Mic in, Line in, Line out
Ethernet	
LAN Chip	Dual Marvell 88E8053 GigaLAN, supports Wake on LAN
Ethernet Interface	10/100/1000Base-Tx Fast Ethernet compatible

| Mechanical & Environmental	
Power Requirement	AC/DC Adapter 100~240V 50~60Hz, 12V/5A
ACPI	Single power ATX Support S0~S5 ACPI 2.0B
Power Type	Single Power AT/ATX
Operating Temp.	0~40°C (32~122°F)
Storage Temp.	-40 to +75°C (-40~167°F)
Operating Humidity	0%~90% relative humidity, non-condensing
Size (L x W)	8.7" x 2.6" x 5.8" (220 mm x 65 mm x 147 mm)
Weight	3.74 lbs (1.7 kg)

1.4 System Overview

### 1.4.1   Front & Rear View

Front View
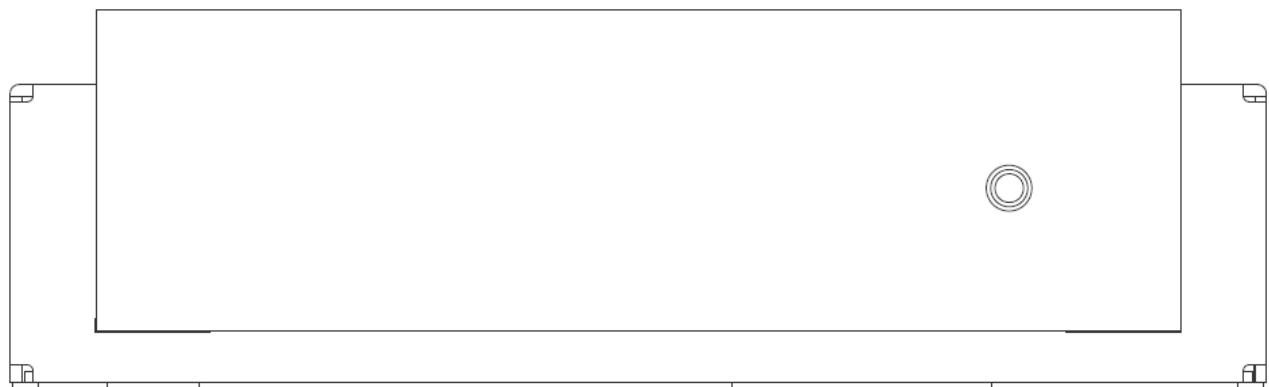
Rear View
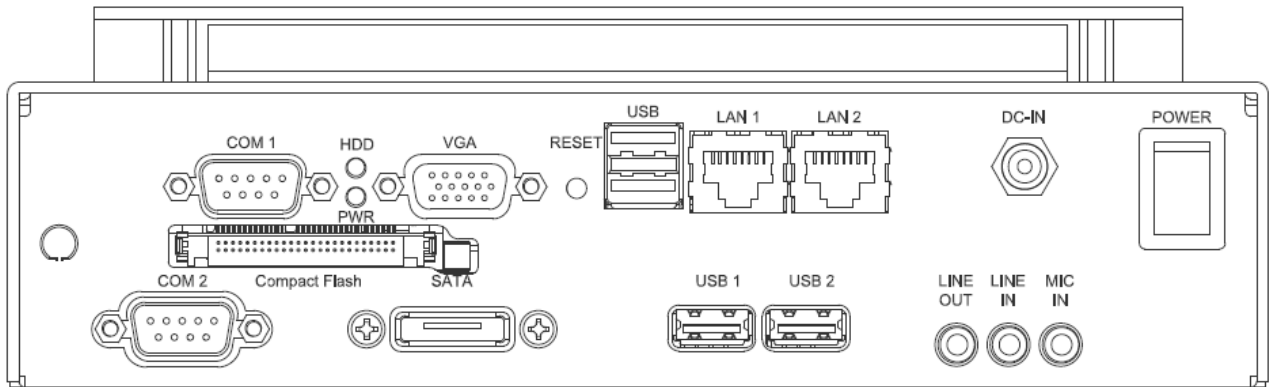
1.4.2 Connectors

Connectors

Label	Function	Note
COM1	Serial port 1 connector	
COM2	Serial port 2 connector	
Compact Flash	Compact Flash card connector	Type I/II x 1
DC-IN	DC power-in connector	
LAN1	RJ-45 Ethernet 1	
LAN2	RJ-45 Ethernet 2	
LINE IN	Line-in audio jack	
LINE OUT	Line-out audio jack	
MIC IN	Mic-in audio jack	
Power	System power switch	
Reset	Reset button	
USB	USB connector	
USB1/2	USB connector 1/2	
eSATA	SATA connector	
VGA	VGA connector	D-sub 15-pin, female

1.5 System Dimensions

1.5.1   Top/ Front & Side
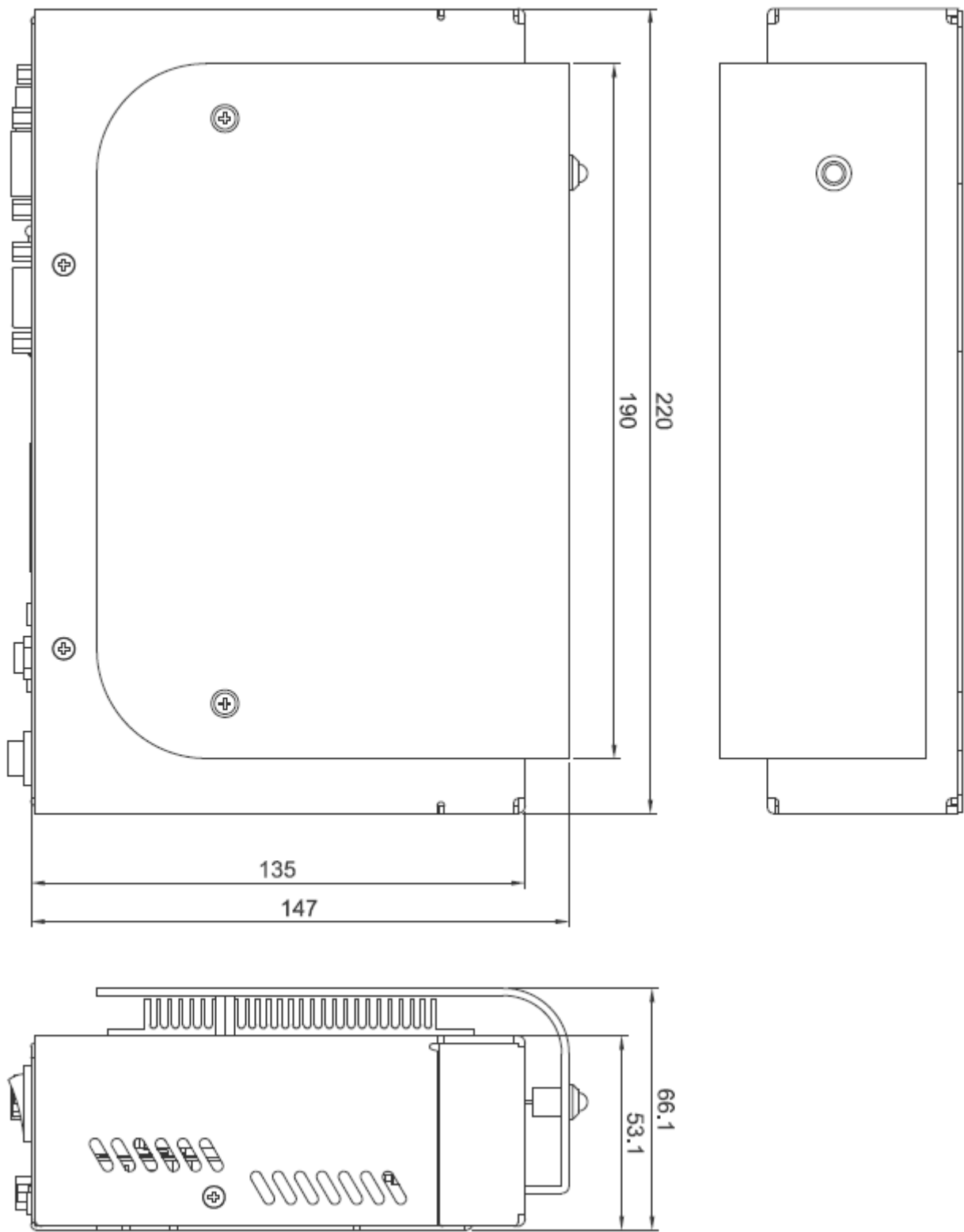
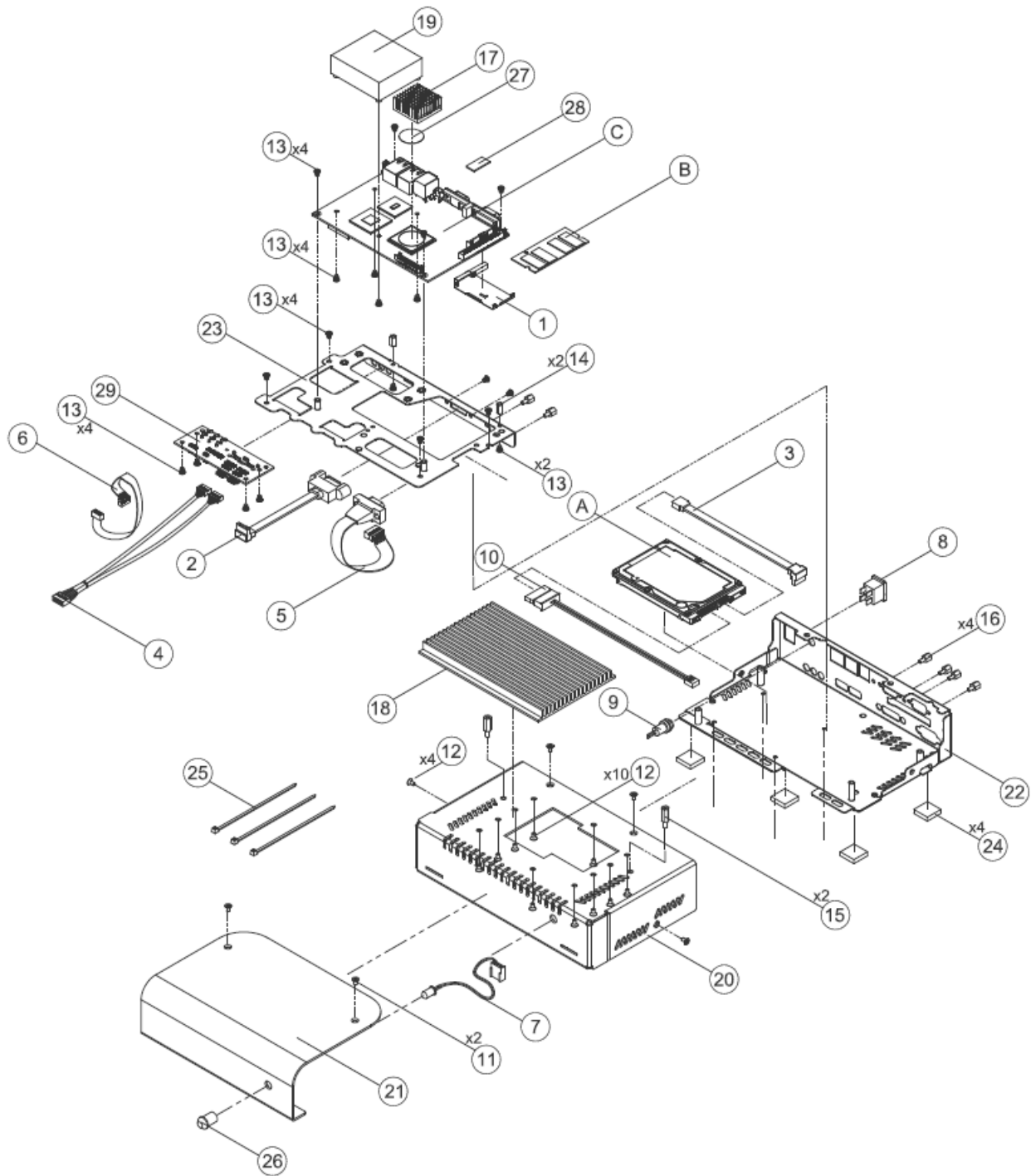(Unit: mm)

2. Hardware Configuration

Please refer to ECM- 945GSE Quick Installation Guide or User's Manual for advanced information.

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

http://www.avalue.com.tw

2.1 Exploded Drawing

2.2 Component Description

Item	Description	Quantity
A	HDD	1
B	Memory	1
C	ECM-945GSE	1

Item	Description	Quantity
1	CFAII R.Ej.	1
2	E-SATA Cable	1
3	SATA Signal Cable	1
4	USB Cable	1
5	Flat Cable	1
6	Flat Cable	1
7	Power LED	1
8	Rocker Switch	1
9	DC Jack	1
10	SATA Power Cable	1
11	Screw-Sink	2
12	Screw-Sink	14
13	Screw-Bind	18
14	Hex Socket screw	2
15	Hex Socket screw	2
16	Hex Socket screw	4
17	Heat sink	1
18	Heat sink	1
19	Aluminium ingot	1
20	Top Cover	1
21	Outside cover	1
22	Bottom cover	1
23	Metal Partition	1
24	Rubber foot	4
25	Cable tie	3
26	LED holder	1
27	Thermal Pad	1
28	3M VHB foam tape	1
29	Daughter board	1

## 2.3 Memory Installation
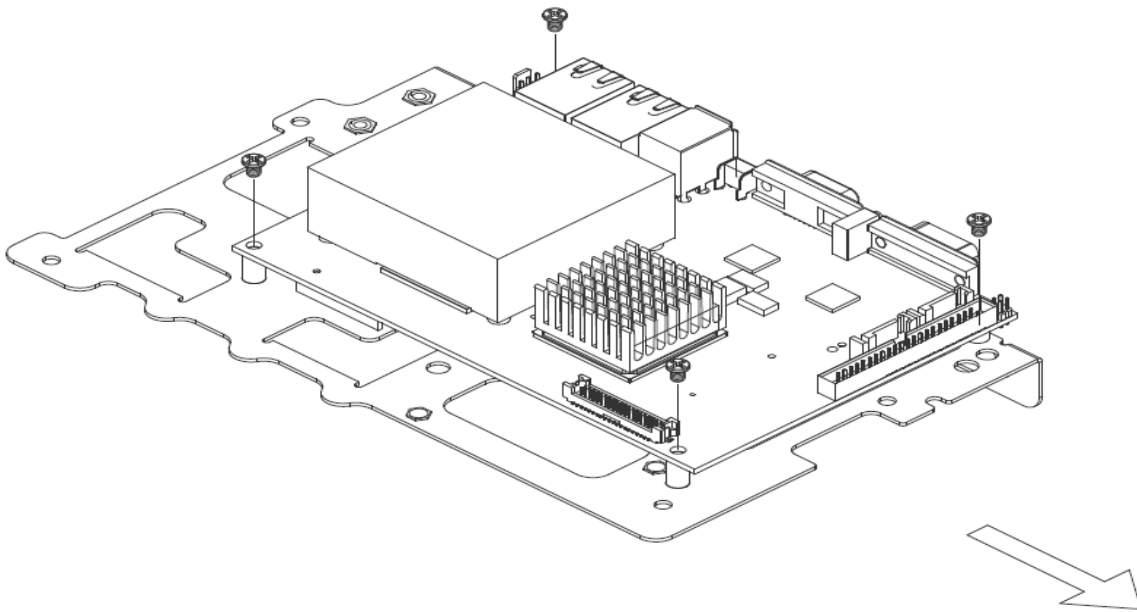
Step1.

Detach the board from the metal frame by removing 4 screws
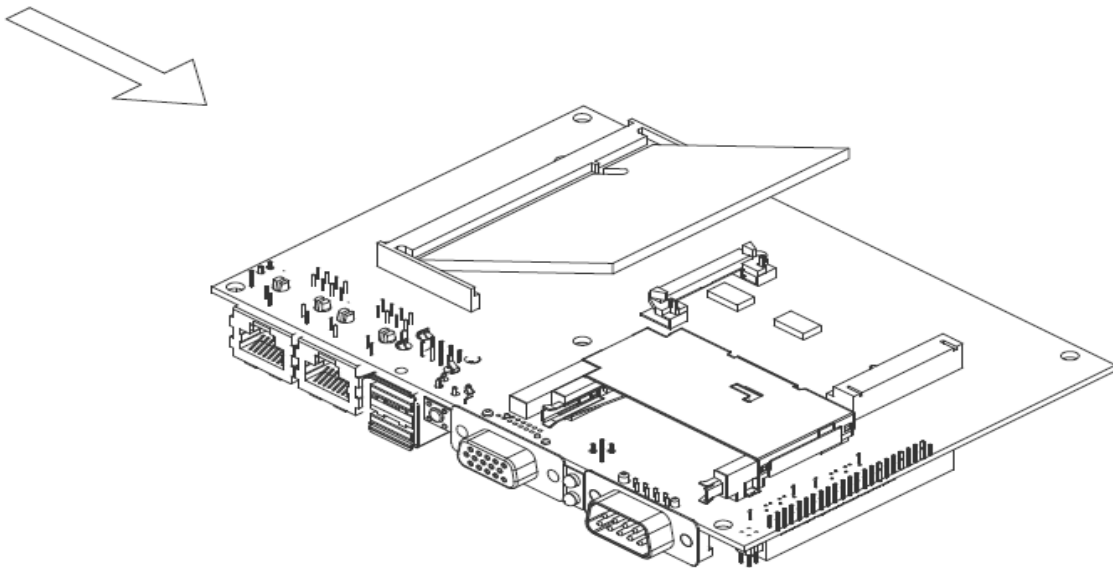
Step 2.

Press the SODIMM module right down into the socket, until you hear a click, the two handles of the memory module will automatically lock the module in the correct position. (On the back of the board as above.) To uninstall the memory module, press both handles outward as to automatically eject the memory module.
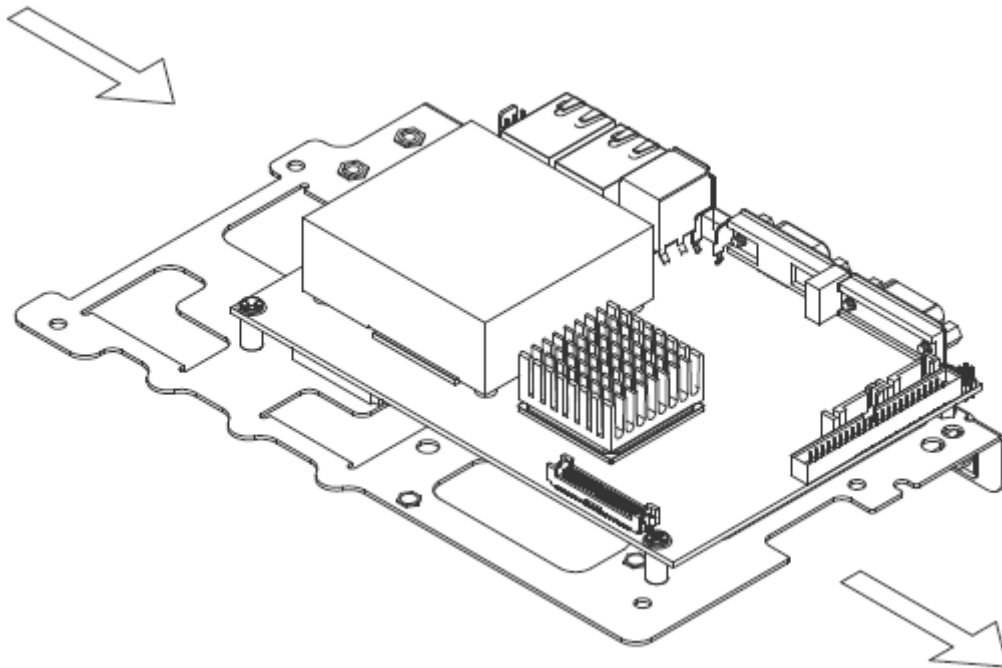
2.4 HDD Installation
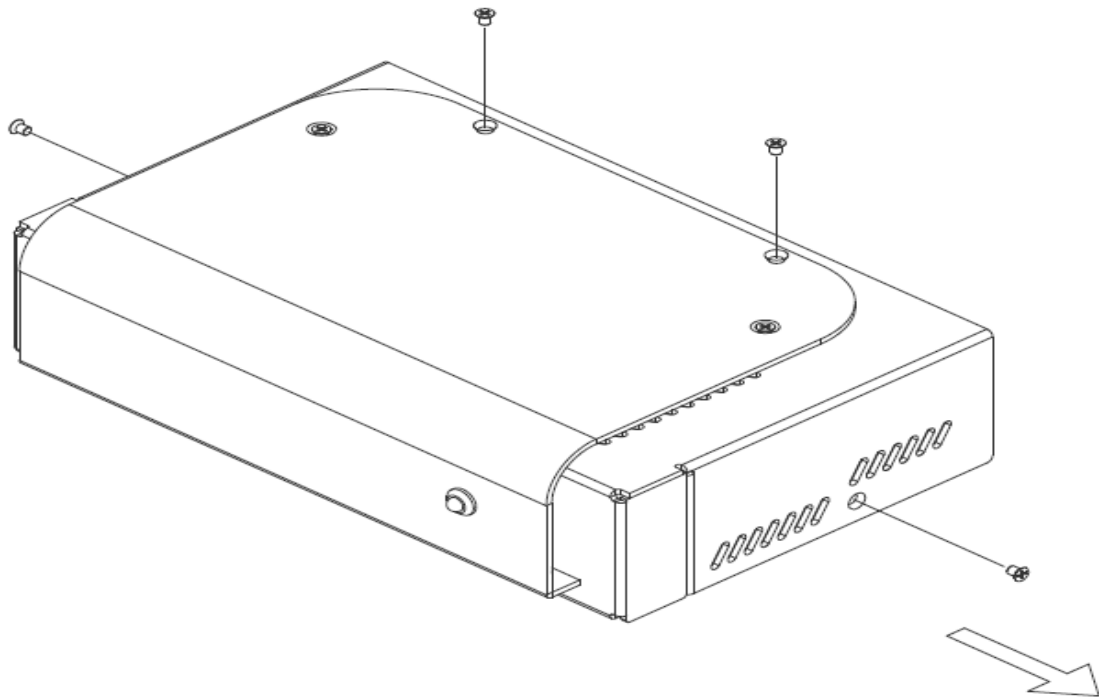
Step1.

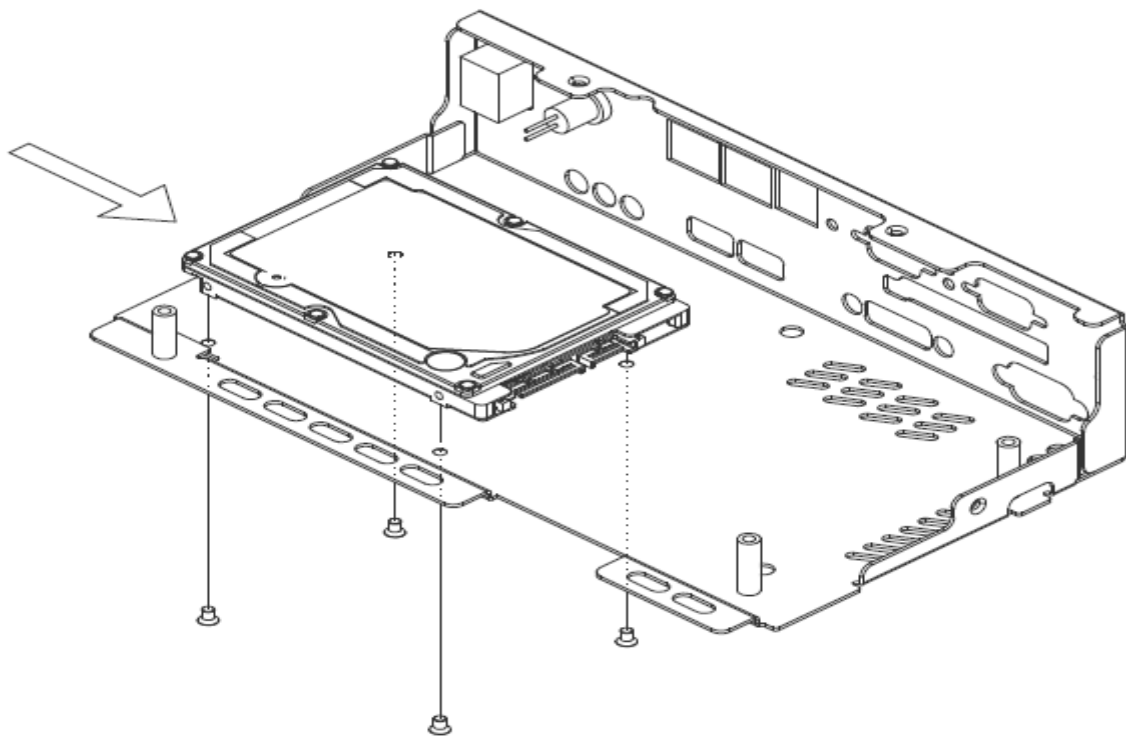Remove the 4 screws to disassemble the top cover.
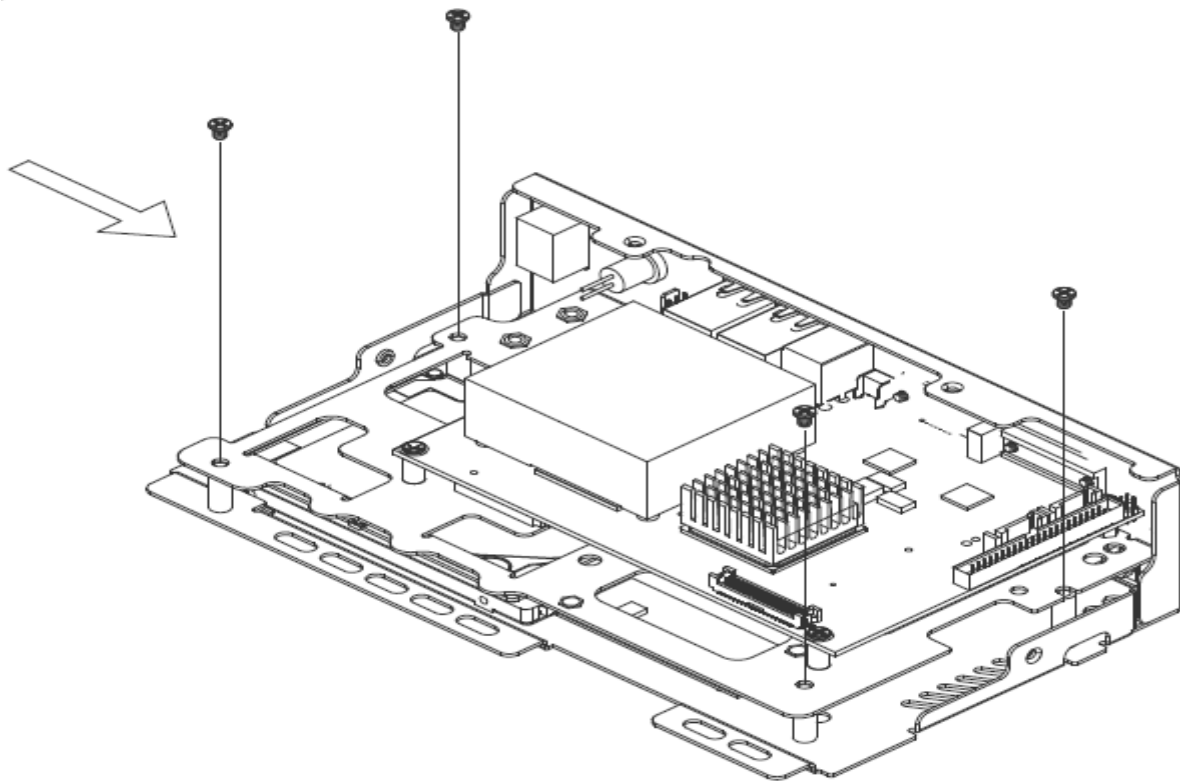
Step2.1

Remove 4 screws to detach board & metal frame assembly from system enclosure

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Step2.2 detached board & metal frame assembly

Step3.1

Properly locate HDD on the system enclosure so as to match HDD & enclosure screw holes.

Step3.2

Fasten 4 screws through the back of the system enclosure to secure HDD.