Features

Operating system

Win10 Home SL/EN X64 (MDRR) , Windows 10 ML/SL/CN, Endless.

Processor

The motherboard uses an LGA1151 type of socket that carries the following features:

- Accommodates the Intel® CFL-S processor

Chipset

The Intel® B360 Chipset is a single-chip with proven reliability and performance.

- Support one PCI Express x16 slot
- Support one PCI Express x1 slot
- Support two M.2 slots
- Integrated three SATA 6Gb/s Host Controllers
- Five USB 2.0 ports supported
- Two USB 3.0 ports supported
- One USB 3.1 Type A port supported
- One USB 3.1 Type C port supported
- Serial Peripheral Interface (SPI) support
- Intel® High Definition Audio Controller

PCB

- Form Factor : DTX Size
- Size (Max.) : 200mm x 321mm

Memory

- Supports DDR4 2666/2400MHz DDR4 SDRAM with Dual-channel architecture
- Accommodates four un-buffered DIMMs
- Up to 16GB per DIMM with maximum memory size up to 64 GB

Expansion Options

The motherboard comes with the following expansion options:

- One PCI Express x16 slot for Graphic Interface
- One PCI Express x1 slot
- One M.2 (2242/2280) for PCIe SSD and Intel Optane memory
- One M.2 (2230/1630) with USB2.0 for WLAN/Bluetooth and Intel CNVi

LAN

The onboard LAN provides the following features:

- Controller: Realtek RTL8118AS
- Support Wake up on LAN function, including from S3,S4,S5,G3->S5,power button off (non-ACPI OS)

Audio

- 5.1 Channel High Definition Audio Codec
- Meets Microsoft Windows Logo Program and Lync audio requirements
- All DACs supports 44.1k/48k/96k/192kHz sample rate
- Software selectable 2.5V/3.2V/4.0V VREFOUT
- Direct Sound 3D™ compatible
- Power Support: Digital: 3.3V; Analog: 5.0V

Integrated I/O

The motherboard has a full set of I/O ports and connectors:

Integrated I/O

- Four USB 2.0 ports
- Two USB 3.0 ports
- One LAN port
- Audio jacks for microphone, line-in and line-out

BIOS Firmware

This motherboard uses AMI BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters
- CPU and memory timing
- Graphic parameters

The firmware can also be used to set parameters for different processor clock speeds.

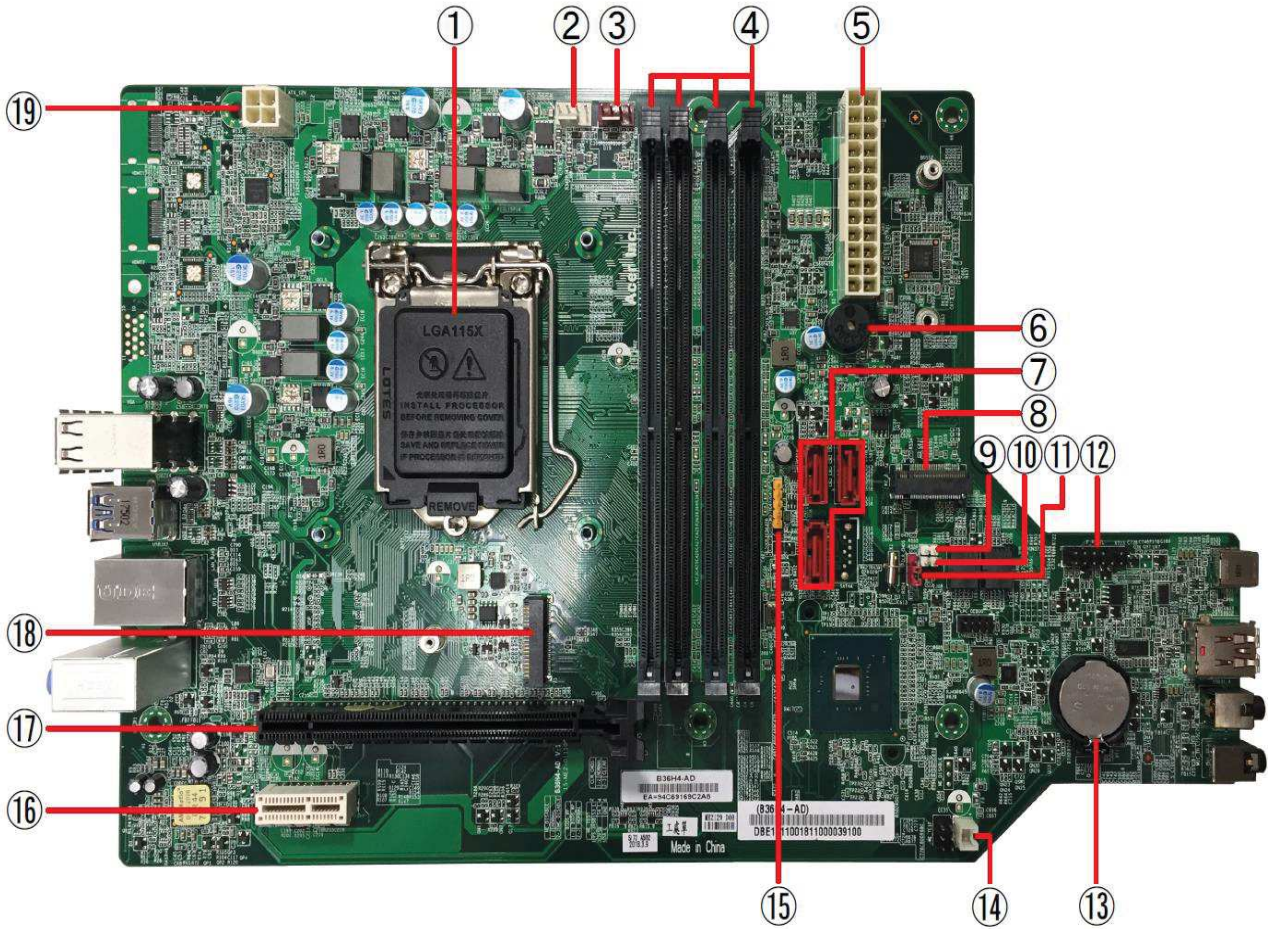
1. Some hardware specifications and software items are subject to change without prior notice.
2. Due to chipset limitation, we recommend that motherboard be operated in the ambiance between 0 and 50 ° C.

	LED	S0	S3	S4	S5
Front Side	Power LED	Always ON	Blinking	OFF	OFF
Rear Side [only LAN LED, built in RJ45]	LAN LED-ACTIVE	Access: Blink	OFF	OFF	OFF
	LAN LED-SPEED (Dual Color)	Disconnected: OFF	OFF	OFF	OFF
		1000: ON with A color: Amber 100: ON with B color: Green 10: OFF			

Dimensions and weight

- 372.0(L)x163.0(W)x368.0(H)mm (with Photo frame)
- 7.5Kg

Main-board Placement



No	Label	Component
1	CPU	Supports the LGA1151 socket for Intel® CFL-S Processor
2	SYS_FAN	System cooling fan connector
3	CPU_FAN	cooling fan connector
4	DIMM1~4	288-Pin DDR4 SDRAM slots
5	ATX_POWER	24-pin ATX power connector
6	BZ	Buzzer
7	SATA1~3	Serial ATA 6Gb/s connectors
8	M2_2	M.2(2280&2242) slot(for PCIE SSD & Intel Optane memory)
9	A2	2-pin GPIO header
10	A1	2-pin GPIO header
11	CLR_CMOS	Clear CMOS header with jumper
12	F_PANEL	Front panel switch/LED header
13	BAT1	Battery
14	W_CHARGER	Wireless charge header
15	F_USB2	5 pin Front panel USB 2.0 header
16	PCIE1X	PCI Express x1 slot
17	PCIE16X	PCI Express x16 slot
18	M2_1	M.2 (2230/1630) slot for WLAN/Bluetooth
19	ATX_12V	Auxiliary 4-pin power connector

PO3-600_E

The computer front panel consists of the following:

Front view

No	Icon	Component	Description
1		USB 3.1 Type C Port	Use this port to connect USB 3.0 Type C device.
2		USB 3.1 Type A Port	Use this port to connect USB 3.0 Type A device.
3		Combo Port	Connect your microphone or headphone to this jack.
4		Microphone jack	Connect your microphone to this jack.

Rear view

No	Icon	Component	Description
1		USB 2.0 port	Connects to USB 2.0 devices (e.g., USB mouse, USB camera, USB Disk).
2		USB 3.0 port	Connects to USB 3.0 devices (e.g., USB mouse, USB camera, USB Disk).
3		Network port.	Lights to indicate the status of wire LAN communications.
4		Microphone jack	Accepts input from external microphones.

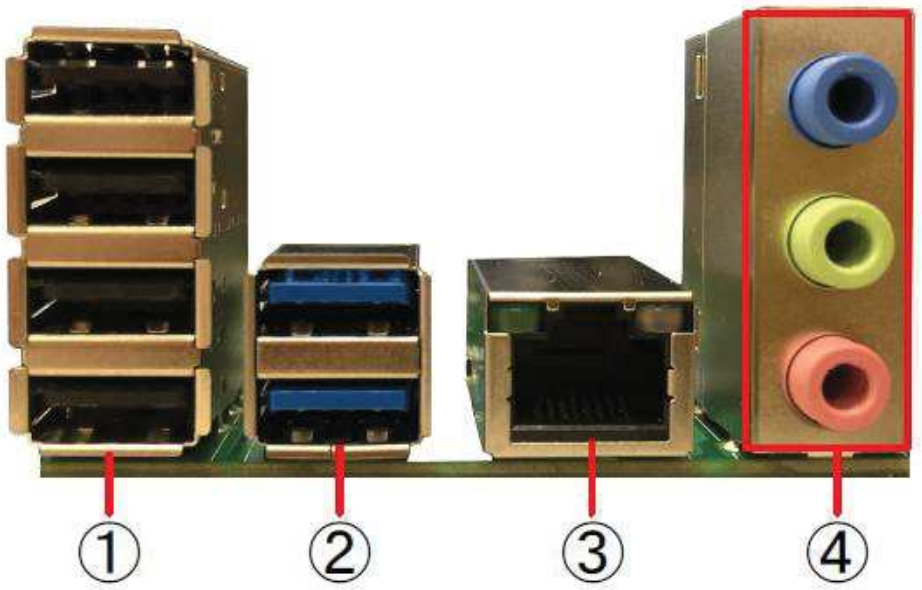
No	Icon	Component	Description
5		Line-out jack	Accepts audio line-out devices
6		Line-in jack	Accepts audio line-in devices

Audio Jack Function Table

Color/Use	Headphone	2CH	4CH	5.1CH
Blue	Line-in	Line-in	Rear Speaker	Rear Speaker
Green	Headphone	Front speaker	Front speaker	Front speaker
Pink	Mic-in	Mic-in	Mic-in	Center & bass

I/O Port Introduction

The backplane of the motherboard has the following I/O ports:



No	Component	Description
1	USB 2.0 Ports	Use the USB 2.0 ports to connect USB 2.0 devices.
2	USB 3.0 Ports	Use the USB 3.0 ports to connect USB 3.0 devices.
3	LAN Port	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
4	Audio Ports	Use the three audio ports to connect audio devices. The first jack is for stereo line-in signal. The second jack is for stereo line-out signal. The third jack is for microphone.

Hardware Specifications and Configurations

Processor

Item	Specification
Type	Intel® CFL-S CPU
Socket	Intel LGA1151 socket
Speed	Depends on CPU which is configured

BIOS

Item	Specification
BIOS code programmer	AMI
BIOS version	R01-A0 or newer
BIOS ROM type	SPI-ROM
BIOS ROM size	4MB+8MB
BIOS ROM package	8-pin SMD package
Support protocol	Supports Plug and Play, STR (S3) / STD (S4) , Hardware monitor . Supports ACPI & DMI. Audio, LAN can be disabled in BIOS
Boot from ODD feature	Yes

NOTE: The BIOS can be overwritten/upgraded by using the flash utility.

BIOS Hotkey List

Item	Specification	Specification
Delete	Enter BIOS Setup Utility	Press while the system is booting to enter BIOS setup Utility.
F12	Enter Boot Menu	Press while the system is booting to enter Boot Menu.

Main Board Major Chips

Item	Specification
Chipset	Intel® B360 Chipset
AGP controller	Intel® CFL-S CPU
Super I/O controller	ITE IT8613_DX
Audio controller	Realtek ALC662VD 5.1-Ch HD audio CODEC
LAN controller	Realtek RTL8118AS
HDD controller	Intel® B360 Chipset
Keyboard controller	ITE IT8613_DX

System Memory

Item	Specification
Memory slot number	4 slots
Support memory size per socket	2GB/ 4GB / 8GB / 16GB
Support maximum memory size	64 GB
Support memory type	DDR4 SDRAM
Support memory interface	DDR4 2666/2400MHZ
Support memory module package	288-pin DIMM
Support parity check feature	Yes
Memory module combinations	You can install memory modules in any combination as long as they match the specifications.

NOTE: Dual channel should be enabled always when plug-in 2 same memory size DDR4 memory module.

Cache Memory

Item	Specification
First-Level Cache Configurations	
Cache function control	Always enabled
First-Level Cache Configurations	
L1 Cache RAM size	Up to 384KB per core (exclusive)
L1 Cache RAM speed	One-half the processor core clock frequency
Second -Level Cache Configurations	
L2 Cache RAM size	Up to 1536KB per core (exclusive)
L2 Cache RAM speed	One-half the processor core clock frequency
Third -Level Cache Configurations	
L3 Cache RAM size	Up to 12288KB per core (exclusive)
L3 Cache RAM speed	One-half the processor core clock frequency

Video Interface

Item	Specification
Video controller	Intel® CFL-S CPU
Video controller resident bus	PCI
Video Interface	PCI-E x16

SATA Interface

Item	Specification
SATA controller	Intel® B360 Chipset
SATA controller resident bus	Gen3 6Gb/s
Number of SATA connector	3
Support bootable ODD	Yes

Audio Interface

Item	Specification
Audio controller	Realtek
Audio controller Type	High Definition, ALC662VD
Audio Channel	5.1-Ch HD audio CODEC
Audio function control	Enable/Disabled by BIOS Setup
Mono or stereo	Direct Sound 3D™ compatible
Sampling rate	DACs: 44.1k/48k/96k/192kHz
VREFOUT	Software selectable 2.5V/3.2V/4.0V VREFOUT
Power Support	Digital 3.3V ; Analog 5.0v
Microphone jack	Supported
Headphone jack	Supported

USB Port

Item	Specification
Universal HCI	USB 2.0
USB Class	Support legacy and UEFI keyboard for legacy and UEFI mode
USB Number	support up to 5 ports
Universal HCI	USB 3.0
USB Class	Support legacy and UEFI keyboard for legacy and UEFI mode
USB Number	support up to 2 ports
Universal HCI	USB 3.1(Type A)
USB Class	Support legacy and UEFI keyboard for legacy and UEFI mode
USB Number	support up to 1 port
Universal HCI	USB 3.1(Type C)
USB Class	Support legacy and UEFI keyboard for legacy and UEFI mode
USB Number	support up to 1 port

Power Management

Devices	S3 (Suspend to RAM)	S4 (Suspend to Disk)	S5 (Shut Down)
Power Button	Enabled	Enabled	Enabled
USB Keyboard	Enabled	Disabled	Disabled
Onboard LAN	Enabled	Enabled	Enabled
RTC	Enabled	Enabled	Enabled

Power Management Function (ACPI support function)

Device Standby Mode

- Independent power management timer for hard disk drive devices
- (0-15 minutes, time step=1 minute).
- Hard disk drive goes into Standby mode (for ATA standard interface).
- Disable V-sync to control the VESA DPMS monitor.
- Resume method: device activated (Keyboard for Free-DOS, keyboard & mouse for Windows).
- Resume recovery time: 3-5 sec.

Global Standby Mode

- Global power management timer (2-120 minutes, time step=10 minute).
- Hard disk drive goes into Standby mode (for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.
- Resume recovery time: 7-10 sec.

Suspend Mode

- Independent power management timer (2-120 minutes, time step=10 minutes) or pushing external
- switch button.
- CPU goes into SMM.
- CPU asserts STPCLK# and goes into the Stop Grant State.
- LED on the panel turns amber color.
- Hard disk drive goes into SLEEP mode (for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Ultra I/O and VGA chip go into power saving mode.
- Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.
- Return to original state by pushing external switch button, modem ring in and USB keyboard for ACPI mode.

ACPI

- ACPI specification 2.0.
- S0, S1, S3 and S5 sleep state support.
- On board device power management support.
- On board device configuration support.

System Utilities

Most systems are already configured by the manufacturer or the dealer. There is no need to run Setup when starting the computer unless you get a Run Setup message.

The Setup program loads configuration values into the battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM.

NOTE: If you repeatedly receive Run Setup messages, the battery may be bad/flat. In this case, the system cannot retain configuration values in CMOS.

Before you run Setup, make sure that you have saved all open files. The system reboots immediately after you exit Setup.

Using BIOS

About the Setup Utility

The computer uses the latest “Acer Inc.” BIOS will support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system’s configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- When making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

BIOS Setup Utility(Main Menu)

Press the delete key to access BIOS Setup Utility.

The default BIOS setting for this motherboard applies for most conditions with optimum performance. We do not suggest users change the default values in the BIOS setup and takes no responsibility to any damage caused by changing the BIOS settings.

Date and Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

BIOS Navigation Keys

The BIOS navigation keys are listed below:

Key	Function
ESC	Discard changes and Exit Setup
↑↓→←	Scrolls through the items on a menu
+/-/Spacebar	Modifies the selected field's values
Enter	Select
F7	Load User Default Settings
F8	Save as User Default Settings
F9	Load Default Settings
F10	Save & Exit

Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

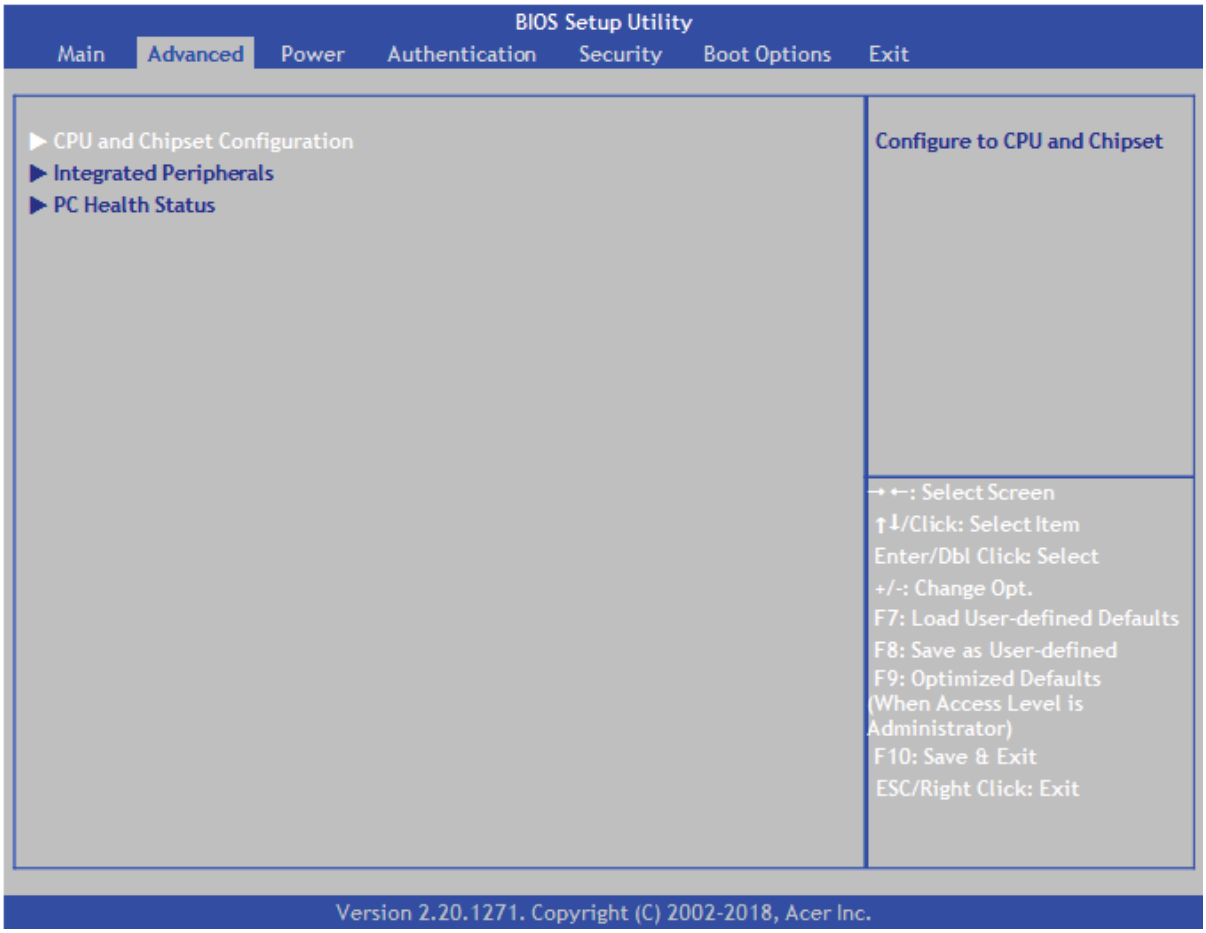
Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ▶) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ▶

BIOS Setup Utility(Advanced)

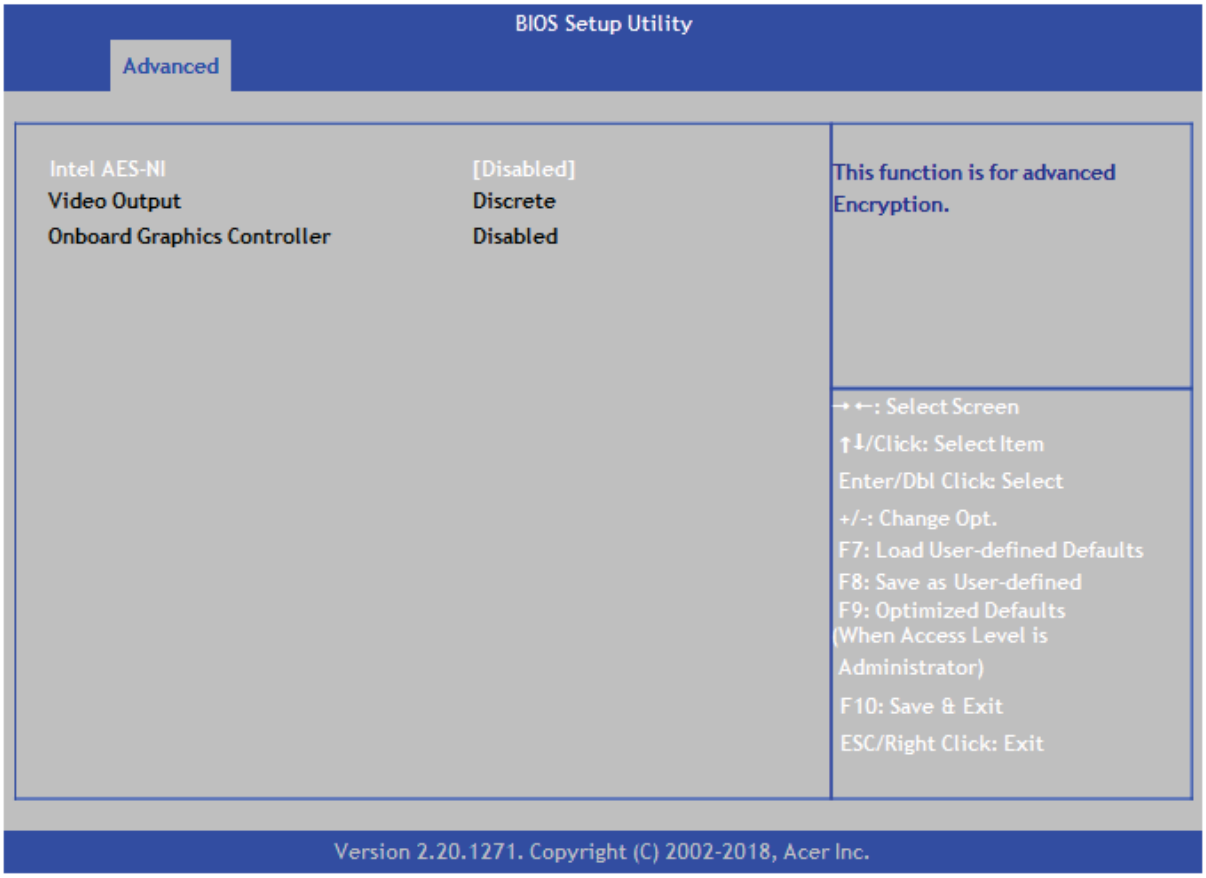
This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.



. . . .

CPU and Chipset Configuration

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.



Intel AES-NI (Disabled)

This item allows users to enable or disable the Intel AES-NI.

Video Output (Discrete)

This item indicates the status of video output is Onboard or Discrete.

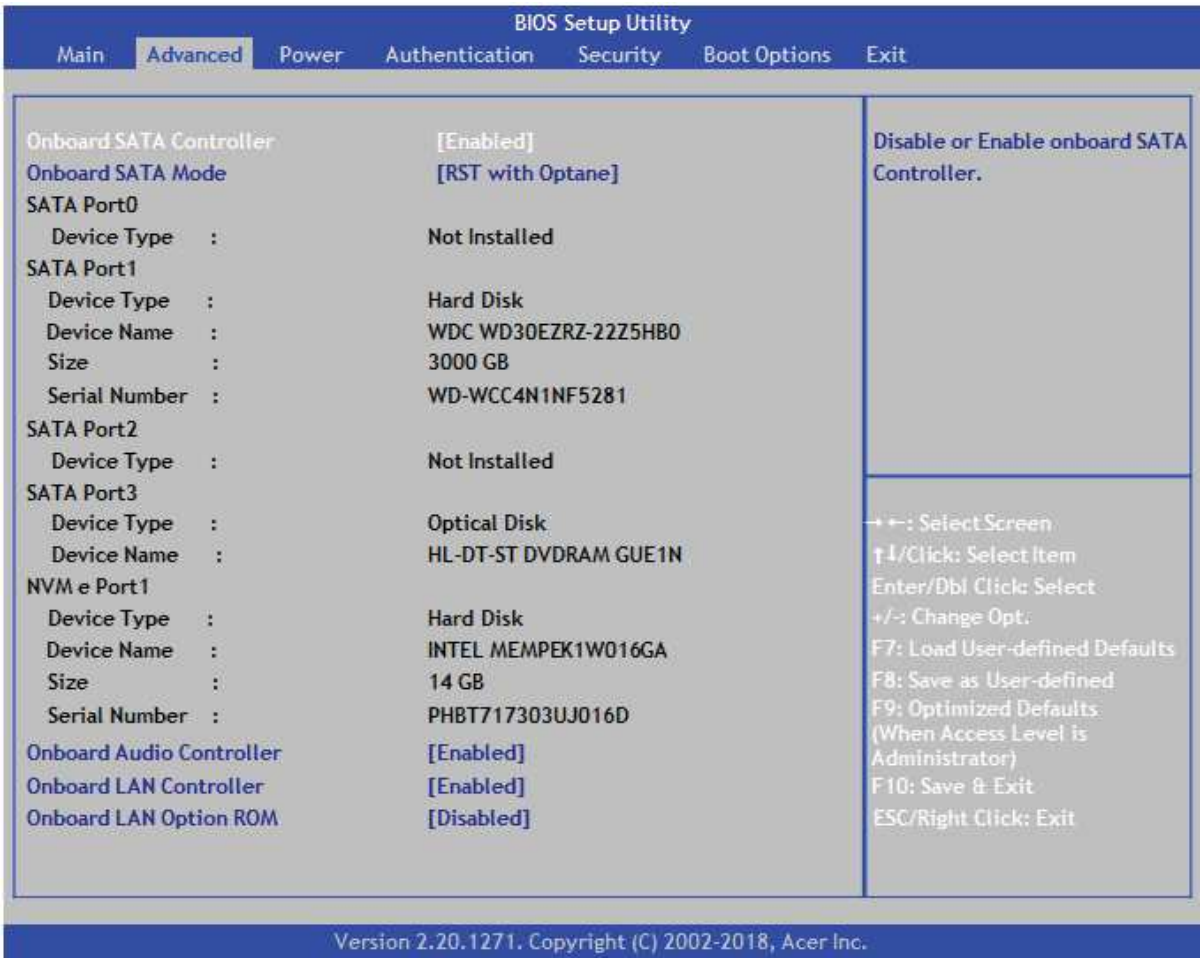
Onboard Graphics Controller (Disabled)

This item indicates the status of the onboard graphic controller. Disable this item, the motherboard will support VGA slot. It can't be changed when in gray and the default setting is Disabled.

Press <Esc> to return to the Advanced Menu page.

Integrated Peripherals

This page sets up some parameters for peripheral devices connected to the system.



Onboard SATA Controller (Enabled)

This item allows you to enable or disable the onboard SATA controller.

Onboard SATA Mode (RST with Optane)

Use this item to select the mode of the Serial ATA.

SATA Port 0/1/2/3

These items show the information of SATA0/1/2/3.

NVME Port1

This item shows the information of the NVME1.

Device Type (Hard Disk/Not Installed)

Use these items to show the information of device type.

Device Name

Use these items to show the information of device name.

Size

Use this item to show the size of SATA device in port 0/1/2/3.

Serial Number

Use this item to show the serial number of SATA device in port 0/1/2/3.

Onboard Audio Controller (Enabled)

This item enables or disables the onboard audio controller.

Onboard LAN Controller (Enabled)

This option allows you to control the onboard LAN device.

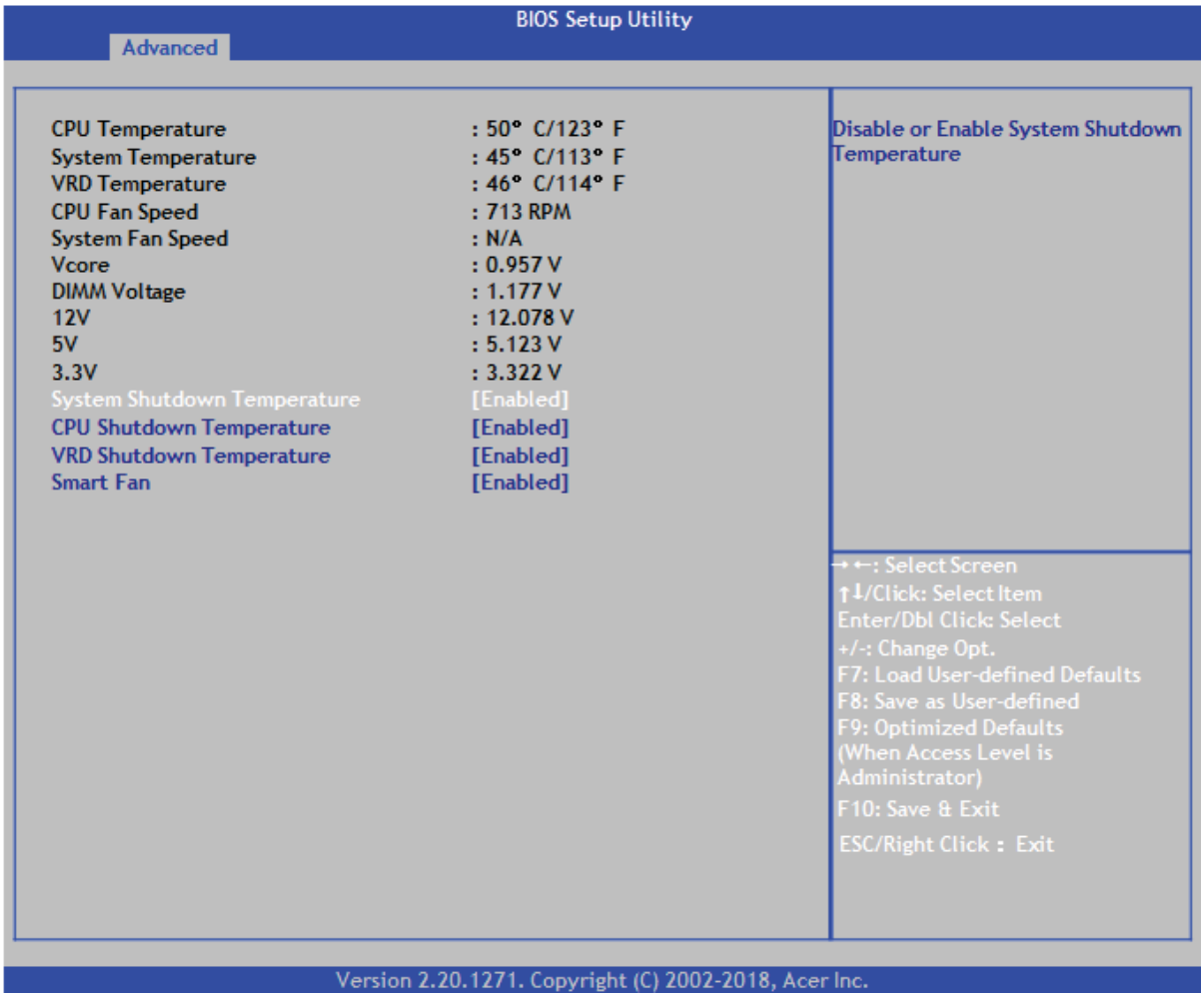
Onboard LAN Option ROM (Disabled)

This item enables or disables the onboard LAN option ROM function.

Press <Esc> to return to the Advanced BIOS Features page

PC Health Status

On motherboards support hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.



System Component Characteristics

These items display the monitoring of the overall inboard hardware health events, such as CPU & System & VRD temperature, CPU voltage, CPU & system fan speed, etc.

- **CPU Temperature**
- **System Temperature**
- **VRD Temperature**
- **CPU Fan Speed**
- **System Fan Speed**
- **V core**
- **DIMM Voltage**
- **12V**
- **5V**
- **3.3V**

System Shutdown Temperature (Enabled)

This item enables or disables you to set the shutdown temperature of the System.

CPU Shutdown Temperature (Enabled)

This item enables or disables you to set the shutdown temperature of the CPU.

VRD Shutdown Temperature (Enabled)

This item enables or disables you to set the shutdown temperature of the VRD.

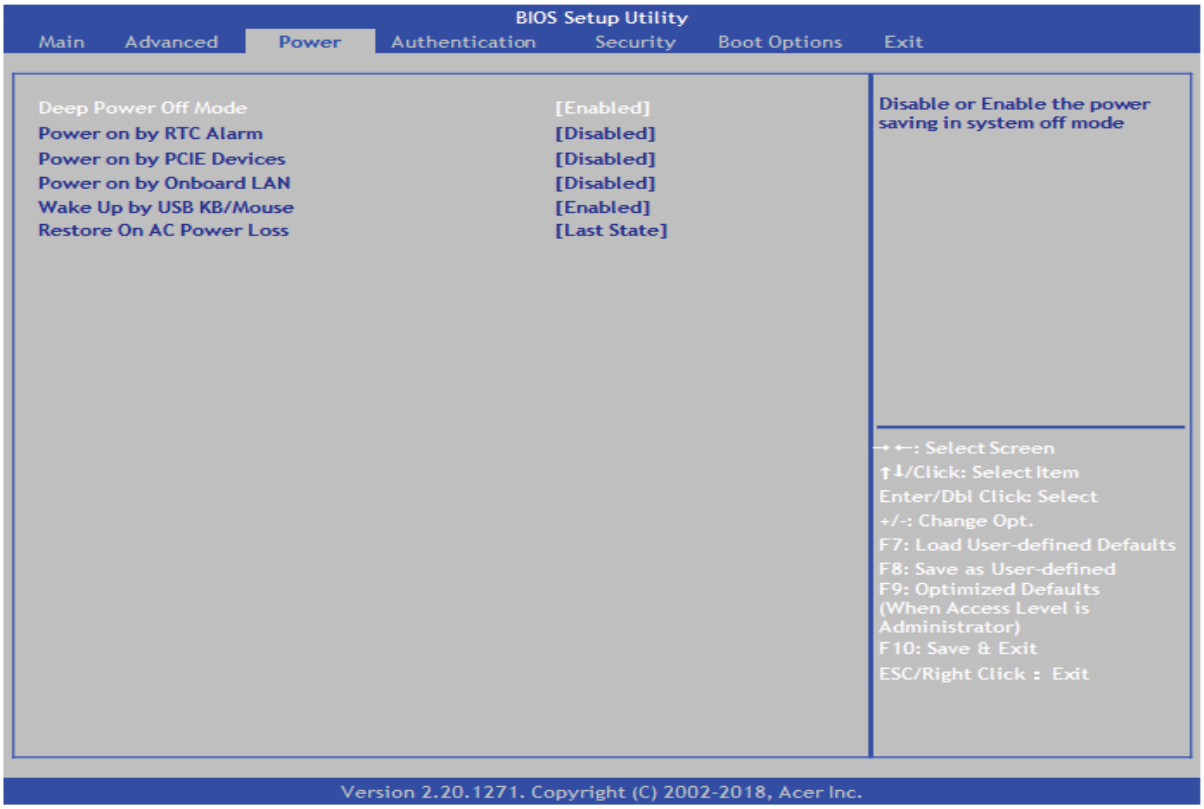
Smart Fan (Enabled)

This item enables or disables the smart fan speed by changing the Pulse Width Modulation(PWM) outputs.

Press <Esc> to return to the Advanced Menu page.

BIOS Setup Utility(Power)

This page sets up some parameters for system power management operation.



Deep Power off Mode (Enabled)

This item allows users to enable or disable the Deep Power off Mode.

Power on by RTC Alarm (Disabled)

This system can be turned off with a software commend. If you enable this item, the system can automatically resume at a fixed time based on the system RTC (real time clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

Power on by PCIE Devices (Disabled)

This system can be turned off with a software commend. If you enable this item, the system can automatically resume if there is an incoming call on the PCIE LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCIE card.

Power on by Onboard LAN (Disabled)

This system can be turned off with a software command. If you enable these items, the system can automatically resume if there is an incoming call on the onboard LAN card. You must use an ATX power supply in order to use this feature.

Wake up by USB KB/Mouse (Enabled)

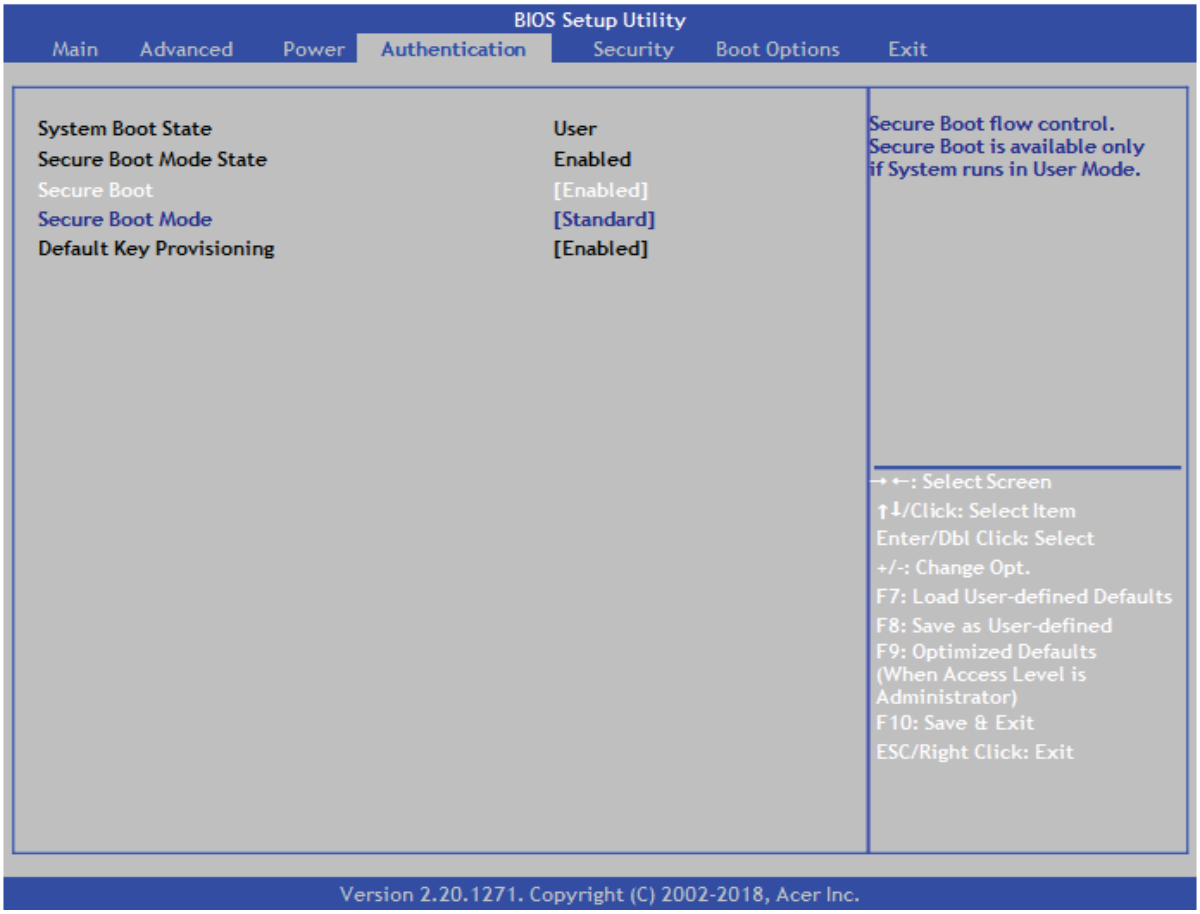
This item enables or disables you to allow USB keyboard or mouse activity to awaken the system from power saving mode.

Restore On AC Power Loss (Last State)

This item defines how the system will act after AC power loss during system operation. When you set Off, it will keep the system in Off state until the power button is pressed.

BIOS Setup Utility(Authentication)

This page enables you to set boot state and secure boot mode



System Boot State (User)

This item shows the system boot state.

Secure Boot Mode State (Enabled)

This item enables or disables secure boot mode state.

Secure Boot (Enabled)*

This item is used to control the secure boot flow, it is possible only if system runs in User Mode. Prevent unauthorized boot loader (OS Loader) in the BIOS startup, start UEFI only allow authenticated the boot loader, and malicious software is unable to recycle the method against the user. To improve the security of the PC running Windows 10 OS.

Secure Boot Mode (Standard)*

This item shows the system boot state.

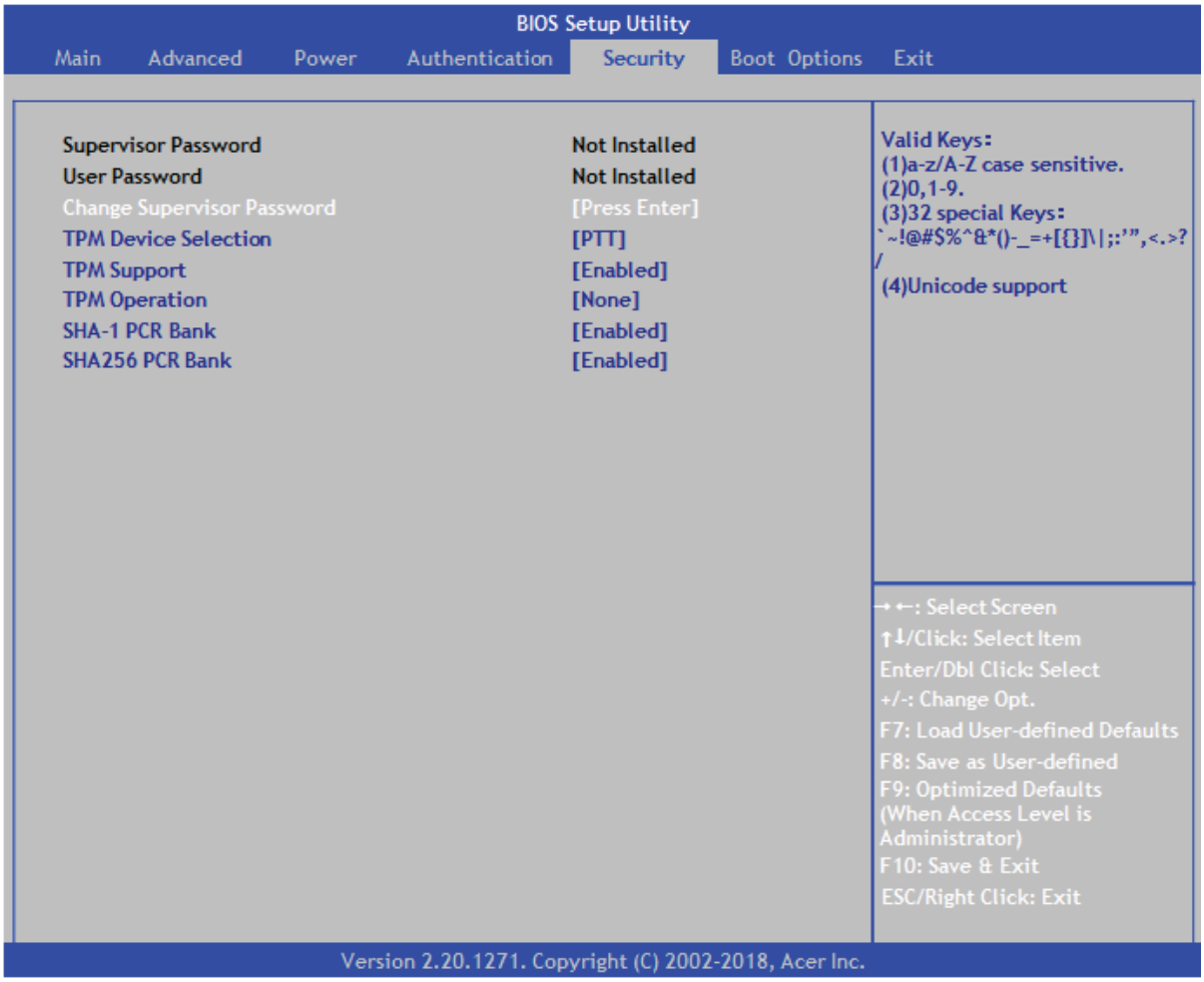
Default Key Provisioning (Enabled)*

This item enables or disables to secure boot mode state.

**These items will be hidden when Secure Boot is set to be Disabled.*

BIOS Setup Utility(Security)

This page enables you to set setup administrator and password.



Supervisor Password (Not Installed)

This item indicates whether a supervisor password has been set. If the password has been installed, Installed displays. If not, *Not Installed* displays.

User Password (Not Installed)

This item indicates whether a user password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

Change Supervisor Password (Press Enter)

You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

TPM Device Selection (PTT)

Use this item to select TPM device.

TPM Support (Enabled)

This item enables or disables TPM (Trusted Platform Module) support for system security and data integrity. If this option is set to Enabled, the following items will display.

TPM Operation (None)

Use this item to schedule a TPM operation that is pending. If the option “None” is displayed, there is no pending TPM operation in the queue. Please note that a system reboot is needed for any change on the feature to become effective.

SHA-1 PCR Bank (Enabled)

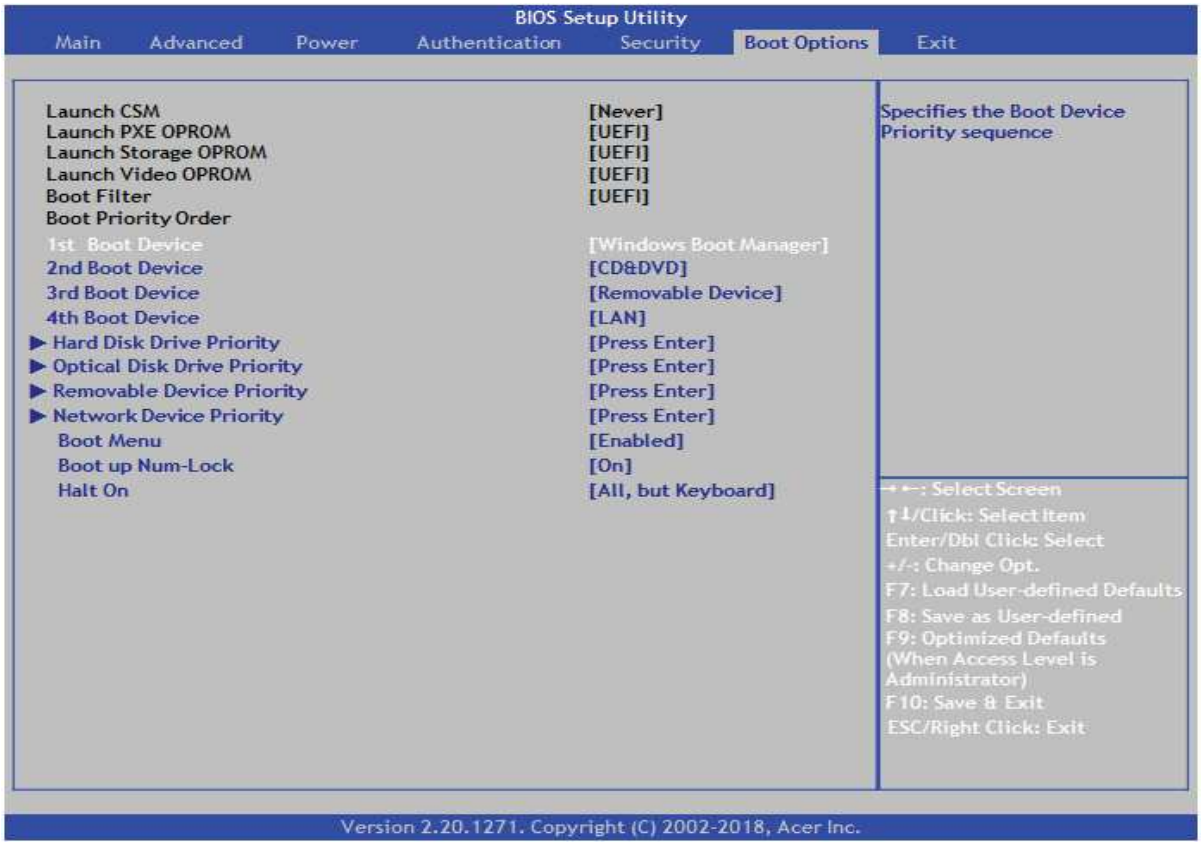
Use this item you can enable or disable the SHA-1 PCR Bank.

SHA256 PCR Bank (Enabled)

Use this item you can enable or disable the SHA256 PCR Bank.

BIOS Setup Utility(Boot options)

This page enables you to set the keyboard Num Lock state.



Launch CSM (Never)

This option the compatibility support module, a special module of UEFI, provides compatibility support for OS that do not support UEFI.

Always: Enables UEFI CSM.

Never: Disables UEFI CSM and supports UEFI BIOS boot process only. (Default)

Launch PXE OPROM (UEFI)

This option shows the information of the launch PXE Option ROM.

Launch Storage OPROM (UEFI)

This option shows the information of the launch Storage Option ROM.

Launch Video OPROM (UEFI)

This option shows the information of the launch Video Option ROM.

Boot Filter (UEFI)

Use this item to select system boot to UEFI or Legacy OS.

Boot Priority Order

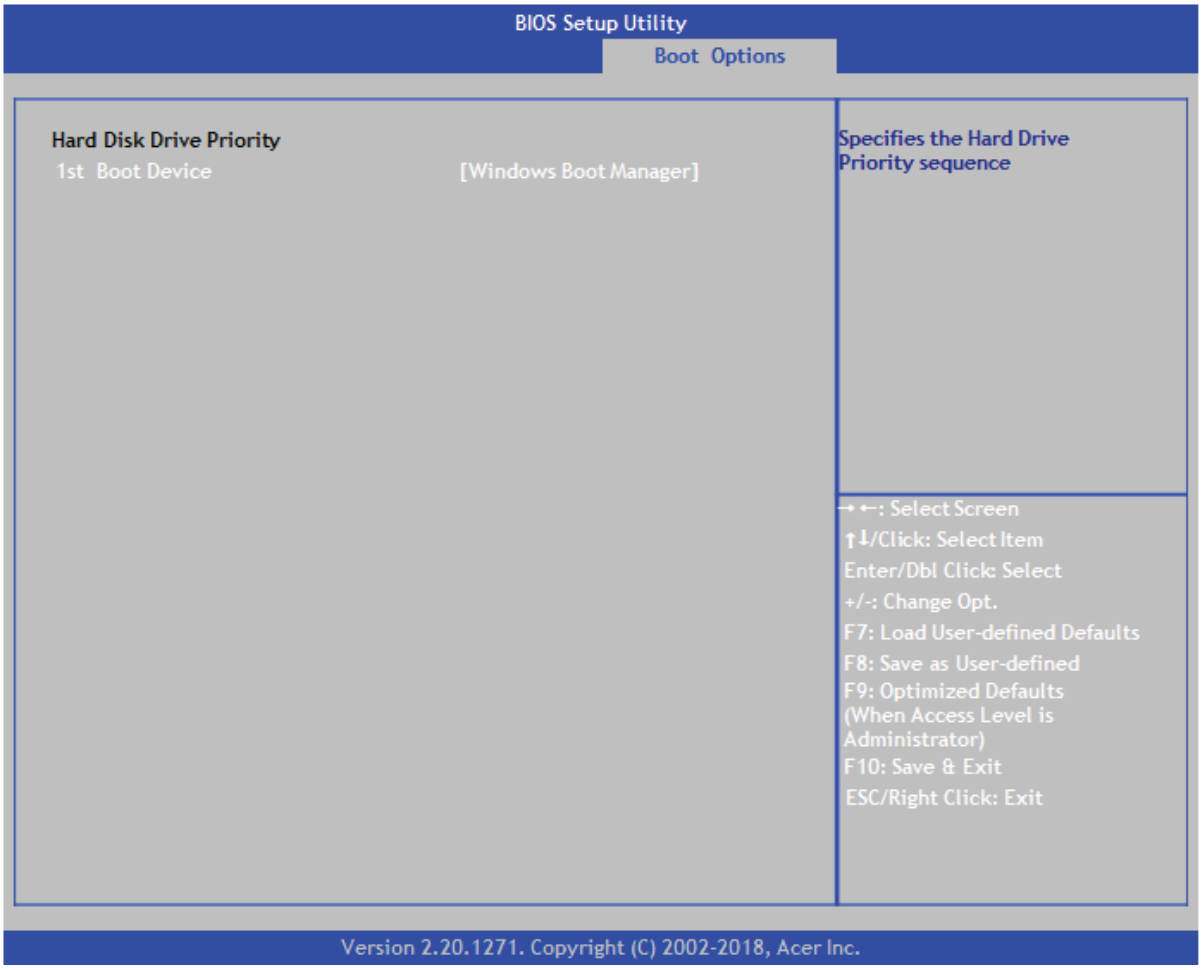
This item shows the information of the boot priority order.

1st/2nd/3rd/4th Boot Device

Use these items to determine the device order the computer uses to look for an operating system to load at start-up time.

Hard Disk Drive Priority (Press Enter)

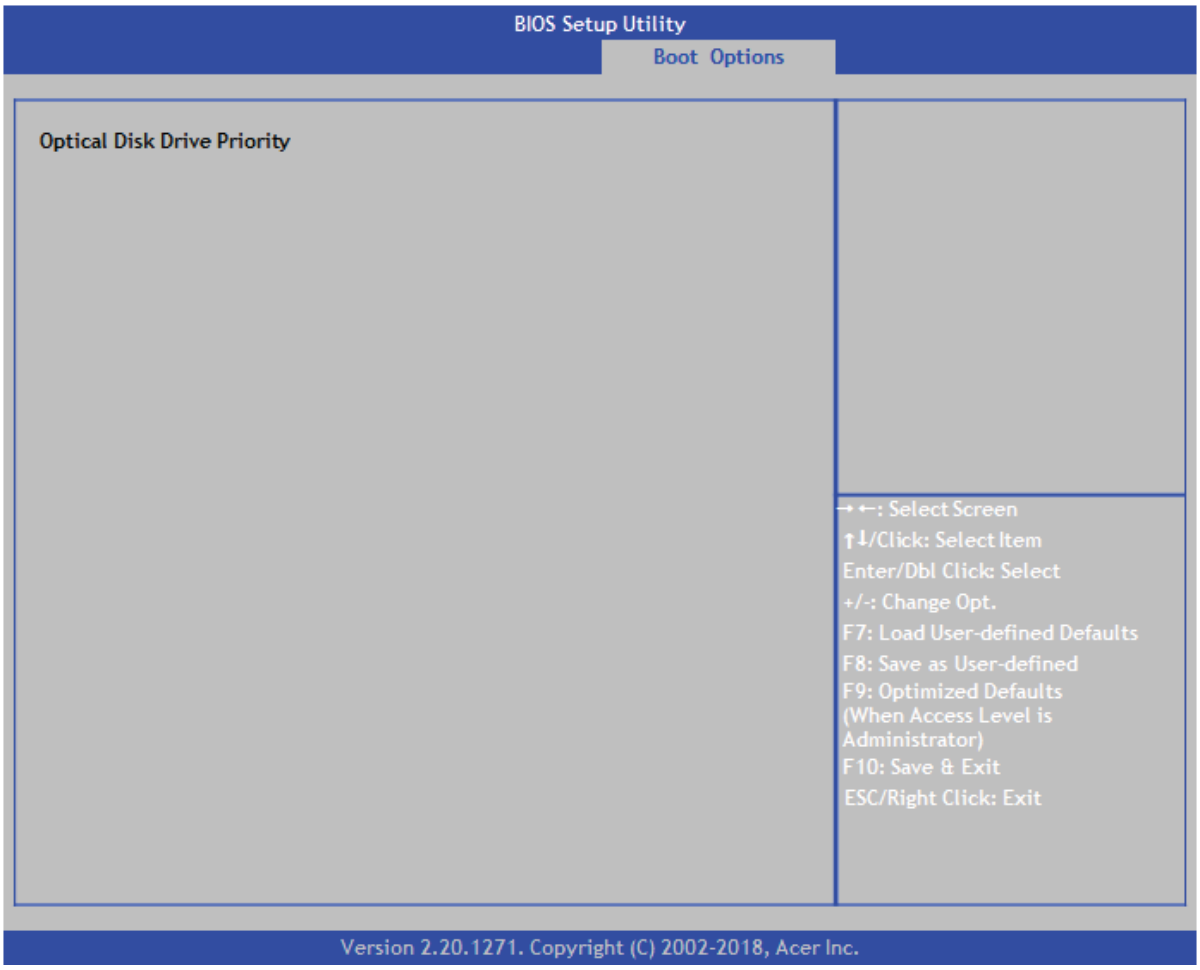
Scroll to this item and press <Enter> to view the following screen:



Press <Esc> to return to the Boot Options Menu page.

Optical Disk Drive Priority (Press Enter)

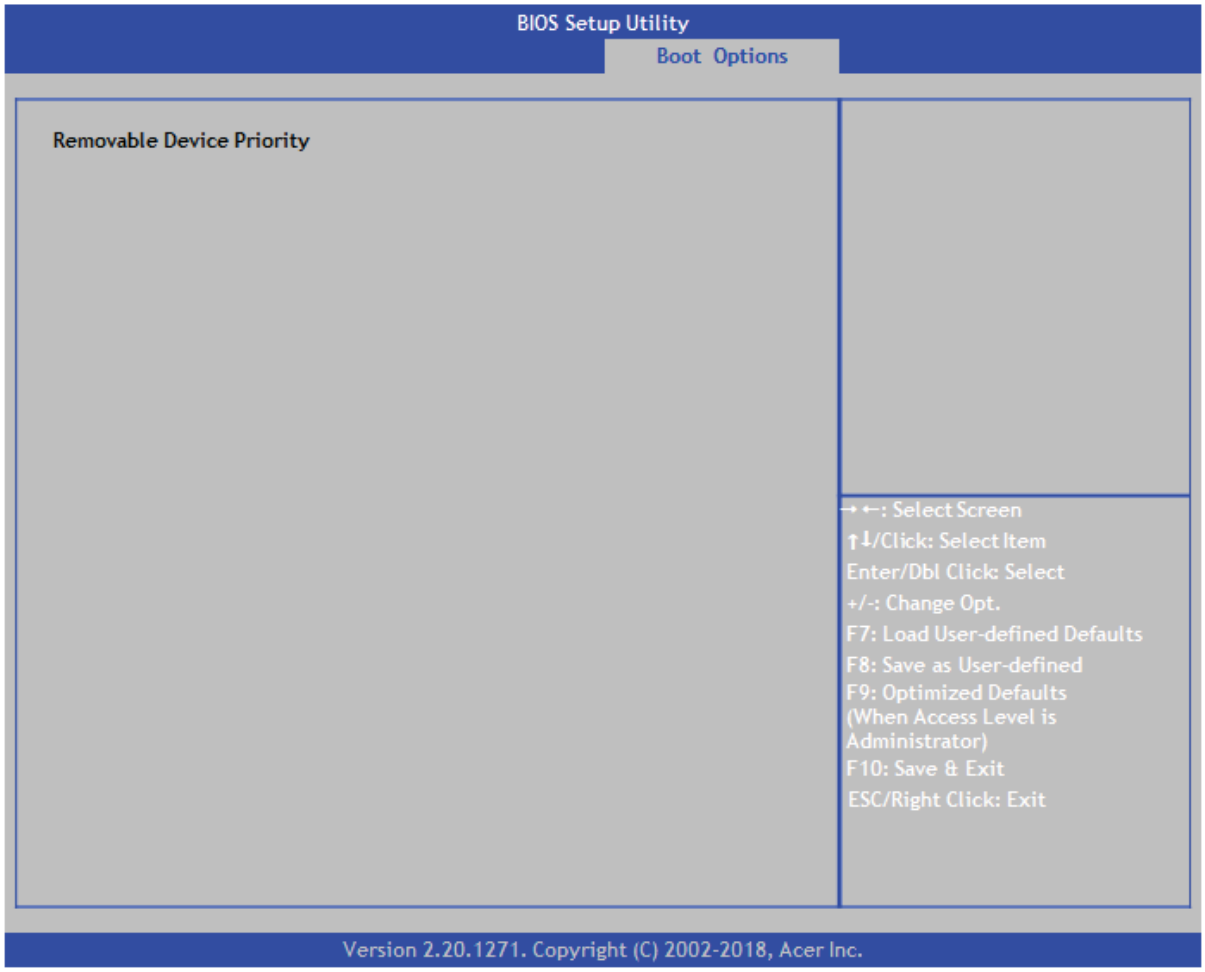
Scroll to this item and press <Enter> to view the following screen:



Press <Esc> to return to the Boot Options Menu page.

Removable Device Priority (Press Enter)

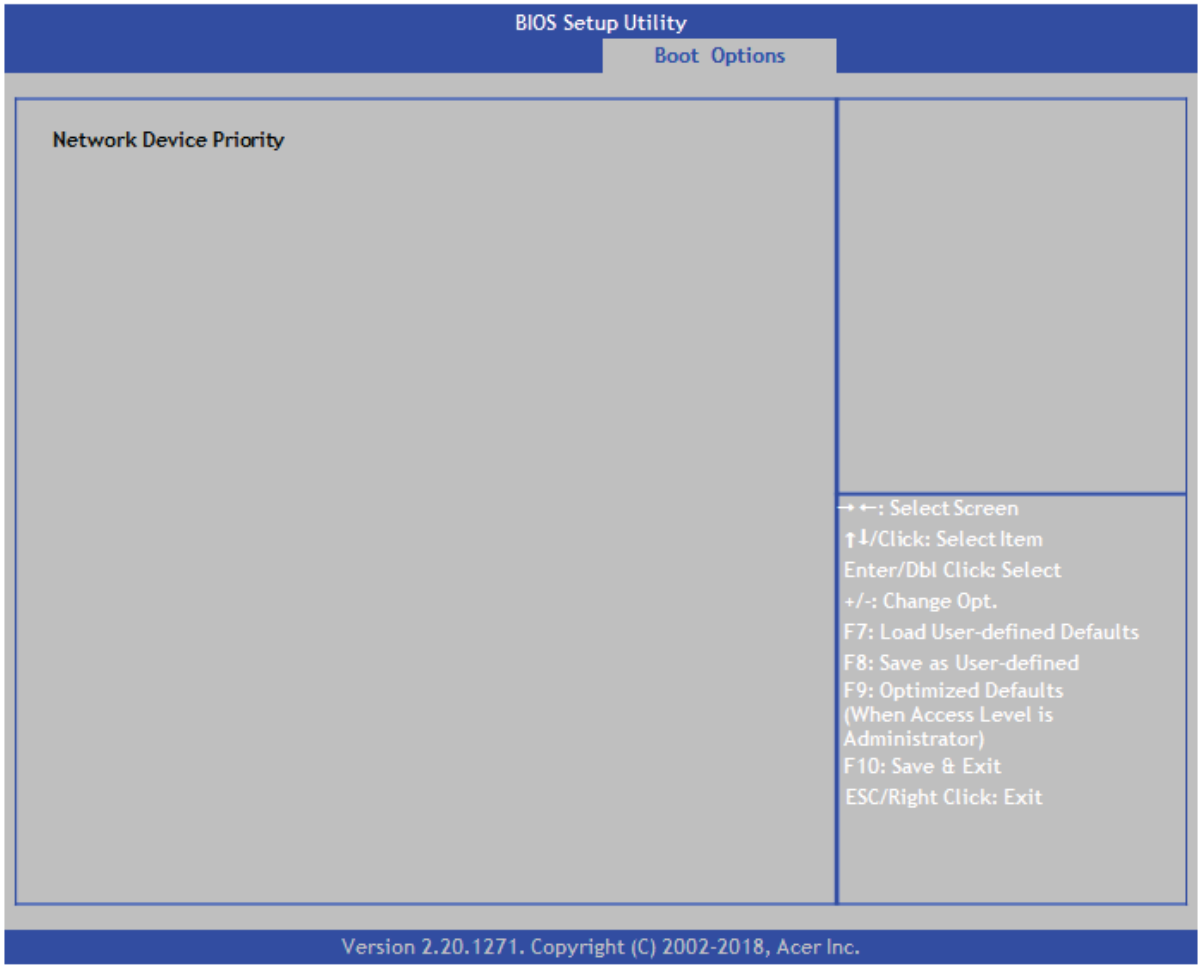
Scroll to this item and press <Enter> to view the following screen:



Press <Esc> to return to the Boot Options Menu page.

Network Device Priority (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Press <Esc> to return to the Boot Options Menu page.

Boot Menu (Enabled)

This item allows you to control POST Boot menu hotkey F12 support or not.

Bootup Num-Lock (On)

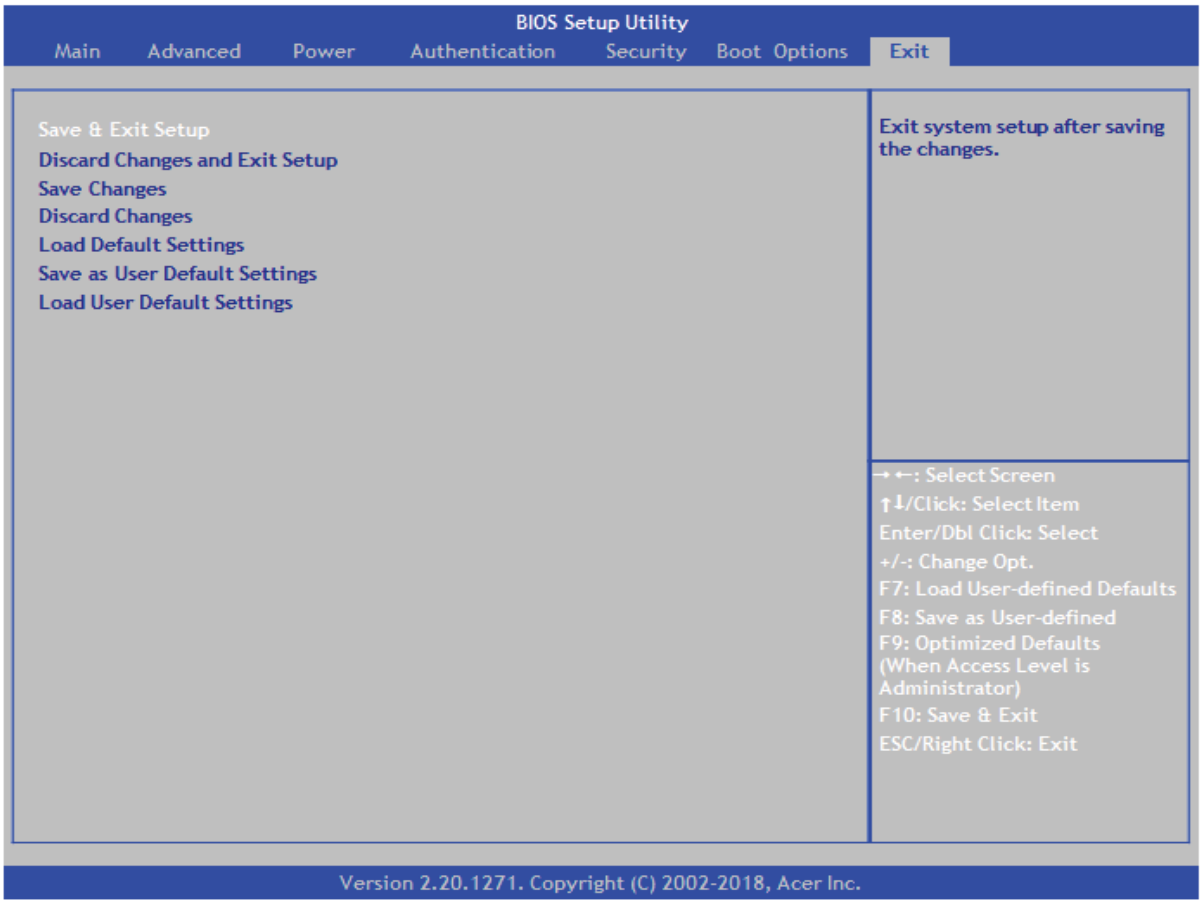
This item enables you to select Num-Lock state.

Halt on (All, but Keyboard)

This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

BIOS Setup Utility(Exit)

This page enables you to exit system setup after saving or without saving the changes.



Save & Exit Setup

Use this item enables you to save the changes that you have made and exit.

Discard Changes and Exit Setup

Use this item enables you to discard any changes that you have made and exit.

Save Changes

Use this item enables you to save the changes that you have made.

Discard Changes

Use this item enables you to discard any changes that you have made.

Load Default Settings

Use this item enables you to restore the system defaults.

Save as User Default Settings

Use this item enables you to save the changes that you have made as user defaults.

Load User Default Settings

Use this item enables you to restore user defaults.

If you have made settings that you do not want to save, use the "Discard Changes and Exit" item and select [OK] to discard any changes you have made.

Machine Disassembly and Replacement

To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge.
- Wire cutter.
- Phillips screwdriver (may require different size).

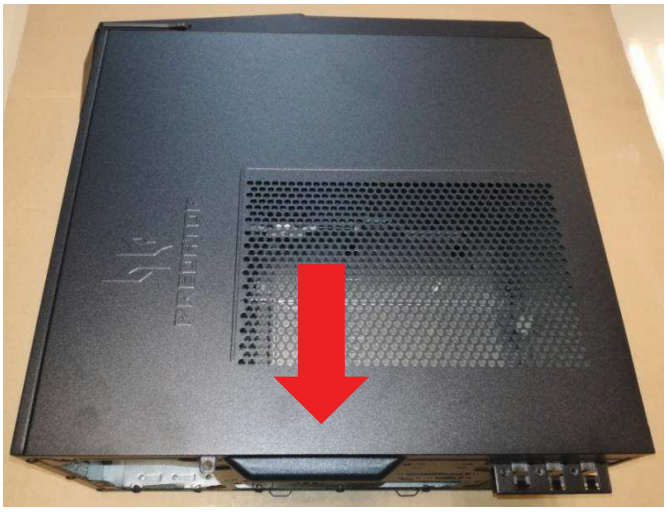
NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatches when putting back the components.

Standard Assembly Process

1. Opening the chassis and bezel

1.1 Remove the screw

1.2 Remove the left side cover



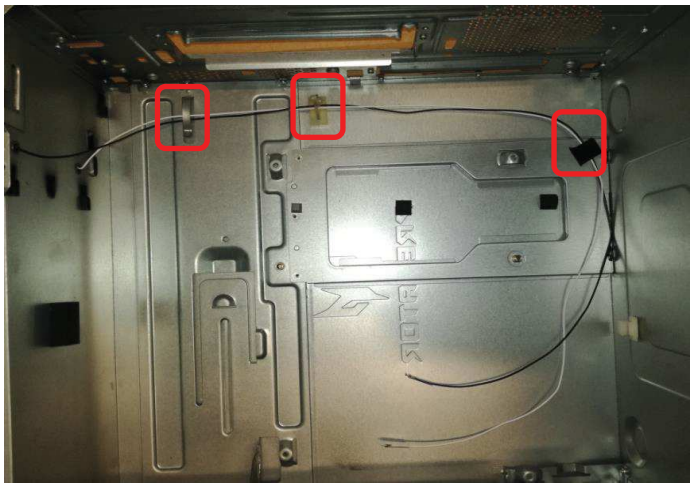
1.3 Push three hooks then you can remove front bezel.

1.4 Remove four screws of HDD-ODD bracket and take it out

1.5 Remove three screws of ODD cage and take it out

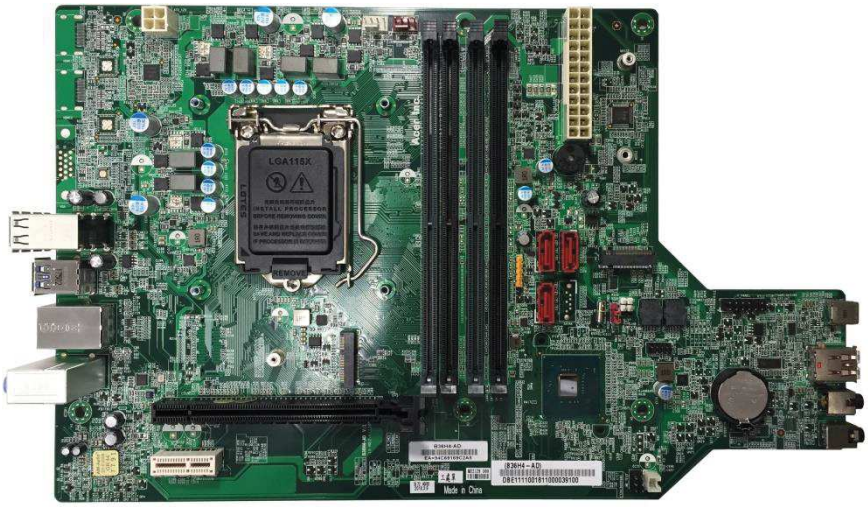
1.6 Remove the screw of front FIO bracket and take it out

2. Assemble the WLAN antenna

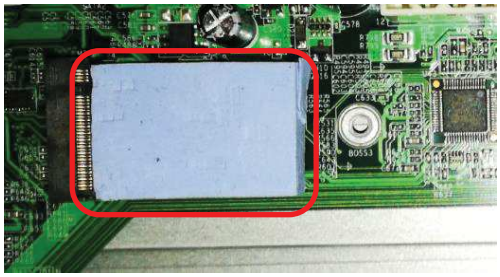


3. Assemble the MB

3.1 Motherboard view



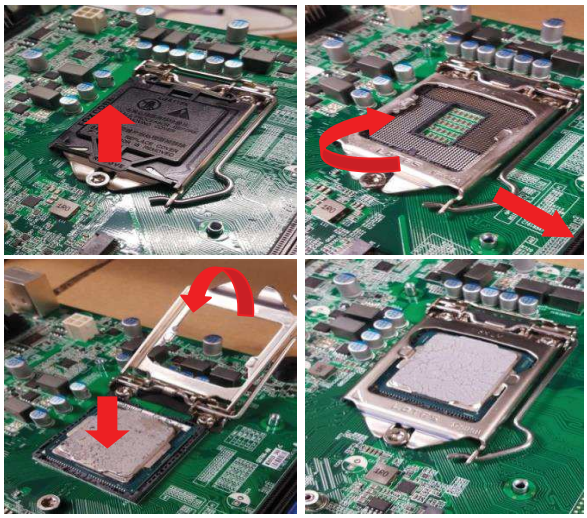
3.2 Positioning the thermal pad next to M.2 SSD slot and install M.2 SSD card



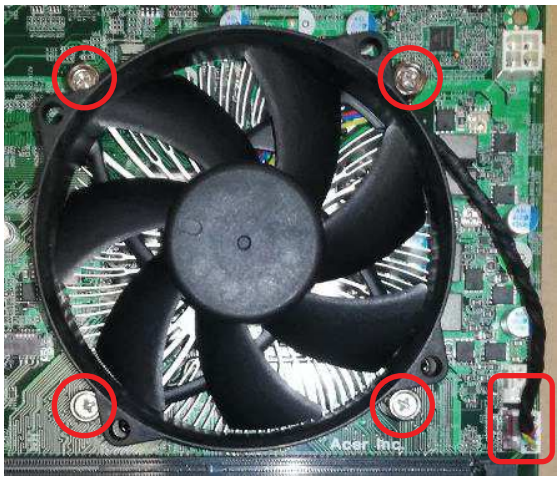
3.3 Fastening a screw on M.2 SSD card

Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
M.2 SSD card	M2*0.4*3mm	1pcs		22-232-200327	1.6~20kgf.cm

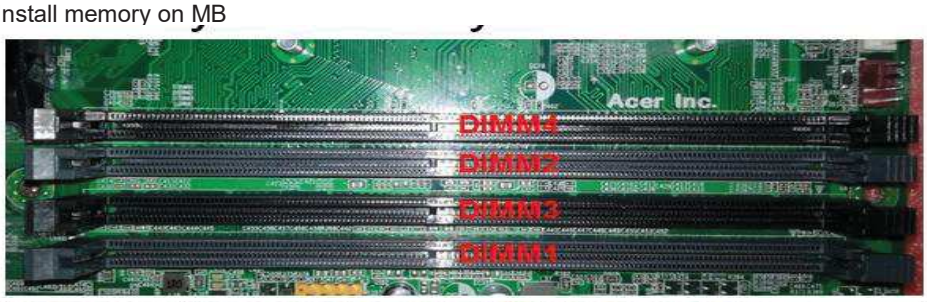
3.4 Install CPU

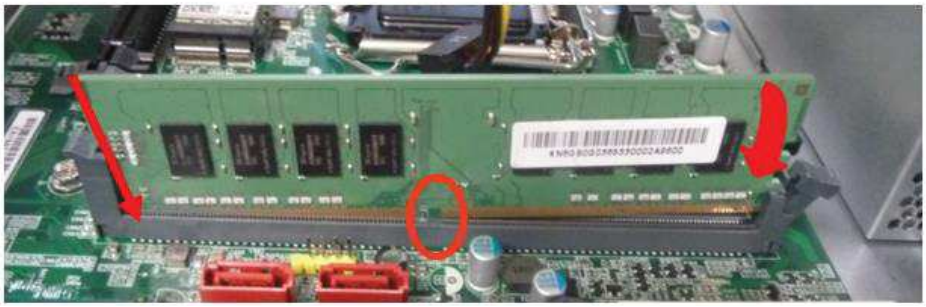


3.5 Install CPU cooler fastening four screws and connect fan power cable on MB



3.6 Install memory on MB





Total Memory	DIMM1	DIMM2	DIMM3	DIMM4
2	2G			
4	2G*	2G*		
4	4G			
6	2G*	2G*	2G	
6	4G	2G		
8	2G*	2G*	2G*	2G*
8	4G*	4G*		
8	4G	2G	2G	
8	8G			
10	4G	2G	2G*	2G*
10	4G*	4G*	2G	
10	8G	2G		
12	4G*	4G*	4G	
12	4G	2G	2G*	2G*
12	4G*	4G*	2G*	2G*
12	8G	2G	2G	
12	8G	4G		
14	4G*	4G*	4G	2G
14	8G	2G	2G*	2G*
16	4G*	4G*	4G*	4G*
16	8G*	8G*		

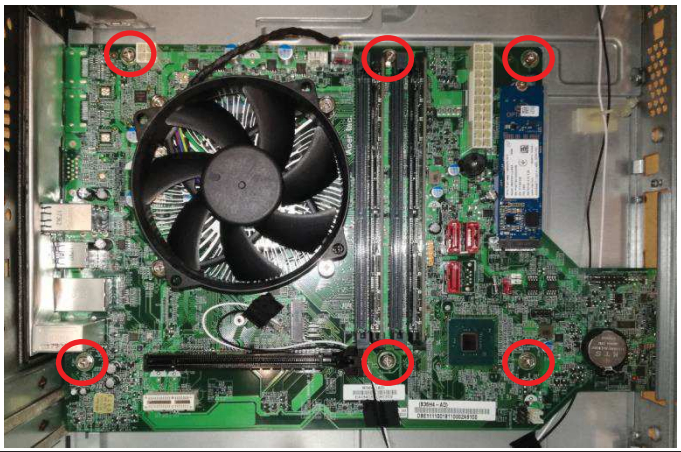
Total Memory	DIMM1	DIMM2	DIMM3	DIMM4
16	8G	4G	4G	
18	8G*	8G*	2G	
20	8G	4G	4G*	4G*
20	8G*	8G*	2G*	2G*
20	8G*	8G*	4G	
24	8G*	8G*	4G*	4G*
24	8G*	8G*	8G	
26	8G*	8G*	8G	2G
28	8G*	8G*	8G	4G
32	8G*	8G*	8G*	8G*

Note:

1. ” * ” : Support Dual Channel
2. You can install memory modules in any combination as long as they match the specifications about memory information please reference the latest AVLc list.
3. In case of different size Memory, must put the big size on the top
4. Not recommend more than 2 (including the same capacity conditions) Memory combination

3.7 Assemble the IO shielding

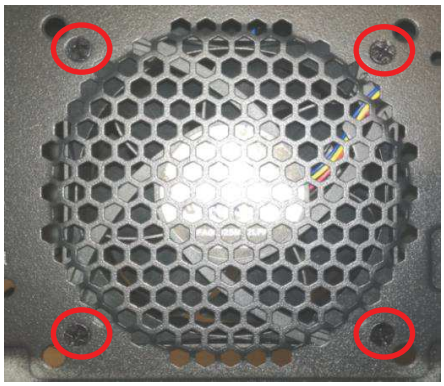
3.8 Install MB and fastening six screws



Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
MB	#6-32*5mm	6pcs		22-352-630505	6.0~7.0Kgf/cm

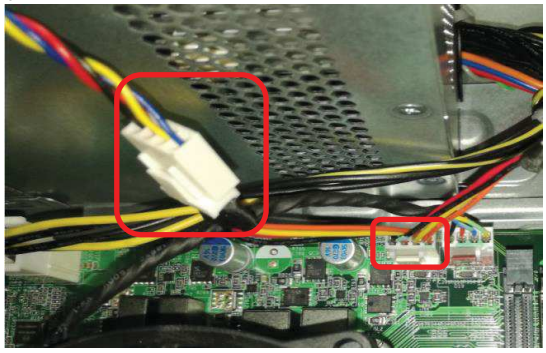
4. Install the rear system fan

4.1 Fix four screws

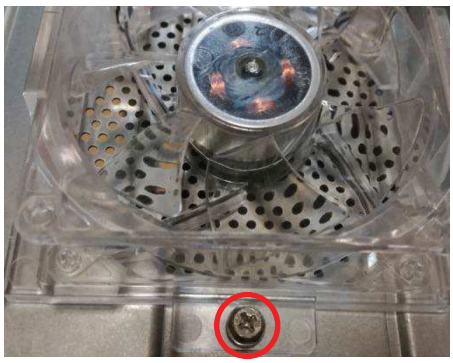


Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
System fan	T4.8*9.5mm	4pcs		22-115-489500	6~7Kgf.cm

4.2 Connect the rear system fan with MB



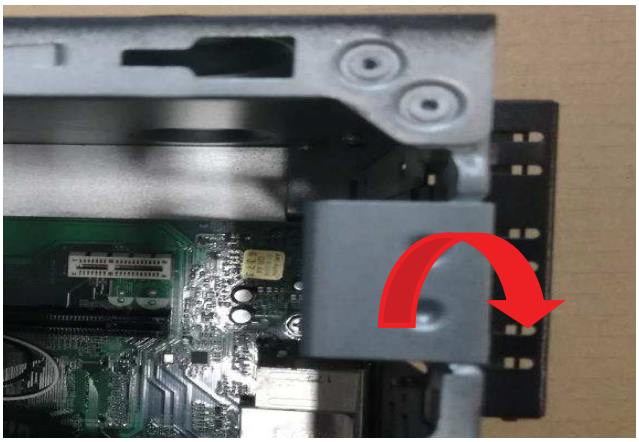
4.3 Assemble the front system fan



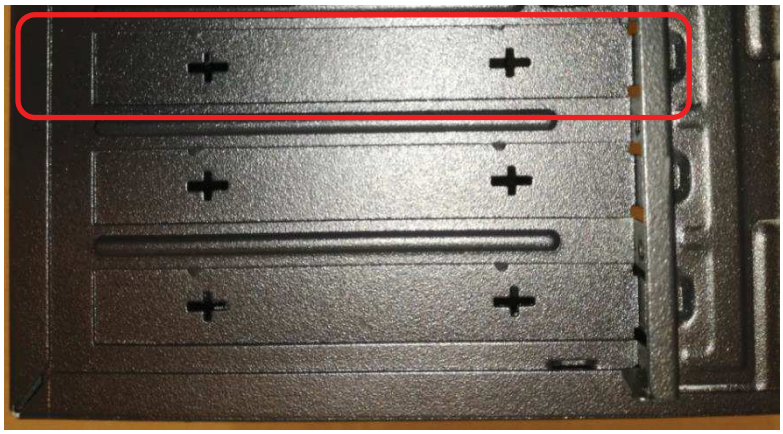
Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
Fromt System fan	#6-32*5mm	1pcs		22-352-630505	6~7kgf.cm

5. Assemble the VGA

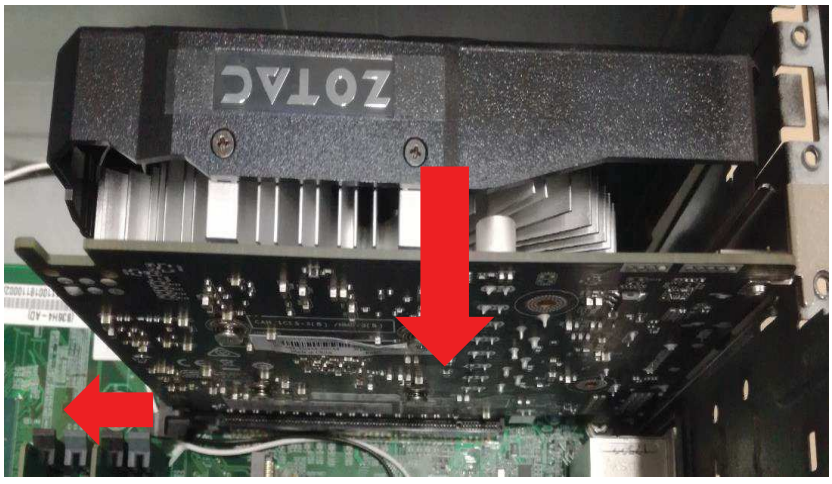
5.1 Open the PCI cover



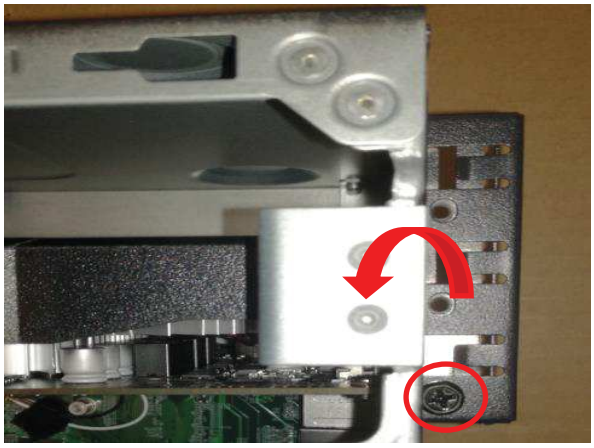
5.2 Remove the PCI slot



5.3 Assemble the VGA

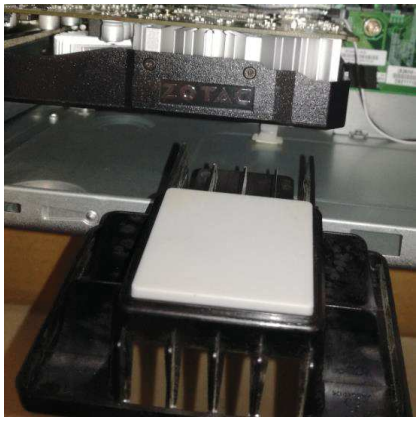


5.4 Fix the screw



Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
VGA	#6-32*5mm	1pcs		22-355-630502	6.0~7.0Kgf.cm

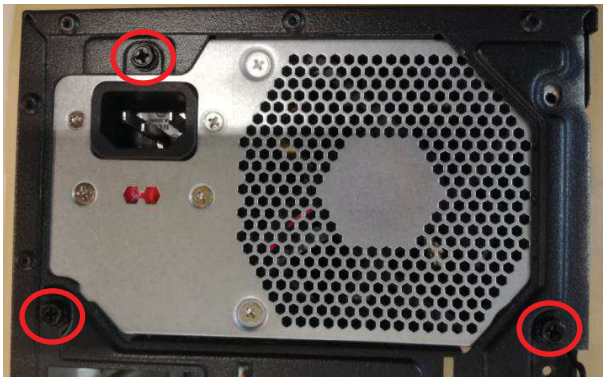
5.5 Assemble the VGA holder



6. Assemble the PSU

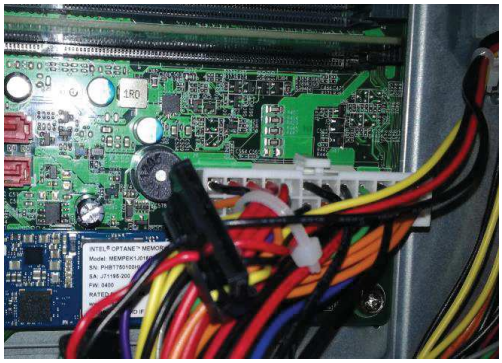
6.1 Put PSU into chassis

6.2 Fix three screws

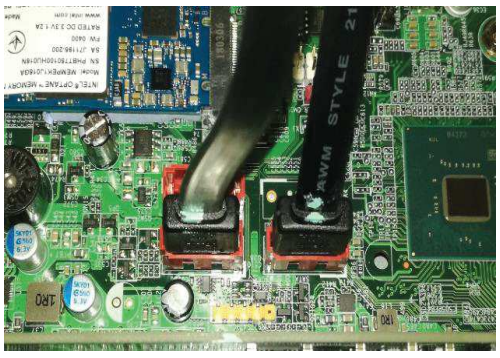


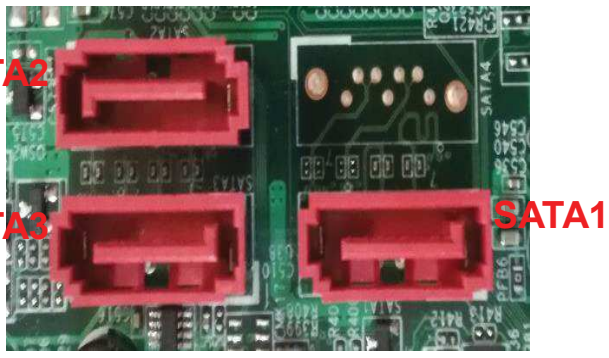
Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
PSU	#6-32*5mm	3pcs		22-355-630502	6~7kgf.cm

6.3 Connect PSU cable with MB



7. Connect the SATA cable with MB

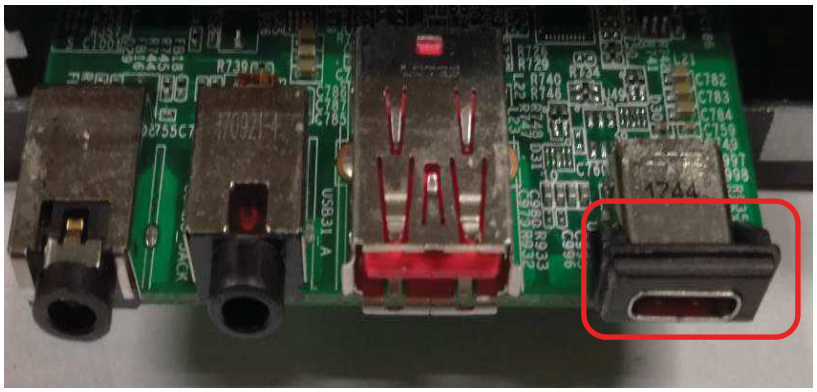




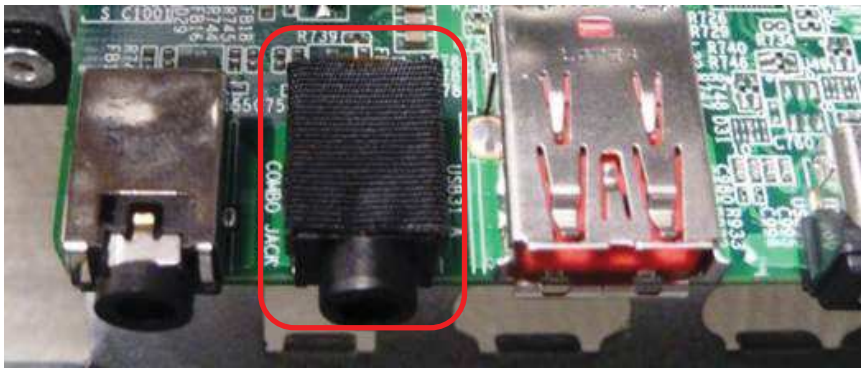
Configuration	SATA1	SATA2	SATA3	SATA4
1HDD(SSD)	HDD(SSD)	/	/	/
1HDD(SSD)+1ODD	HDD(SSD)	/	ODD	/
2HDD(SSD)+1ODD	HDD1(SSD1)(Main)	HDD2(SSD2)	ODD	/

8. Assemble the front IO bracket

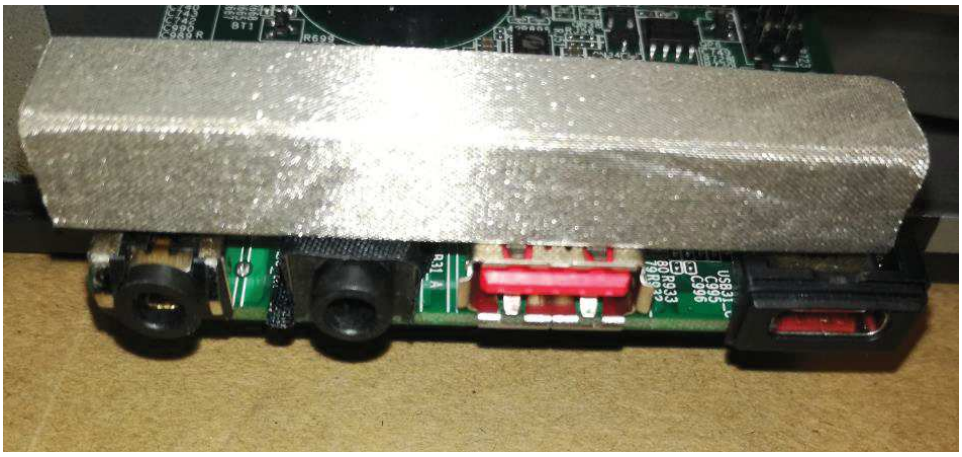
8.1 Install the type-C cover



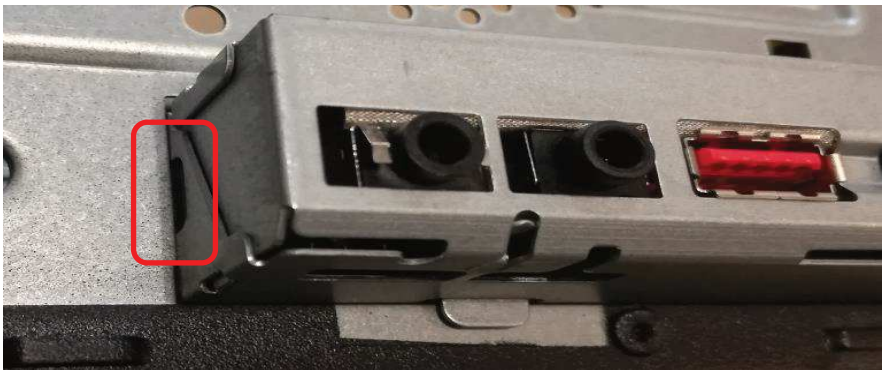
8.2 Paste the acetate tape



8.3 Paste the gasket

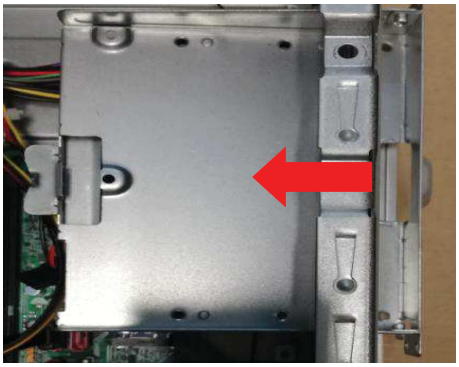


8.4 Fix the screw



Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
Front IO bracket	#6-32*5mm	1pcs		N/A	6~7kgf.cm

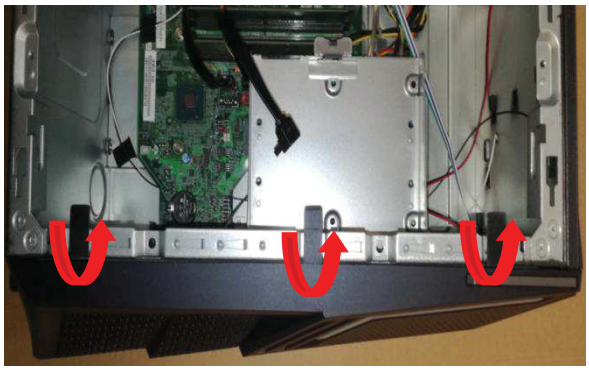
9. Push the ODD cage into chassis and fix three screws



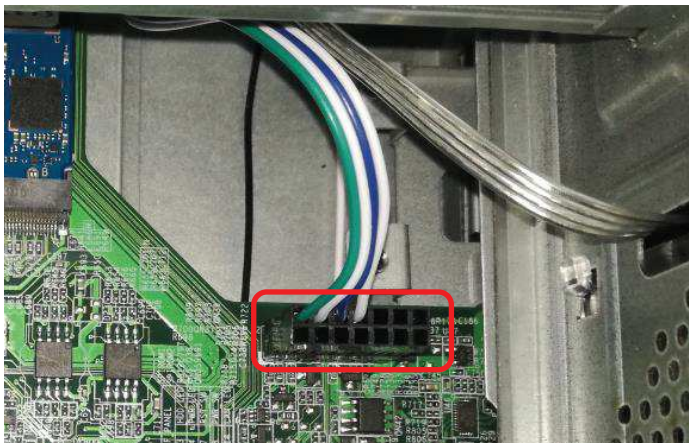
Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
ODD cage	#6-32*5mm	3pcs		N/A	6~7kgf.cm

10. Assemble the bezel

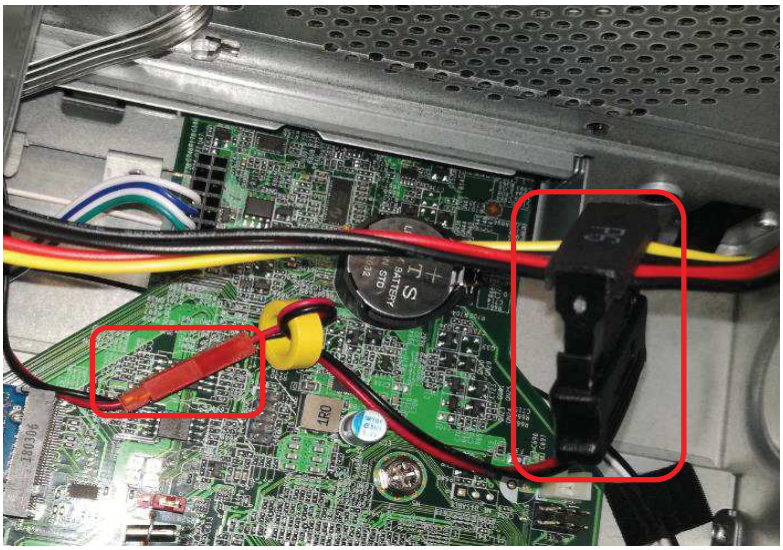
10.1 Assemble the bezel



10.2 Connect the front panel cable with MB

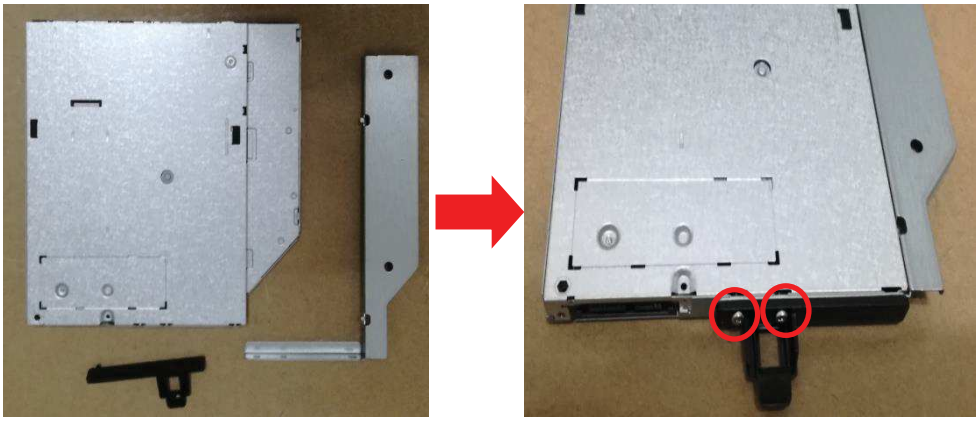


10.3 Connect the LED power cable



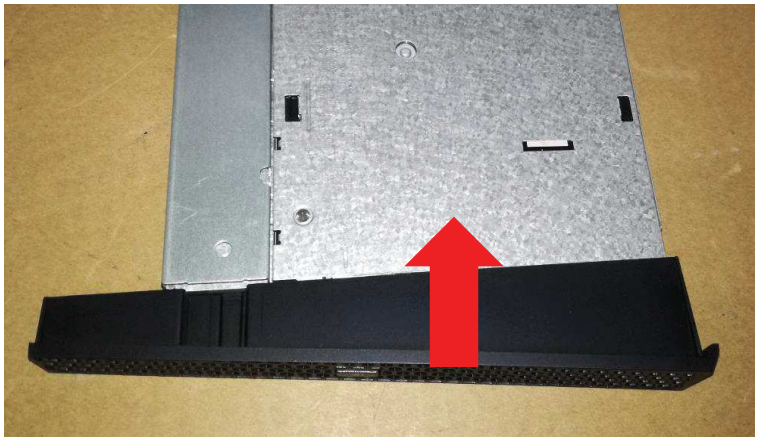
11. Assemble the slim ODD

11.1 Assemble the ODD bracket and fix two screws

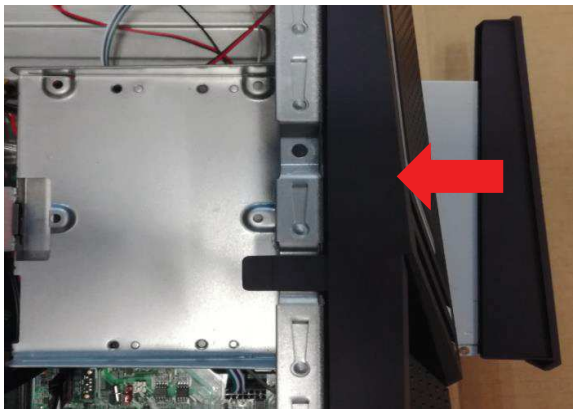


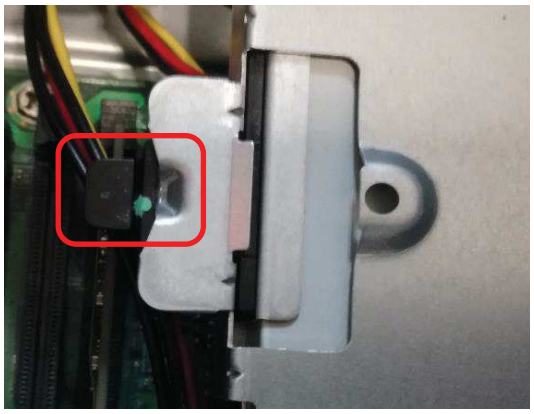
Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
slim ODD	M2*0.4*5mm	2pcs		22-232-200522	1.0~1.2kgf.cm

11.2 Assemble the ODD bezel

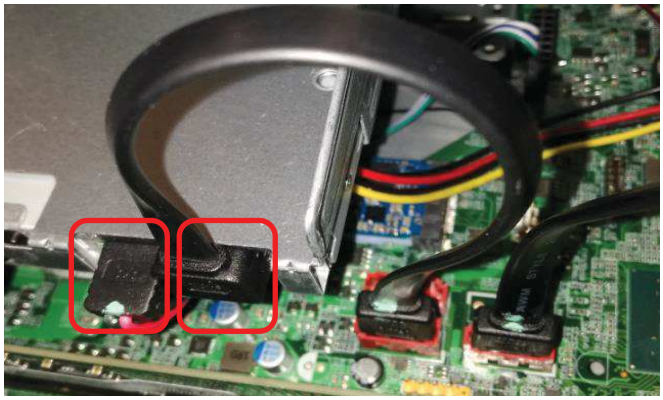


11.3 Assemble the slim ODD into chassis



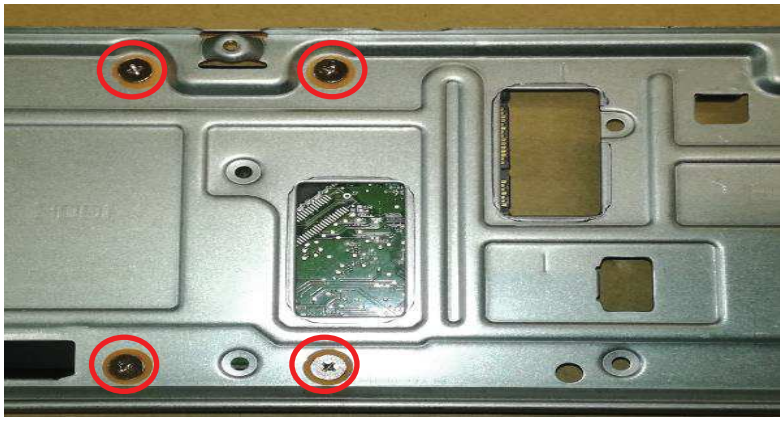


11.4 Connect the ODD SATA cable and power cable



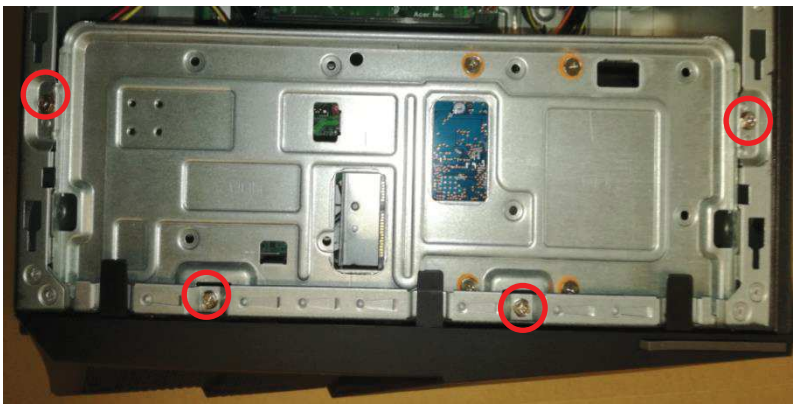
12. Assemble the HDD

12.1 Fix four screws of 3.5''HDD



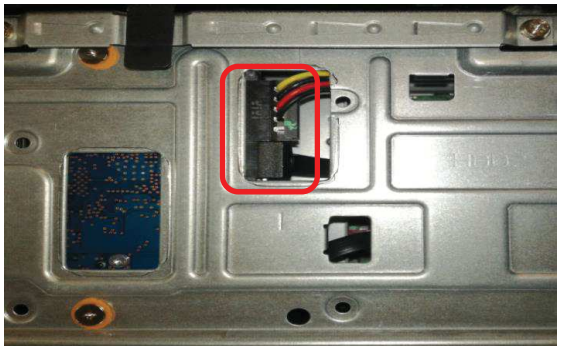
Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
HDD	#6-32*3.5mm	4pcs		22-332-633505	5.5~6.5kgf.cm

12.2 Assemble the HDD bracket



Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
HDD bracket	#6-32*5mm	4pcs		N/A	6~7kgf.cm

12.3 Connect the HDD SATA cable and HDD SATA power cable with MB



13. Cable routing position

14. Fix two screws of left side cover

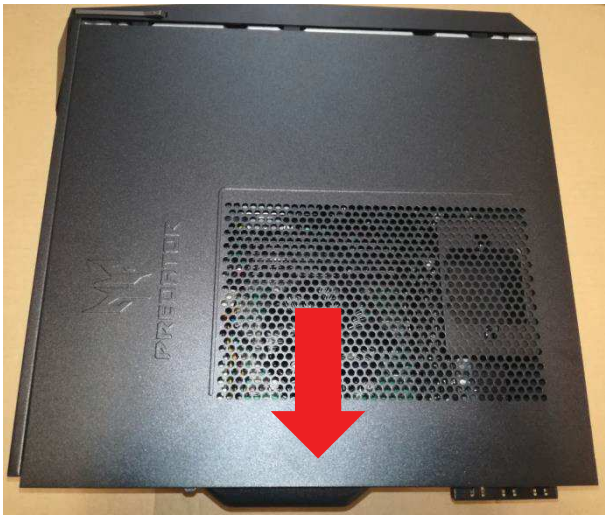
Step	Screw	Quantity	Screw Type	Part Number	Torque/ kgfcm
Side cover	#6-32*5mm	2pcs		N/A	6.0~7.0Kgf/cm

Standard Disassembly Process

1. Open the computer

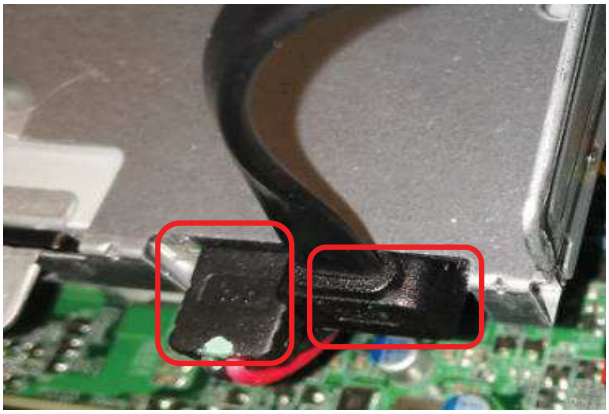
1.1 Remove the two screws fixed from the side-panel.

1.2 Shift the left side-panel and take out it

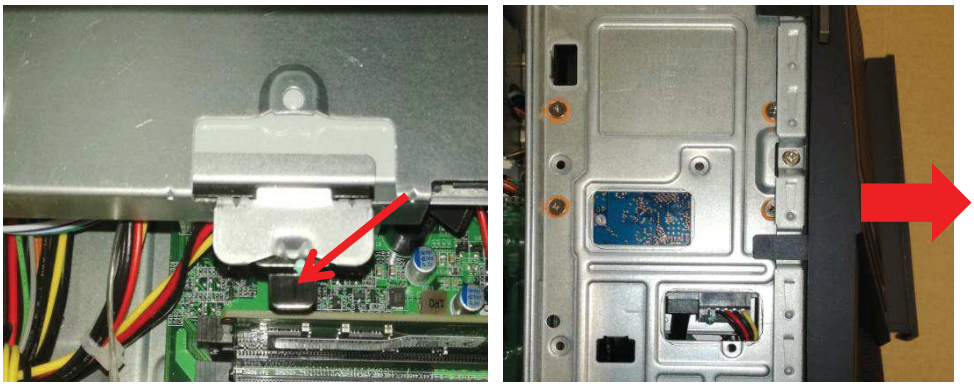


2. Remove slim ODD

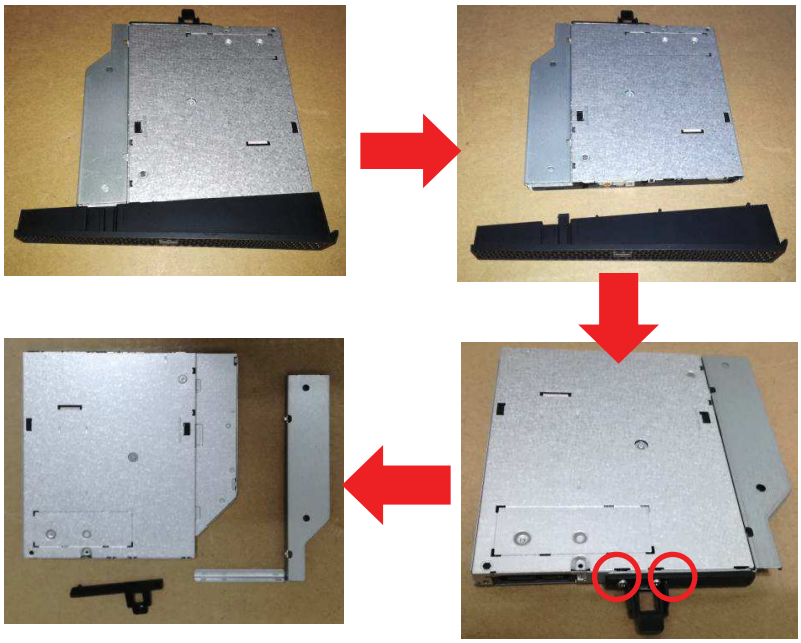
3.1 Disconnect SATA cable and power-cable from slim ODD



3.2 Press the plastic cover of slim ODD and take out slim ODD from the Chassis

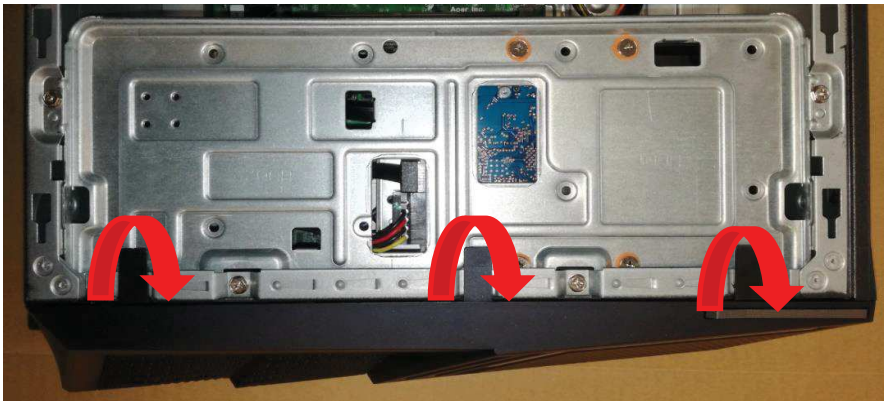


3.3 Disassemble the ODD



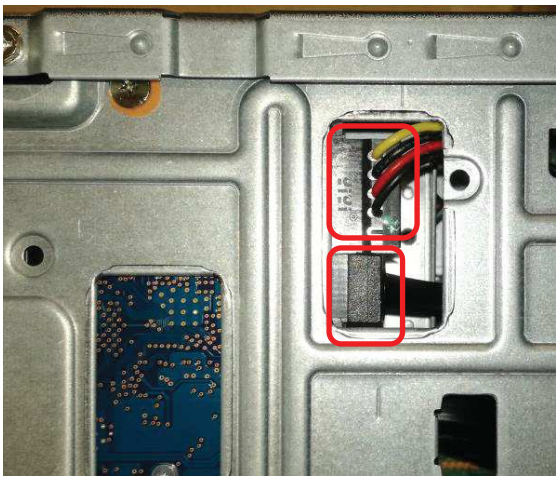
3. Remove the main Bezel from the case

3.1 Relax three hooks

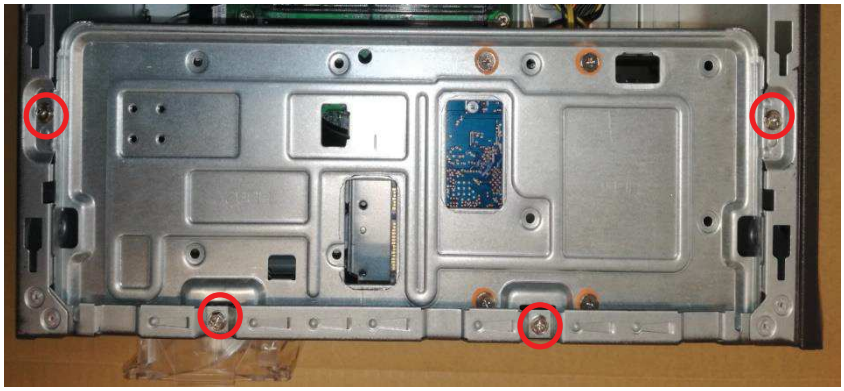


4. Disassemble the HDD

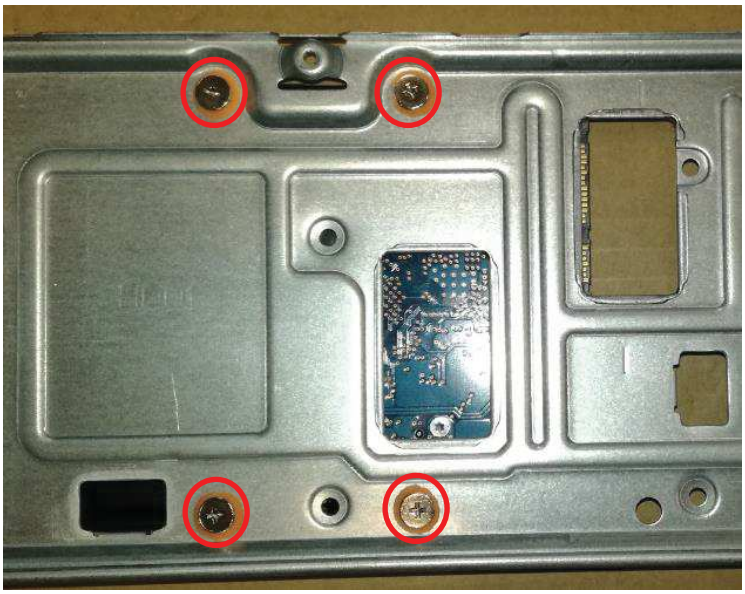
4.1 Disconnect the HDD SATA cable and power cable



4.2 Remove four screws of HDD-ODD bracket



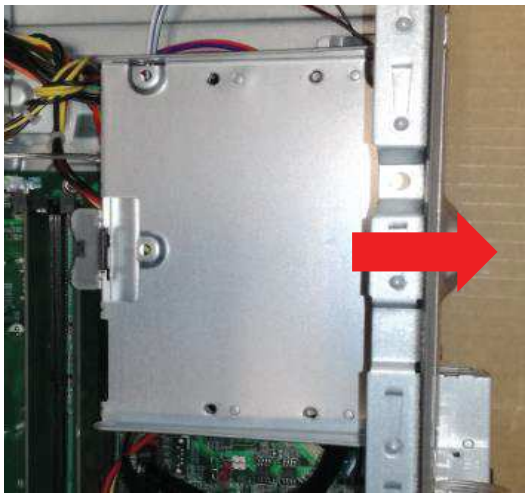
4.3 Remove four screws of the HDD



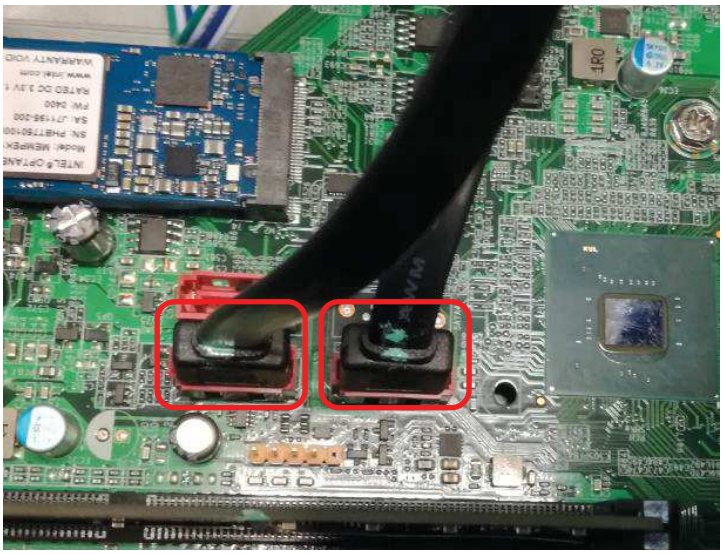
5. Disassemble the ODD cage

5.1 Remove three screws of ODD cage

5.2 Take out ODD cage from the chassis



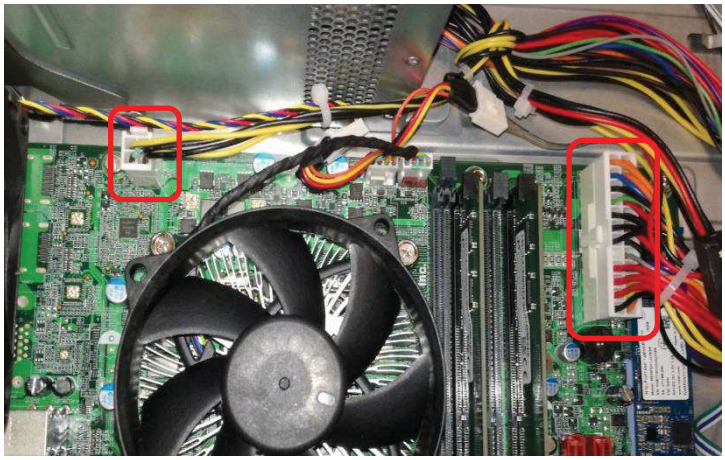
6. Remove the HDD and ODD SATA cable



7. Disassemble the PSU

7.1 Remove the front LED power cable

7.2 Disconnect the PSU cable

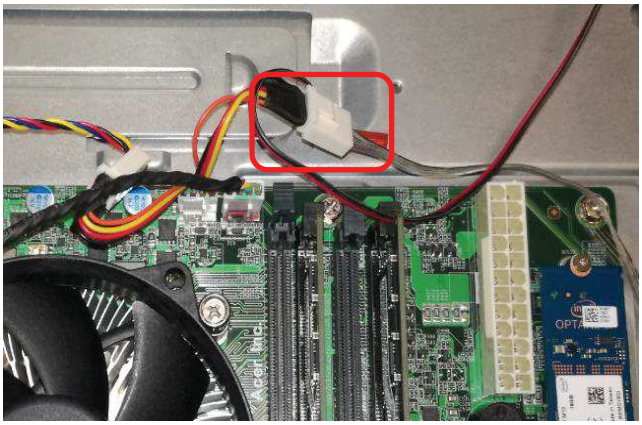


7.3 Remove the three screws of PSU

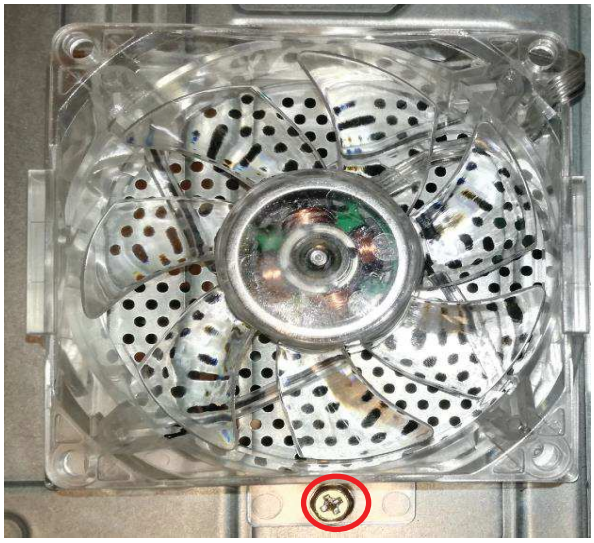
7.4 Remove PSU from the chassis

8. Disassemble the front system fan

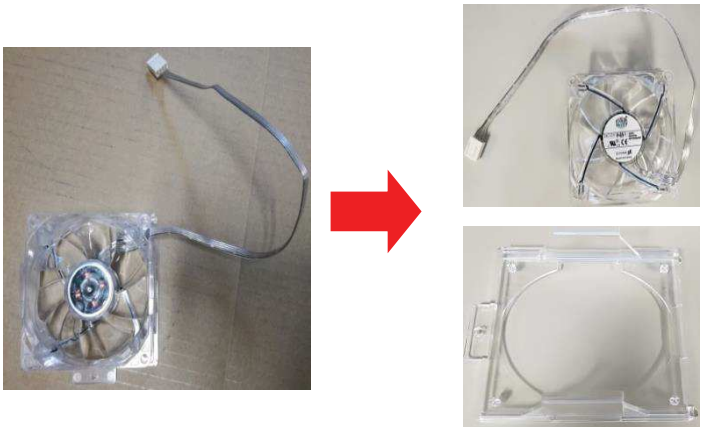
8.1 Disconnect the front system fan cable



8.2 Remove the screw and the bracket of the front system fan

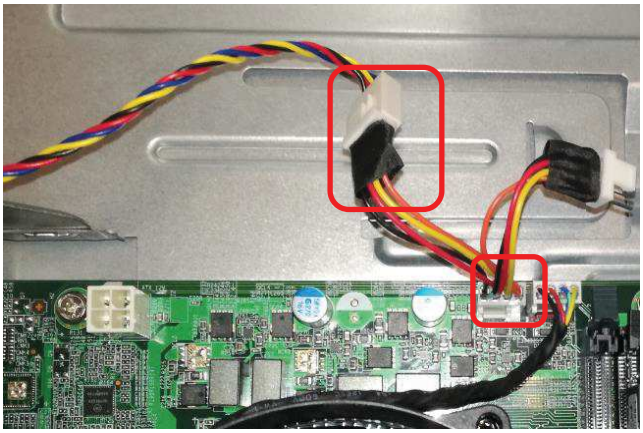


8.3 Take out the front system fan from the bracket

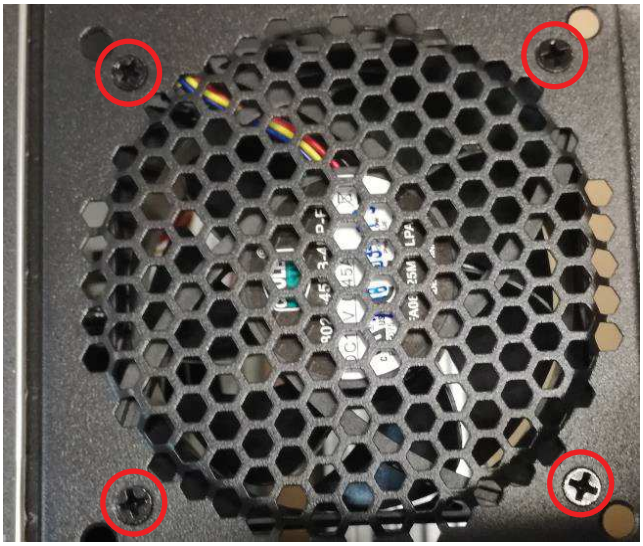


9. Disassemble the rear system fan

9.1 Disconnect the rear system fan cable



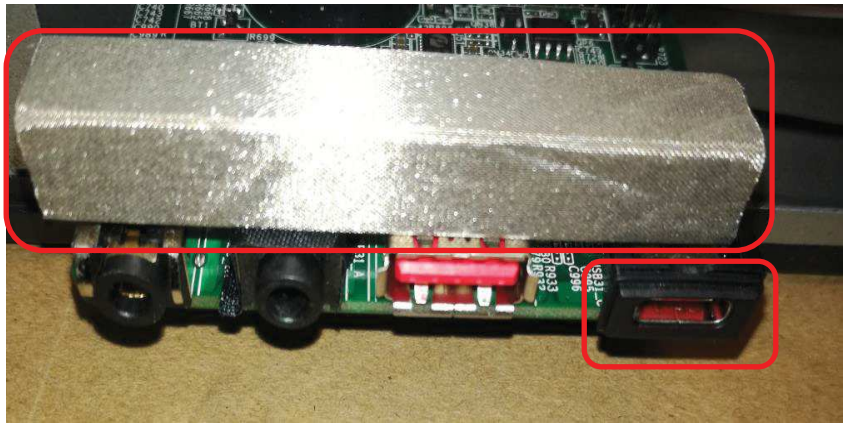
9.2 Remove four screws



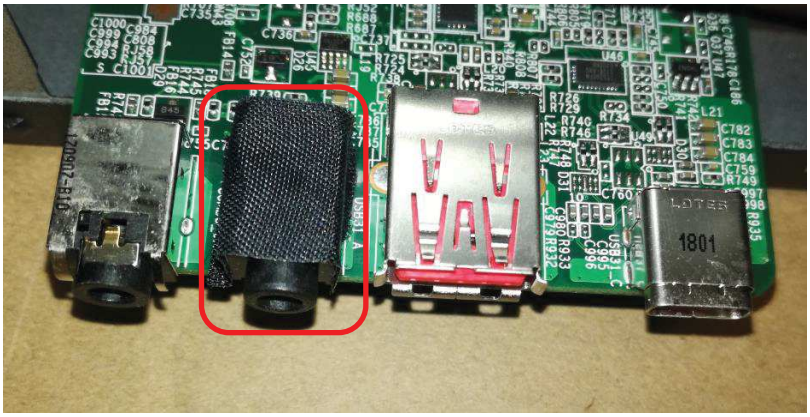
10. Remove the front bracket

10.1 Remove the screw

10.2 Remove the sponge and type-C cover

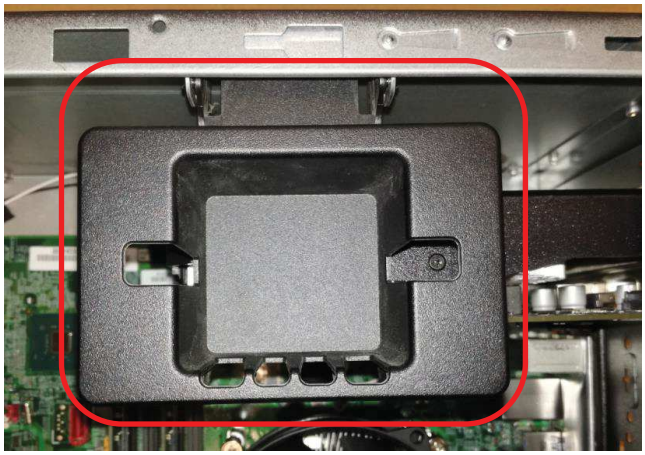


10.3 Remove the acetate tape

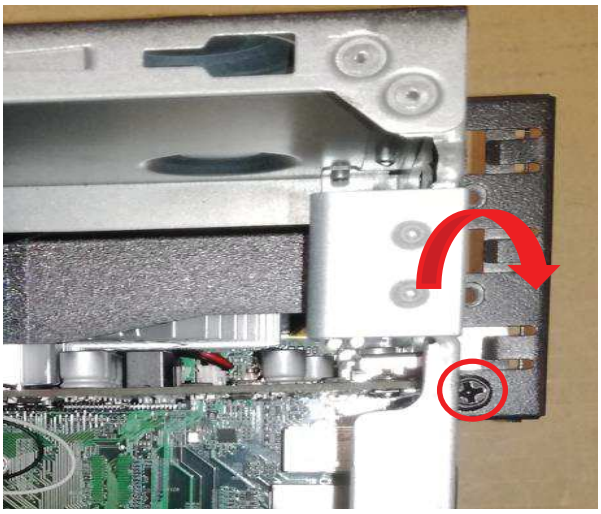


11. Disassemble the VGA

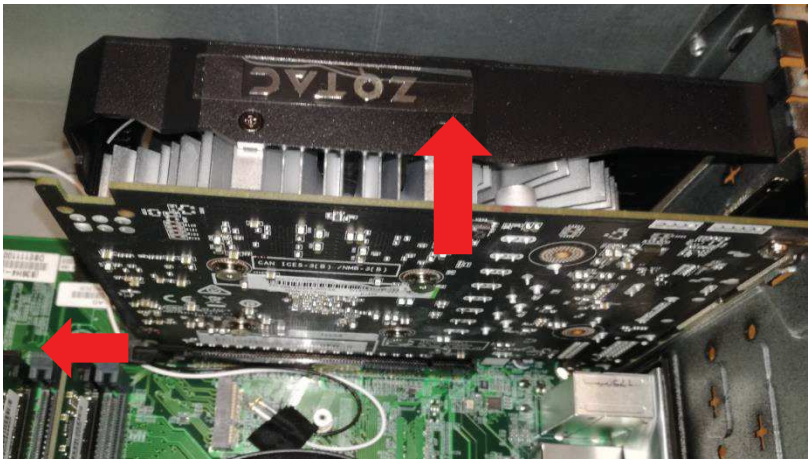
11.1 Remove the VGA holder



11.2 Remove the screw and open the PCI cover

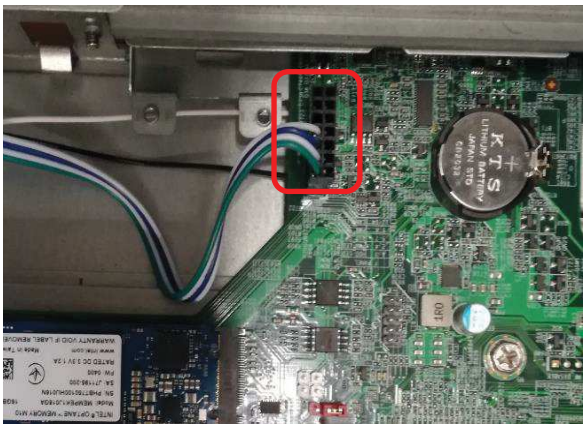


11.3 Remove the VGA from chassis

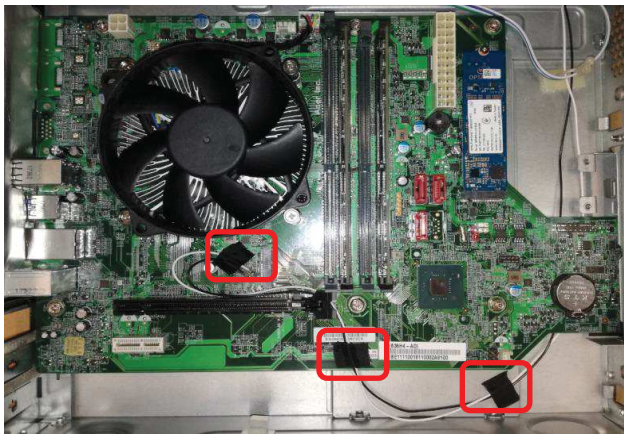


12. Disassemble MB from chassis

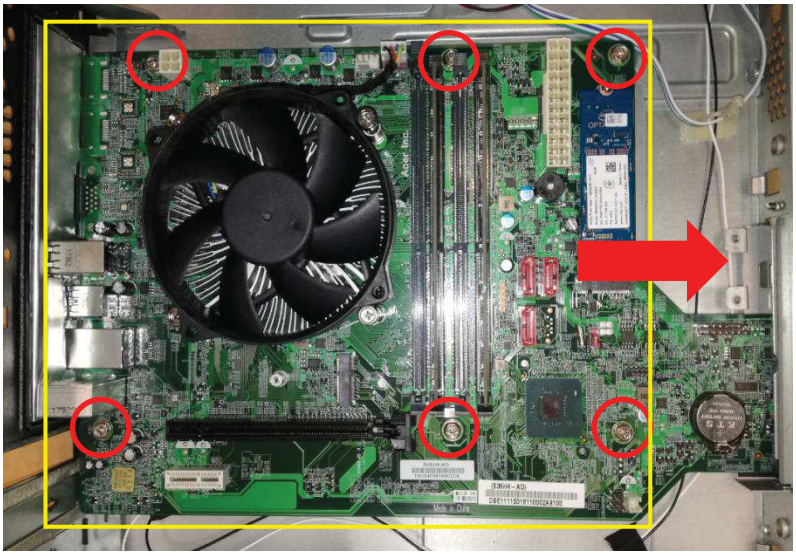
3.1 Remove the front panel cable



3.2 Remove the WLAN antenna from MB



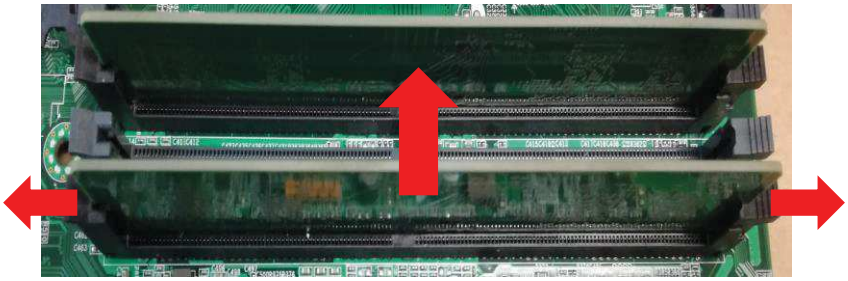
3.3 Remove these six screws of MB



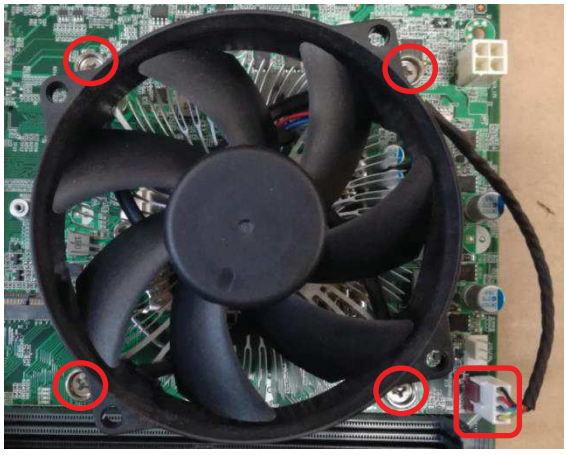
NOTE: Circuit boards >10 cm² has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local regulations for disposal.

13. Take out the IO shielding from chassis

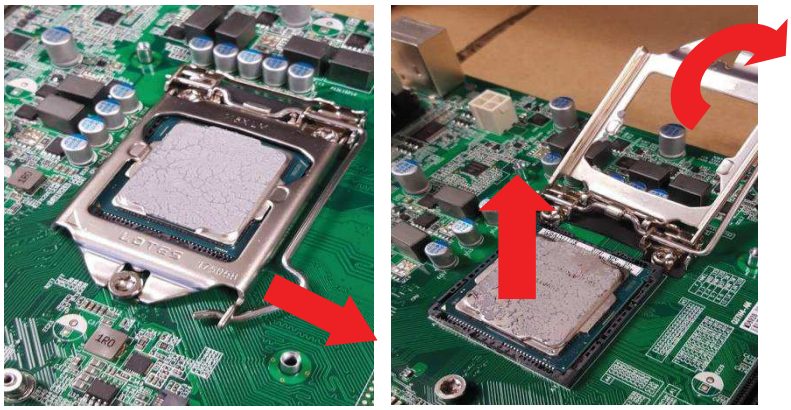
14. Disassemble the memory



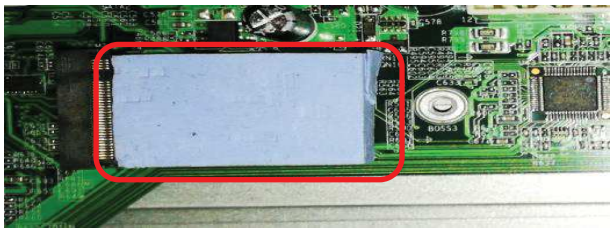
15. Disassemble the CPU cooler



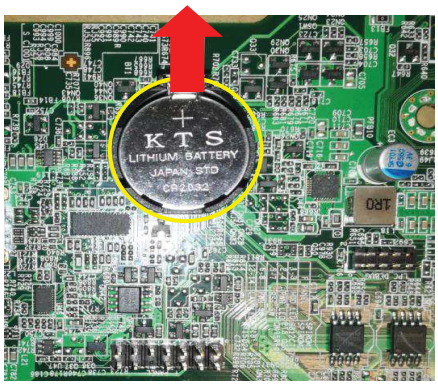
16. Disassemble the CPU



17. Disassemble the M.2 SSD card and remove the thermal pad



18. Remove the battery



NOTE: RTC battery has been highlighted with the yellow circle as above image shows. Please detach the RTC battery and follow local regulations for disposal.

Troubleshooting

This chapter provides troubleshooting information for the PO3-600 Service Guide

- Start up problems during assembly
- Power-On Self-Test (POST)
- POST Error Messages List
- Error Symptoms List
- Undetermined Problems

Start up problems during assembly

After assembling the PC for the first time you may experience some start up problems. Before calling for technical support or returning for warranty, this chapter may help to address some of the common questions using some basic troubleshooting tips.

a) System does not power up and the fans are not running.

1. Disassemble the PC to remove the VGA adaptor card, DDR memory, LAN, USB and other peripherals including keyboard and mouse. Leave only the motherboard, CPU with CPU cooler and power supply connected. Turn on again to see if the CPU and power supply fans are running.
2. Make sure to remove any unused screws or other metal objects such as screwdrivers from the inside PC case. This is to prevent damage from short circuit.
3. Check the CPU FAN connector is connected to the motherboard.
4. For Intel platforms check the pins on the CPU socket for damage or bent. A bent pin may cause failure to boot and sometimes permanent damage from short circuit.
5. Check the 12V power connector is connected to the motherboard.
6. Check that the 12V power & ATX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.

b) Power is on, fans are running but there is no display

1. Make sure the monitor is turned on and the monitor cable is properly connected to the PC.
2. Check the VGA adapter card (if applicable) is inserted properly.
3. Listen for beep sounds. If you are using internal PC speaker make sure it is connected.
   a. continuous beeping : memory not detected
   b. 1 long beep and 2 short beeps looping : VGA not detected

c) The PC suddenly shuts down while booting up.

1. The CPU may experience overheating so it will shutdown to protect itself. Ensure the CPU fan is-working properly.
2. From the BIOS setting, try to disable the Smart fan function to let the fan run at default speed. Doing a Load Optimised Default will also disable the Smart fan.

Start up problems after prolong use

After a prolong period of use your PC may experience start up problems again. This may be caused by breakdown of devices connected to the motherboard such as HDD, CPU fan, etc. The following tips may help to revive the PC or identify the cause of failure.

1. Clear the CMOS values using the CLR_CMOS jumper. Refer to CLR_CMOS jumper in Chapter 5 for checking Jumper Settings in this Page80. When completed, follow up with a Load Optimised Default in the BIOS setup.
2. Check the CPU cooler fan for dust. Long term accumulation of dust will reduce its effectiveness to cool the processor. Clean the cooler or replace a new one if necessary.
3. Check that the 12V power & ATX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.
4. Remove the hard drive, optical drive or DDR memory to determine which of these components may be at fault.

Maintenance and care tips

Your computer, like any electrical appliance, requires proper care and maintenance. Here are some basic PC care tips to help prolong the life of the motherboard and keep it running as best as it can.

1. Keep your computer in a well ventilated area. Leave some space between the PC and the wall for sufficient airflow.
2. Keep your computer in a cool dry place. Avoid dusty areas, direct sunlight and areas of high moisture content.
3. Routinely clean the CPU cooler fan to remove dust and hair.
4. In places of hot and humid weather you should turn on your computer once every other week to circulate the air and prevent damage from humidity.
5. Add more memory to your computer if possible. This not only speeds up the system but also reduces the loading of your hard drive to prolong its life span.
6. If possible, ensure the power cord has an earth ground pin directly from the wall outlet. This will reduce voltage fluctuation that may damage sensitive devices.

Power-On Self-Test (POST)

Each time you turn on the system, the Power-on Self Test (POST) is initiated. Several items are tested during POST, but for the most part transparent to the user.

The Power-On Self Test (POST) is a BIOS procedure that boots the system, initializes and diagnoses the system components, and controls the operation of the power-on password option. If POST discovers errors in system operations at power-on, it displays error messages on screen, generates a check point code at port 80h or even halts the system if the error is fatal.

The main components on the main board that must be diagnosed and/or initialized by POST to ensure system functionality are as follows:

- Microprocessor with built-in numeric co-processor and cache memory subsystem
- Direct Memory Access (DMA) controller
- Interrupt system
- Three programmable timers
- ROM subsystem
- RAM subsystem
- CMOS RAM subsystem and real time clock/calendar with battery backup
- Onboard parallel interface controller
- Embedded hard disk interface and one diskette drive interface
- Keyboard and auxiliary device controllers
- I/O ports
  - One parallel port
  - One PS/2-compatible mouse port
  - One PS/2-compatible keyboard port

NOTE: When Post executes a task, it uses a series of preset numbers called check points to be latched at port 80h, indicating the stages it is currently running. This latch can be read and shown on a debug board.
The following table describes the BIOS common tasks carried out by POST. Each task is denoted by an unique check point number. For other unique check point numbers that are not listed in the table, refer to the corresponding product service guide.

Post Checkpoints List: The list may vary accordingly depending on your BIOS

Checkpoint	Description
00	Not used
01	Power on. Reset type detection (soft/hard).
02	AP initialization before microcode loading
03	North Bridge initialization before microcode loading
04	South Bridge initialization before microcode loading
05	OEM initialization before microcode loading
06	Microcode loading
07	AP initialization after microcode loading
08	North Bridge initialization after microcode loading

Checkpoint	Description
09	South Bridge initialization after microcode loading
0A	OEM initialization after microcode loading
0B	Cache initialization
0E	Microcode not found
0F	Microcode not loaded
10	PEI Core is started
11	Pre-memory CPU initialization is started
12	Pre-memory CPU initialization (CPU module specific)
13	Pre-memory CPU initialization (CPU module specific)
14	Pre-memory CPU initialization (CPU module specific)
15	Pre-memory North Bridge initialization is started
16	Pre-Memory North Bridge initialization (North Bridge module specific)
17	Pre-Memory North Bridge initialization (North Bridge module specific)
18	Pre-Memory North Bridge initialization (North Bridge module specific)
19	Pre-memory South Bridge initialization is started
1A	Pre-memory South Bridge initialization (South Bridge module specific)
1B	Pre-memory South Bridge initialization (South Bridge module specific)
1C	Pre-memory South Bridge initialization (South Bridge module specific)
0x1D – 0x2A	OEM pre-memory initialization codes
2B	Memory initialization. Serial Presence Detect (SPD) data reading
2C	Memory initialization. Memory presence detection
2D	Memory initialization. Programming memory timing information
2E	Memory initialization. Configuring memory
2F	Memory initialization (other).
30	Reserved for ASL (see ASL Status Codes section below)
31	Memory Installed
32	CPU post-memory initialization is started
33	CPU post-memory initialization. Cache initialization
34	CPU post-memory initialization. Application Processor(s) (AP) initialization
35	CPU post-memory initialization. Boot Strap Processor (BSP) selection
36	CPU post-memory initialization. System Management Mode (SMM) initialization.
37	Post-Memory North Bridge initialization is started

Checkpoint	Description
38	Post-Memory North Bridge initialization (North Bridge module specific)
39	Post-Memory North Bridge initialization (North Bridge module specific)
3A	Post-Memory North Bridge initialization (North Bridge module specific)
3B	Post-Memory South Bridge initialization is started
3C	Post-Memory South Bridge initialization (South Bridge module specific)
3D	Post-Memory South Bridge initialization (South Bridge module specific)
3E	Post-Memory South Bridge initialization (South Bridge module specific)
0x3F-0x4E	OEM post memory initialization codes
4F	DXE IPL is started
50	Memory initialization error. Invalid memory type or incompatible memory speed
51	Memory initialization error. SPD reading has failed
52	Memory initialization error. Invalid memory size or memory modules do not match.
53	Memory initialization error. No usable memory detected
54	Unspecified memory initialization error.
55	Memory not installed
56	Invalid CPU type or Speed
57	CPU mismatch
58	CPU self test failed or possible CPU cache error
59	CPU micro-code is not found or micro-code update is failed
5A	Internal CPU error
5B	reset PPI is not available
5C	PEI phase BMC self-test failure
0x5C-0x5F	Reserved for future AMI error codes
E0	S3 Resume is stared (S3 Resume PPI is called by the DXE IPL)
E1	S3 Boot Script execution
E2	Video repost
E3	OS S3 wake vector call
0xE4-0xE7	Reserved for future AMI progress codes
F0	Recovery condition triggered by firmware (Auto recovery)
F1	Recovery condition triggered by user (Forced recovery)
F2	Recovery process started
F3	Recovery firmware image is found

Checkpoint	Description
F4	Recovery firmware image is loaded
0xF5-0xF7	Reserved for future AMI progress codes
F8	Recovery PPI is not available
F9	Recovery capsule is not found
FA	Invalid recovery capsule
0xFB – 0xFF	Reserved for future AMI error codes
D0	CPU initialization error
D1	North Bridge initialization error
D2	South Bridge initialization error
D3	Some of the Architectural Protocols are not available
D4	PCI resource allocation error. Out of Resources
D5	No Space for Legacy Option ROM
D6	No Console Output Devices are found
D7	No Console Input Devices are found
D8	Invalid password
D9	Error loading Boot Option (LoadImage returned error)
DA	Boot Option is failed (StartImage returned error)
DB	Flash update is failed
DC	Reset protocol is not available
DD	DXE phase BMC self-test failure
0xFB – 0xFF	Reserved for future AMI error codes
D0	CPU initialization error
D1	North Bridge initialization error
D2	South Bridge initialization error
D3	Some of the Architectural Protocols are not available
D4	PCI resource allocation error. Out of Resources
D5	No Space for Legacy Option ROM
D6	No Console Output Devices are found
D7	No Console Input Devices are found
D8	Invalid password
D9	Error loading Boot Option (LoadImage returned error)
DA	Boot Option is failed (StartImage returned error)
DB	Flash update is failed

Checkpoint	Description
DC	Reset protocol is not available
DD	DXE phase BMC self-test failure

POST Error Messages List

If you cannot run the diagnostics program tests but did receive a POST error message, use “POST Error Messages List "to diagnose system problems. If you did not receive any error message, look for a description of your error symptoms in “Error Symptoms List” on Page 73.

NOTE: When you have deemed it necessary to replace an FRU, and have done so, you must run a total system check to ensure that no other activity has been affected by the change. This system check can be done through the diagnostics program.

NOTE: Check all power supply voltages, switch, and jumper settings before you replace the main board. Also check the power supply voltages if you have a “system no-power” condition.

If you are unable to correct the problem by using the “BIOS Messages List” table and “Error Symptoms List” table, go to “Undetermined Problems”.

To diagnose a problem, first find the BIOS error messages in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/FRU listed in right column is the most likely cause.

BIOS Messages	Action/FRU
BIOS ROM checksum error - System halted	The checksum of the BIOS code in the BIOS chip is incorrect, indicating the BIOS code may have become corrupt. Contact your system dealer to replace the BIOS.
CMOS Battery Failed	The CMOS battery is no longer functional. Contact your system dealer for a replacement the BIOS.
CMOS Checksum Error- defaults loaded	Checksum of CMOS is incorrect, so the system loads the default equipment configuration. A checksum error may indicate that CMOS has become corrupt. A weak battery may have caused this error. Check the battery and replace if necessary.
CPU at run	Displays the running speed of CPU.
Display switch is set incorrectly	The display switch on the motherboard can be set to either monochrome or color. This message indicates the switch is set to a different setting than indicated in Setup. Determine which setting is correct, and then either turn off the system and change the jumper, or enter Setup and change the Video selection.
Press ESC to skip memory test	The user may press Esc to skip the full memory test.
HARD DISK initializing - Please	Some hard drives require extra time to initialize.
HARD DISK INSTALL FAILURE	Cannot find or initialize the hard drive controller or the drive. Make sure the controller is installed correctly. If no hard drives are installed, be sure the Hard Drive Selection in Setup is set to NONE.
Hard disk(s) diagnosis fail	The system may run specific disk diagnostic routines. This message appears if one or more hard disks return an error when the diagnostics run.

BIOS Messages	Action/FRU
Keyboard Error Or No Keyboard Present	Cannot initialize the keyboard. Make sure the keyboard is attached correctly and no keys are pressed during POST. To purposely configure the system without a keyboard, set the error halt condition in Setup to HALT ON ALL, BUT KEYBOARD. The BIOS then ignores the missing keyboard during POST.
Keyboard is locked out - Unlock the key	This message usually indicates that one or more keys have been pressed during the keyboard tests. Be sure no objects are resting on the keyboard.
Memory Test:	This message displays during a full memory test, counting down the memory areas being tested.
Memory test fail	If POST detects an error during memory testing, additional information appears giving specifics about the type and location of the memory error.
Override enabled - Defaults loaded	If the system cannot boot using the current CMOS configuration, the BIOS can override the current configuration with a set of BIOS defaults designed for the most stable, minimal-performance system operations.
Press TAB to show POST screen	System OEMs may replace the Phoenix Technologies Award BIOS POST display with their own proprietary display. Including this message in the OEM display permits the operator to switch between the OEM display and the default POST display.
Primary master hard disk fail	POST detects an error in the primary master IDE hard drive.
Primary slave hard disk fail	POST detects an error in the secondary master IDE hard drive.
Secondary master hard disk fail	POST detects an error in the primary slave IDE hard drive.
Secondary slave hard disk fail	POST detects an error in the secondary slave IDE hard drive.

Error Symptoms List

NOTE: To diagnose a problem, first find the error symptom in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/ FRU listed in right column is the most likely cause.

Error Symptom	Action/FRU
Processor / Processor Fan	
NOTE: Normally, the processor fan should be operative, and the processor clock setting should be exactly set to match its speed requirement before diagnosing any processor problems.	
Processor fan does not run but power supply fan runs.	1. Ensure the system is not in power saving mode. See "Power Management" in chapter 2. 2. With the system power on, measure the voltage of processor fan connector. Its reading should be +12Vdc. Its reading should be +12Vdc. If the reading shows normal, but the fan still does not work, then replace a good fan. 3. Main board.
Processor test failed.	1. Processor. 2. Main board.
Main board and Memory	
NOTE: Ensure the memory modules are installed properly and the contact leads are clean before diagnosing any system problems.	
Memory test failed.	1. See "Memory" 2. Main board
Incorrect memory size shown or repeated during POST.	1. Insert the memory modules in the DIMM sockets properly, then reboot the system. 2. Memory module. 3. Main board.
System works but fails to enter power saving mode when the Power Management Mode is set to Enabled.	1. Enter BIOS Setup and load default settings. In Windows Systems, check settings in Power Management Property of Control Panel. 2. Reload software from Recovery CD.
Blinking cursor only; system does not work.	1. Diskette/IDE drive connection/cables 2. Diskette/IDE disk drives 3. See "Undetermined Problems". 4. Main board
Hard Disk Drive	
NOTE: Ensure hard disk drive is configured correctly in BIOS Setup, cable/jumper are set correctly before diagnosing any hard disk drive problems. (If only one drive is installed, please make sure the drive is connected to master connector or the drive is set to master.)	
Hard disk drive test failed.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive cable. 3. Hard disk drive. 4. Main board.
Hard disk drive cannot format completely.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive cable. 3. Hard disk drive. 4. Main board.
Hard disk drive has write error.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive.
Hard disk drive LED fails to light, but system operates normally.	1. With the system power on, measure the voltage of hard disk LED connector. 2. Hard drive LED cable.

Error Symptom	Action/FRU
ODD Drive	
NOTE: Ensure ODD drive is configured correctly in BIOS Setup, cable/jumper are set correctly and its laser beam is clean before diagnosing any ODD drive problems.	
ODD drive LED doesn't come on but works normally.	1. ODD drive
ODD drive LED flashes for more than 30 seconds before LED shutting off. Software asks to reinstall disc. Software displays a reading CD/DVD error.	1. ODD may have dirt or foreign material on it. Check with a known good disc. 2. ODD is not inserted properly. 3. ODD is damaged.
ODD drive cannot load or eject when the system is turned on and its eject button is pressed and held.	1. Disconnect all cables from ODD drive except power cable, then press eject button to try to unload the disk. 2. ODD drive power. 3. ODD drive
ODD drive does not read and there are no messages are displayed.	1. CD may have dirt or foreign material on it. Check with a known good disc. 2. Ensure the ODD driver is installed properly. 3. ODD drive.
ODD drive can play audio CD but no sound output.	1. Ensure the headphone jack of the ODD has an output. 2. Turn up the sound volume. 3. Speaker power/connection/cable. 4. ODD drive.
Real-Time Clock	
Real-time clock is inaccurate.	1. Ensure the information in the Standard CMOS Feature of BIOS Setup is set correctly. 2. RTC battery. 3. Main board
Audio	
Audio software program invokes but no sound comes from speakers.	1. Speaker power/connection/cable.
Modem	
Modem ring cannot wake up system from suspend mode.	1. For the External Modem, make sure Power on By Ring in BIOS Setup or Power Management is set to Enabled. For the PCI modem, make sure Wake up by PCI card is set to Enabled. 2. If PCI modem card is used, reinsert the modem card to PCI slot firmly or replace the modem card. 3. In Win 98, ensure the telephone application is configured correctly for your modem and set to receive messages and/or fax.
Data/fax modem software program invokes but cannot receive/send data/ fax	1. Ensure the modem card is installed properly.
Fax/voice modem software program invokes but has no sound output. (Data files are received normally; voice from modem cannot be produced, but system sound feature works normally.)	1. Ensure the modem voice-in cable from modem adapter card to main board

Error Symptom	Action/FRU
Video and Monitor	
Video memory test failed. Video adapter failed.	1. Remove all non-factory-installed cards. 2. Load default settings (if screen is readable). 3. Main board
Display problem: - Incorrect colors No high intensity Missing, broken, or incorrect characters Blank monitor (dark) Blank monitor (bright) Distorted image Unreadable monitor Other monitor problems	1. Monitor signal connection/cable. 2. Monitor 3. Video adapter card 4. Main board
Display changing colors.	1. Monitor signal connection/cable 2. Monitor 3. Main board
Display problem not listed above (including blank or illegible monitor).	1. “Monitor" 2. Load default settings (if screen is readable). 3. Main board
Parallel/Serial Ports	
Execute “Load BIOS Default Settings” in BIOS Setup to confirm ports presence before diagnosing any parallel/serial ports problems.	
Serial or parallel port loop-back test failed.	1. Make sure that the LPT# or COM# you test is the same as the setting in BIOS Setup. 2. Loop-back. 3. Main board.
Printing failed.	1. Ensure the printer driver is properly installed. Refer to the printer service manual. 2. Printer. 3. Printer cable. 4. Main board.
Printer problems.	1. Refer to the service manual for the printer.
Keyboard	
Some or all keys on keyboard do not work.	1. Keyboard
Power Supply	
Pressing power switch does not turn off system. (Only unplugging the power cord from electrical outlet can turn off the system.)	1. Ensure the Soft-off by PWR-BTTN. in BIOS Setup of Power Management is not set to Instant-off. 2. Power switch cable assembly
Pressing power switch does not turn on the system.	1. Ensure the power override switch (situated at the back of the machine, just above the connector for the power cable) is not set to OFF. 2. Power switch cable assembly.

Error Symptom	Action/FRU
Executing software shutdown from Windows7/10 Start menu does not turn off the system. (Only pressing power switch can turn off the system).	1. Load default settings. 2. Reload software from Recovery CD.
No system power, or power supply fan is not running.	1. Power Supply 2. Main board
Other Problems	
Any other problems.	1. Undetermined Problems

Undetermined Problems

If an error message is present, go to “POST Error Messages List” on Page71. If you did not receive any messages , if the symptom is listed in “or “Error Symptoms List” on Page73. If you still cannot solve the problem, continue with this check:

1. Check the power supply voltages. If the voltages are correct continue with the following steps:
2. Power off the system unit.
3. Perform the following checks, one by one, until you have isolated the problem FRU.
4. Load default settings in setup.
5. Check all main board jumper positions and switch settings.
6. Check all adapter card jumper positions.
7. Check all device jumper positions.
8. Check all cables and connectors for proper installation.
9. If the jumpers, switches and voltage settings are correct, remove or disconnect the following, one at a time.
10. Non-Acer devices
    - External devices
    - Any adapter card (modem card, LAN card or video card, if installed)
    - ODD drive
    - Hard disk drive
    - DIMM
    - Processor
    - Main board
11. Power on the system unit.
12. Repeat steps 2 through 5 until you find the failing device or adapter.

Jumper and Connector Information

Safety Precautions

- Follow these safety precautions when installing the motherboard
- Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- Leave components in the static-proof bags they came in
- Hold all circuit boards by the edges. Do not bend circuit boards

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the DTX system case. Some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required. Make sure that your case has sufficient power and space for all drives that you intend to install.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

This motherboard carries an DTX form factor of 200 X 321 mm. Choose a case that accommodates this form factor.

Installing the Motherboard in a Case

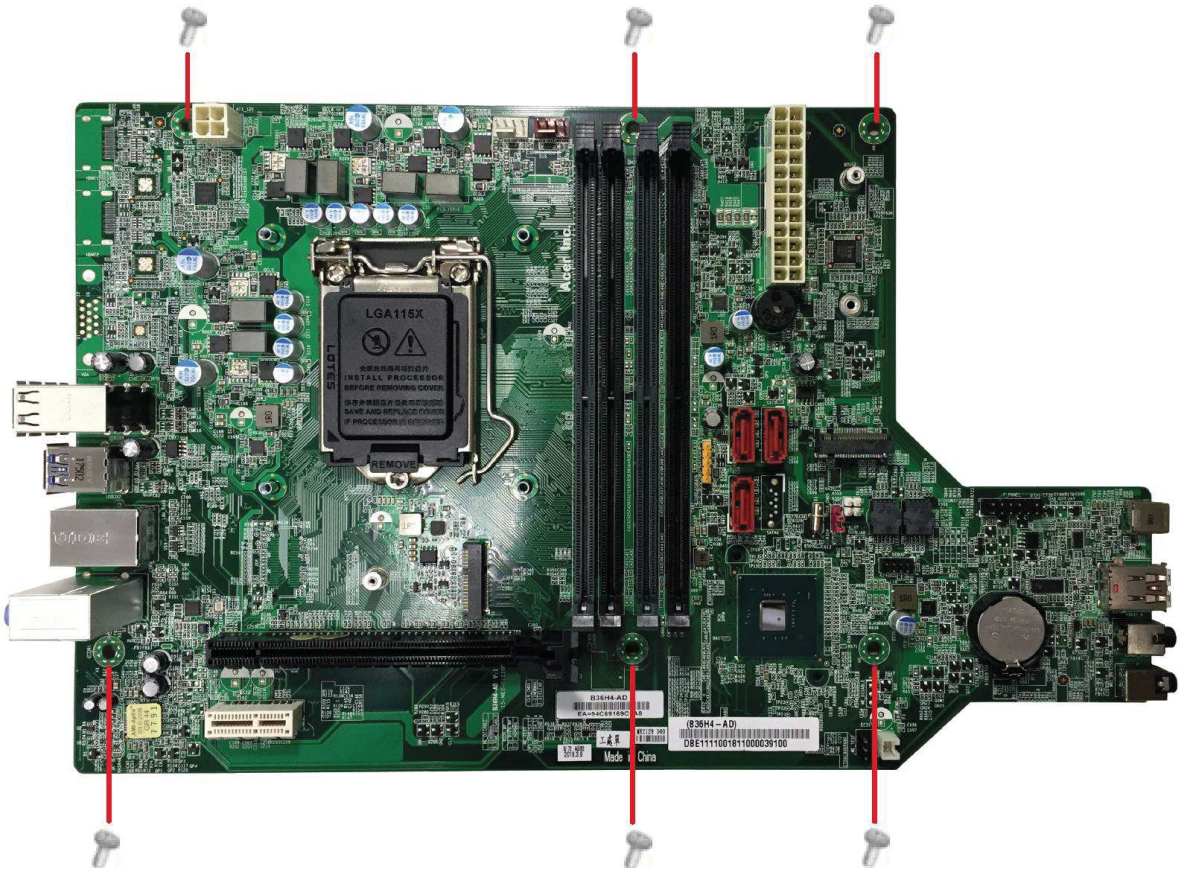
Refer to the following illustration and instructions for installing the motherboard in a case.

Most system cases have mounting brackets installed in the case, which correspond the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.

Checking Jumper Settings

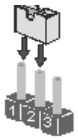
This section explains how to set jumpers for correct configuration of the motherboard.



Do not over-tighten the screws as this can stress the motherboard.

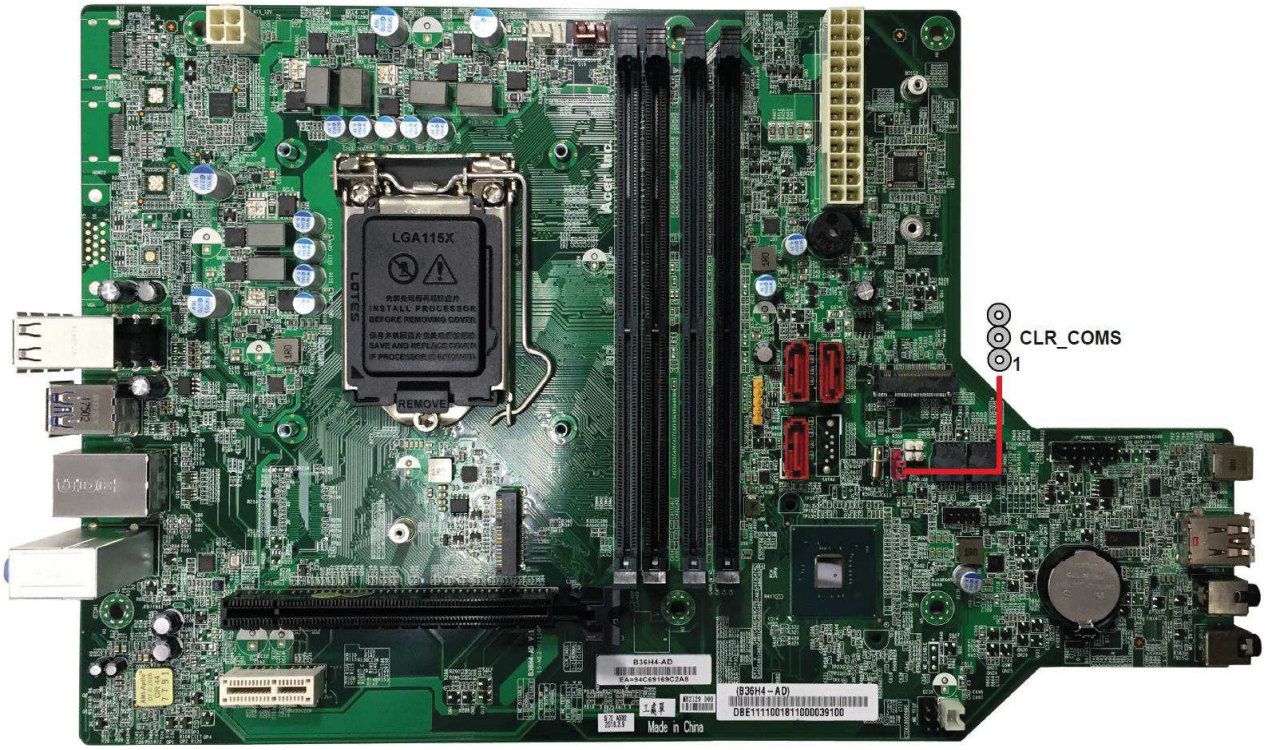
Setting Jumpers

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

Description	illustration
The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.	 SHORT OPEN
This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT	

Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.



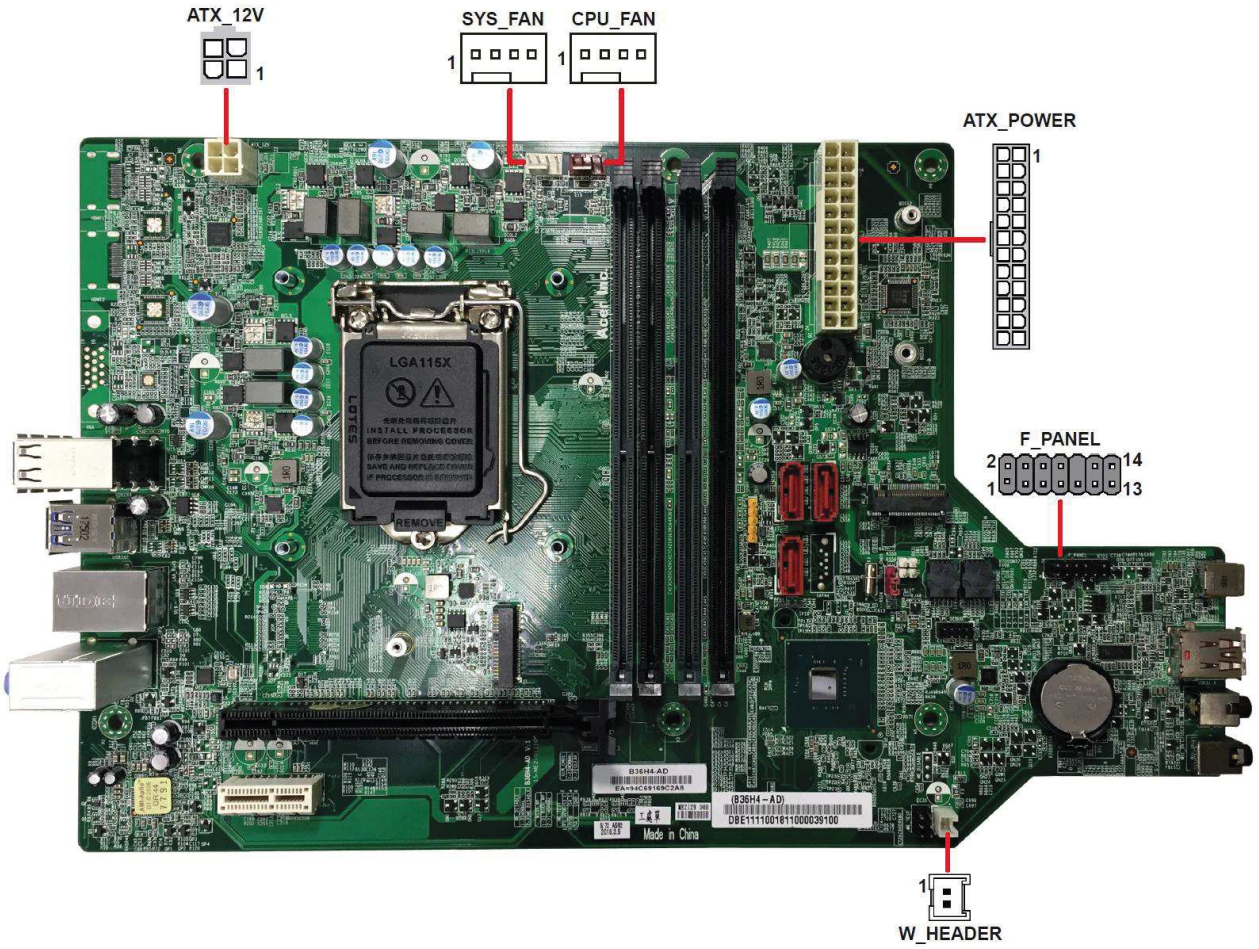
Jumper Settings

Jumper	Type	Description	Setting (Default)	Illustration
CLEAR_CMOS	3-pin	Clear CMOS	1-2: NORMAL. 2-3: CLEAR. Before clearing the CMOS, make sure to turn off the system.	1  CLEAR_CMOS

To avoid the system instability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Default Settings" and then "Save and Exit Setup".

Connecting Case Components

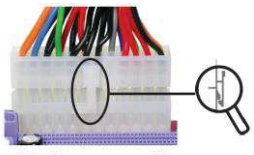
After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:



1. Connect the CPU cooling fan cable to **CPU_FAN**.
2. Connect the standard power supply connector to **ATX_POWER**.
3. Connect the auxiliary case power supply connector to **ATX_12V**.
4. Connect the system cooling fan connector to **SYS_FAN**.
5. Connect the case switches and indicator LEDs to **F_PANEL**.
6. Connect the case wireless power cable to **W_HEADER**.

Connecting 24-pin power cable

The ATX 24-pin connector allows you to connect to ATX v2.x power supply.

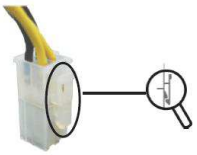


24-pin power cable

With ATX v2.x power supply, users please note that when installing 24-pin power cable, the latches of power cable and the ATX POWER match perfectly.

Connecting 4-pin power cable

The ATX_12V power connector is used to provide power to the CPU.



4-pin power cable

When installing 4-pin power cable, the latches of power cable and the ATX_12V match perfectly.

CPU_FAN: CPU cooling FAN Connectors

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	CONTROL	CONTROL

Users please note that the fan connector supports the CPU cooling fan of 1.1A ~ 2.2A (26.4W max) at +12V.

SYS_FAN: System Cooling FAN Connector

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	CONTROL	CONTROL

ATX_POWER: ATX 24-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	PWROK	20	-5V
9	+5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	GND

ATX_12V: ATX 12V Power Connector

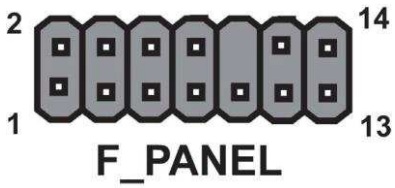
Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

W_HEADER: Wireless Charger Header

Pin	Signal Name
1	VCC
2	GND

Front Panel Header

The front panel header (F_PANEL) provides a standard set of switch and LED headers commonly found on ATX or Micro ATX cases. Refer to the table below for information:



Pin	Signal	Function	Pin	Signal	Function
1	VCC	5V	2	GLED0	MSG LED
3	HDD_LED	Hard disk LED	4	GLED1	MSG LED
5	GND	Ground	6	PWRSW	POWER SWITCH
7	HWRST_L	Reset	8	GND	GROUND
9	F_PANEL_DET	FRONT PANEL DETECT	10	KEY	NO PIN
11	+5VSB	5V	12	VCC	5V
13	NC	Reserved	14	F_PANEL_LED	FRONT PANEL LED

*MSG LED (dual color or single color)

The following for integration plug structure connector.

Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

Power/Sleep/Message waiting LED

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

Reset Switch

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

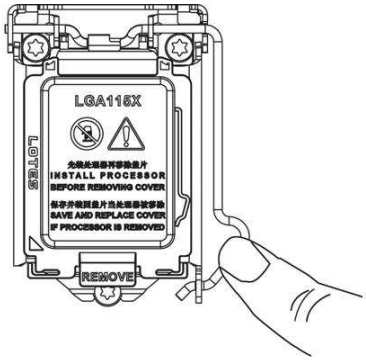
LAN LED

Connecting pins 12 and 14 to a LAN LED provides visual indication that data is being read from or written to the LAN drive.

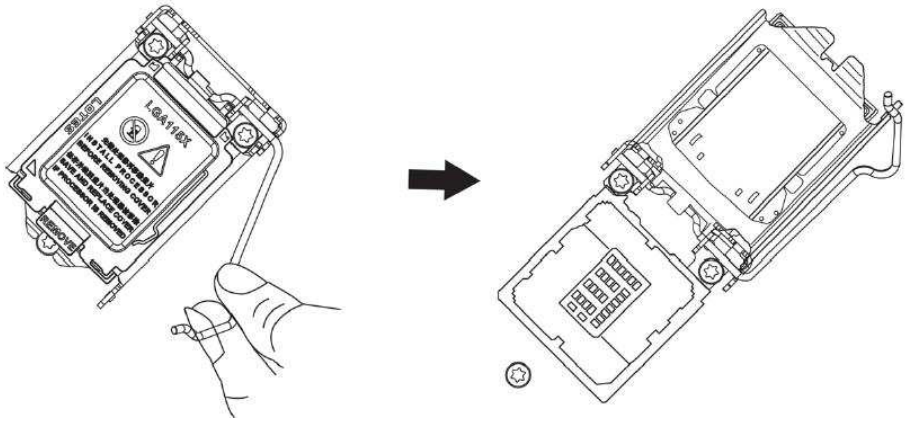
CPU Installation Procedure

The following illustration shows CPU installation components.

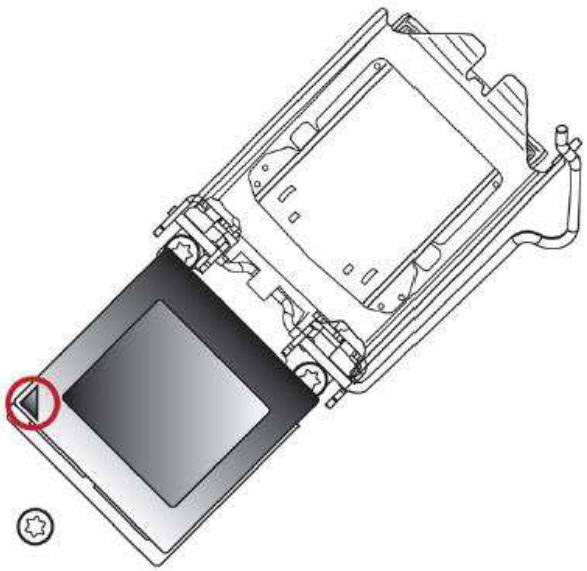
A. Press the hook of lever down with your thumb and pull it to the right side to release it from retention tab.



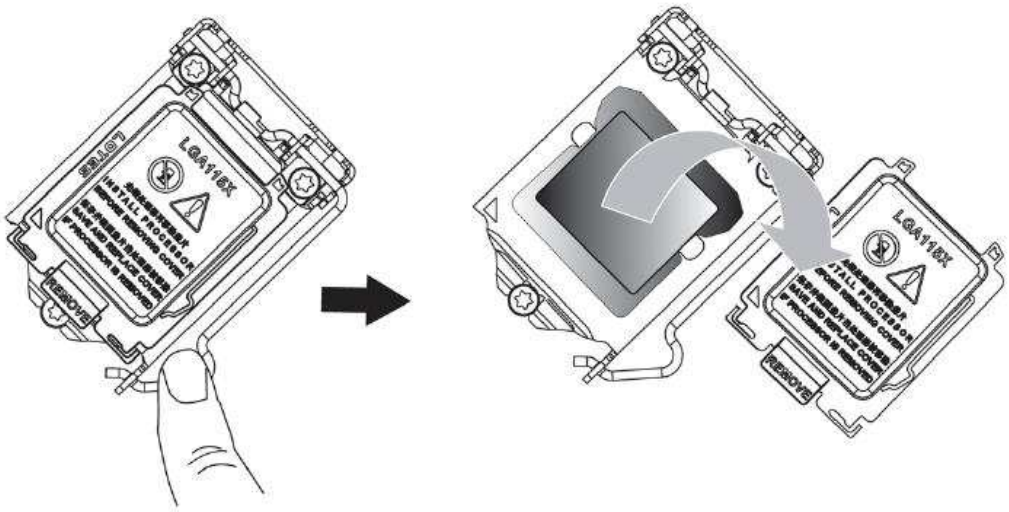
B. Lift the tail of the load lever and rotate the load plate to fully open position.



C. Grasp the edge of the package substrate. Make sure pin 1 indicator is on your bottom-left side. Aim at the socket and place the package

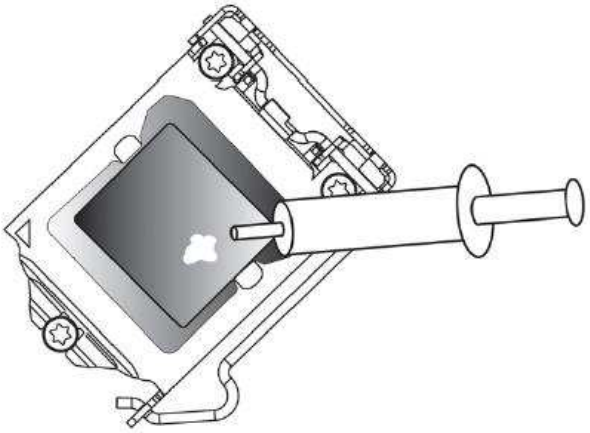


D. Rotate the load plate onto the package IHS (Intergraded Heat Spreader). Engage the load lever while pressing down lightly onto the load plate. Secure the load lever with the hook under retention tab. Then the cover will flick automatically.

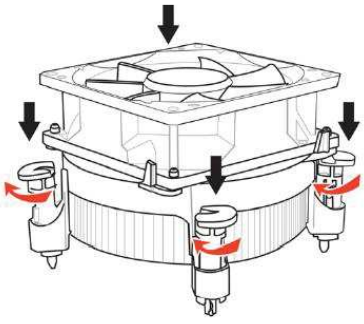


Please save and replace the cover onto the CPU socket if processor is removed.

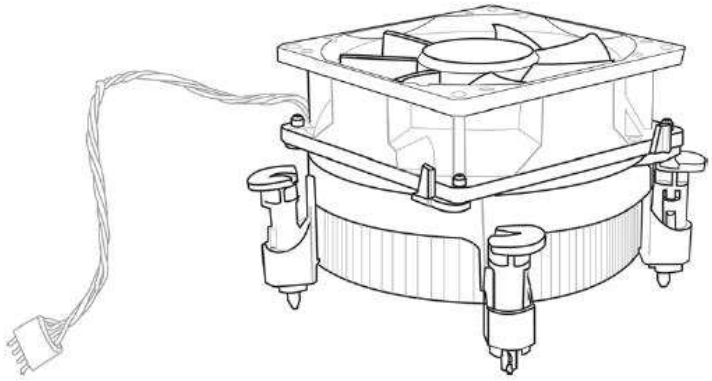
E. Apply some thermal grease onto the contacted area between the heat sink and the CPU, and make it to be a thin layer



F. Fasten the cooling fan supporting base onto the CPU socket on the motherboard. And make sure the CPU fan is plugged to the CPU fan connector.



G. Connect the CPU cooler power connector to the CPU_FAN connector.



1. To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heat sink installation procedures may vary with the type of CPU fan/heat sink supplied. The form and size of fan/heat sink may also vary.
2. DO NOT remove the CPU cap from the socket before installing a CPU.
3. Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with the cap on the LGA1151 socket.

Installing Memory Modules

This motherboard accommodates four memory modules. It can support four 288-pin DDR4 2666/2400MHz. The total memory capacity is 64GB.

DDR4 SDRAM memory module table

Memory module	Frequency
DDR4	2400 MHz
DDR4	2666 MHz

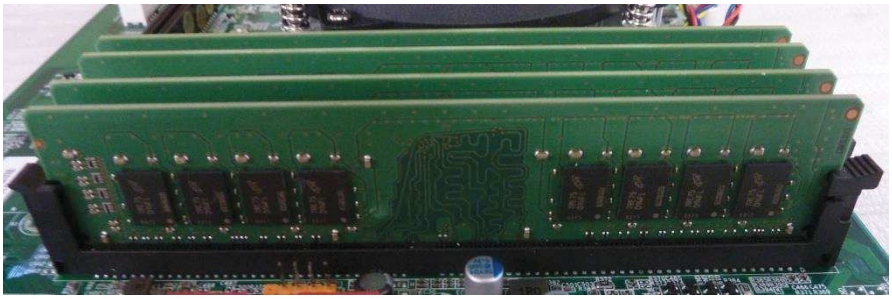
You must install at least one module in any of the four slots.

Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Installation Procedure

Refer to the following to install the memory modules.

1. This motherboard supports un-buffered DDR4 SDRAM.
2. Push the latches on each side of the DIMM slot down.
3. Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
4. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
5. Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
6. Install any remaining DIMM modules.



** For reference only*

Installing a SATA Hard Drive

This section describes how to install a SATA Hard Drive.

About SATA Connectors

Your motherboard features three SATA connectors supporting a total of three drives.SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard and follow the illustration below to install the SATA hard drives.

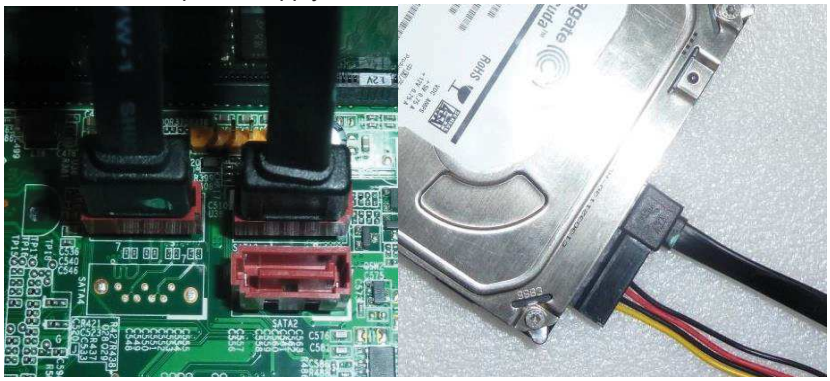
Installing Serial ATA Hard Drives

To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with a SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connector on the motherboard.

SATA cable (optional)

Refer to the illustration below for proper installation:

1. Attach either cable end to the connector on the motherboard.
2. Attach the other cable end to the SATA hard drive.
3. Attach the SATA power cable to the SATA hard drive and connect the other end to the power supply.

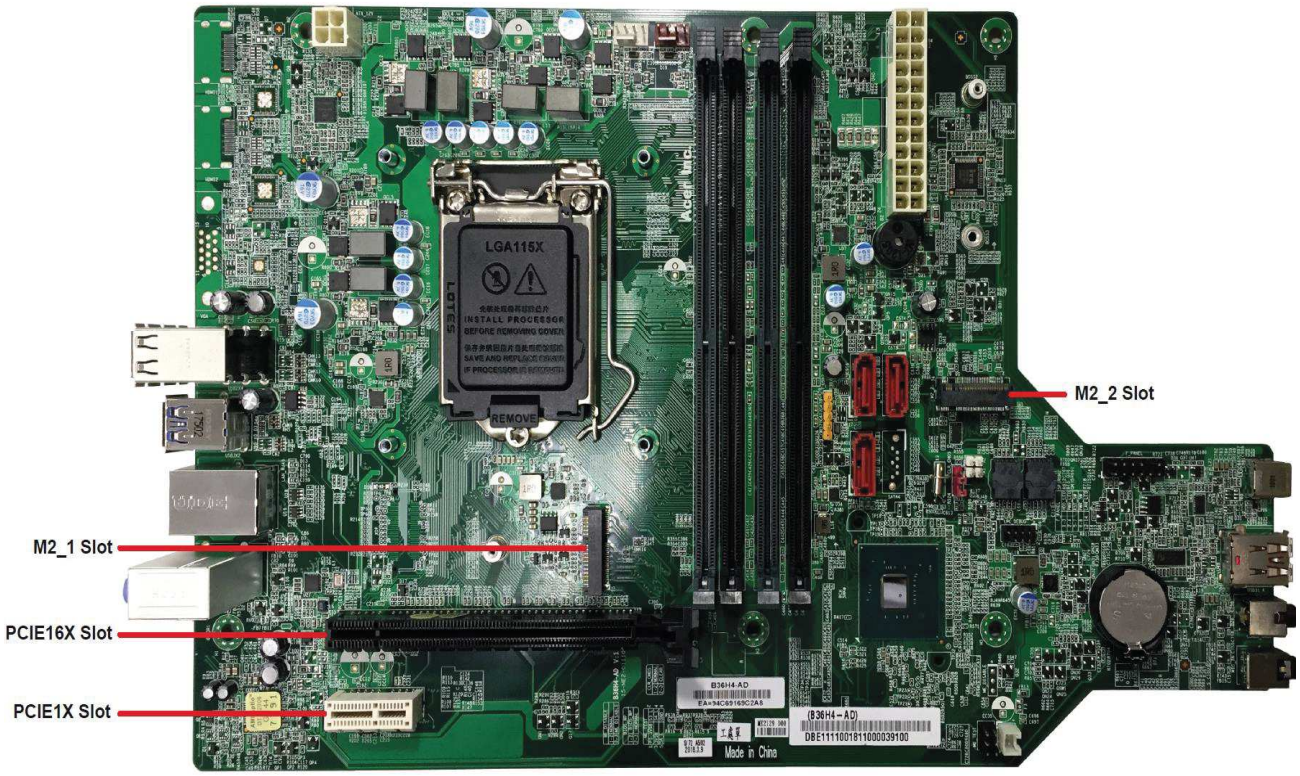


** For reference only*

This motherboard support the "Hot-Plug" function.

Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.



M2_1 Slot The M.2 (Key E, 2230/1630) slot is for the WLAN/Bluetooth module.

PCIE16X Slot The PCI Express x16 slot is used to install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specification revision 3.0.

PCIE1X Slot The PCI Express x1 slot is fully compliant to the PCI Express Base Specification revision 3.0.

M2_2 Slot The M.2 (NGFF) (Key M, 2280/2242) slot is for SATA SSD or PCIE SSD and Intel Optane memory.

Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

Follow these instructions to install an add-on card:

1. Remove a blanking plate from the system case corresponding to the slot you are going to use.
2. Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
3. Secure the metal bracket of the card to the system case with a screw.

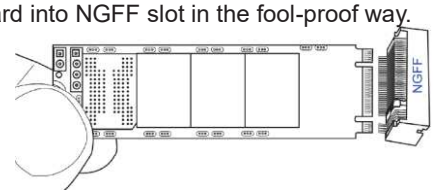
** For reference only*

For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.

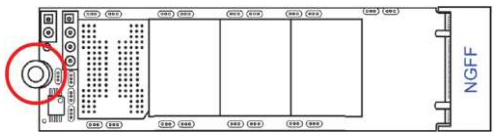
Follow these instructions to install the M.2 SSD card:

1. Demount the screw not used according to the length of your M.2 SSD card.

2. Insert the M.2 SSD card into NGFF slot in the fool-proof way.



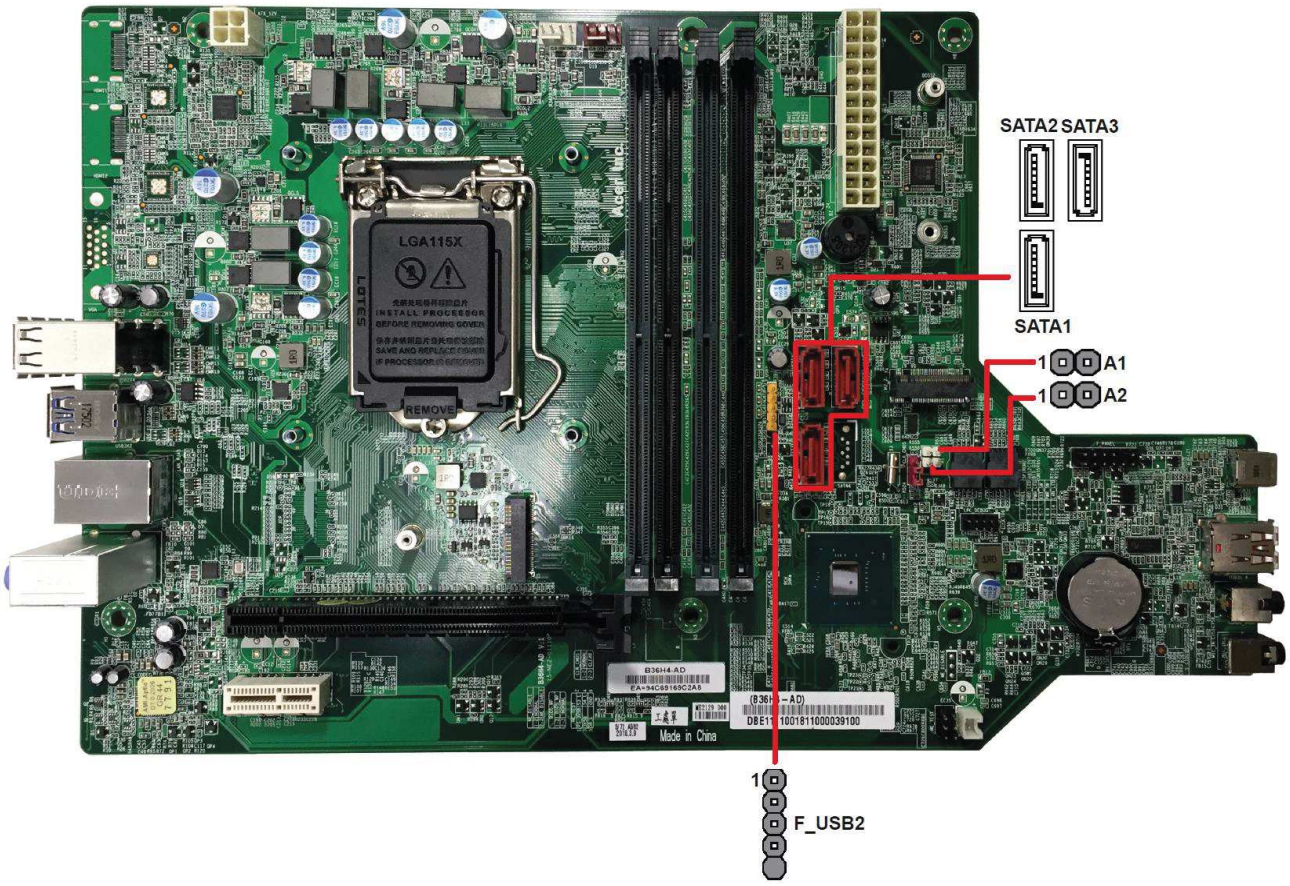
3. Lock the screw as the following picture shows to make sure the M.2 SSD card is installed in place.



For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



SATA 1~3: Serial ATA connectors

SATA1~3 connectors are used to support the Serial ATA 6Gb/s devices, simpler disk drive cabling and easier PC assembly.

Pin	Signal Name	Pin	Signal Name
1	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground	-	-

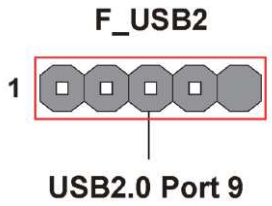
A1~2: 2-pin GPIO Headers

Pin	Signal Name
1	GPIO
2	GND

F_USB2: Front Panel USB 2.0 Header

The onboard F_USB2 header delegate for card reader, it supports add optional one USB 2.0 port.

Pin	Signal Name	Function
1	USBPWR	Front Panel USB Power
2	DATA9-	USB Port9 Negative Signal
3	DATA9+	USB Port9 Positive Signal
4	GND	Ground
5	NC	No connected



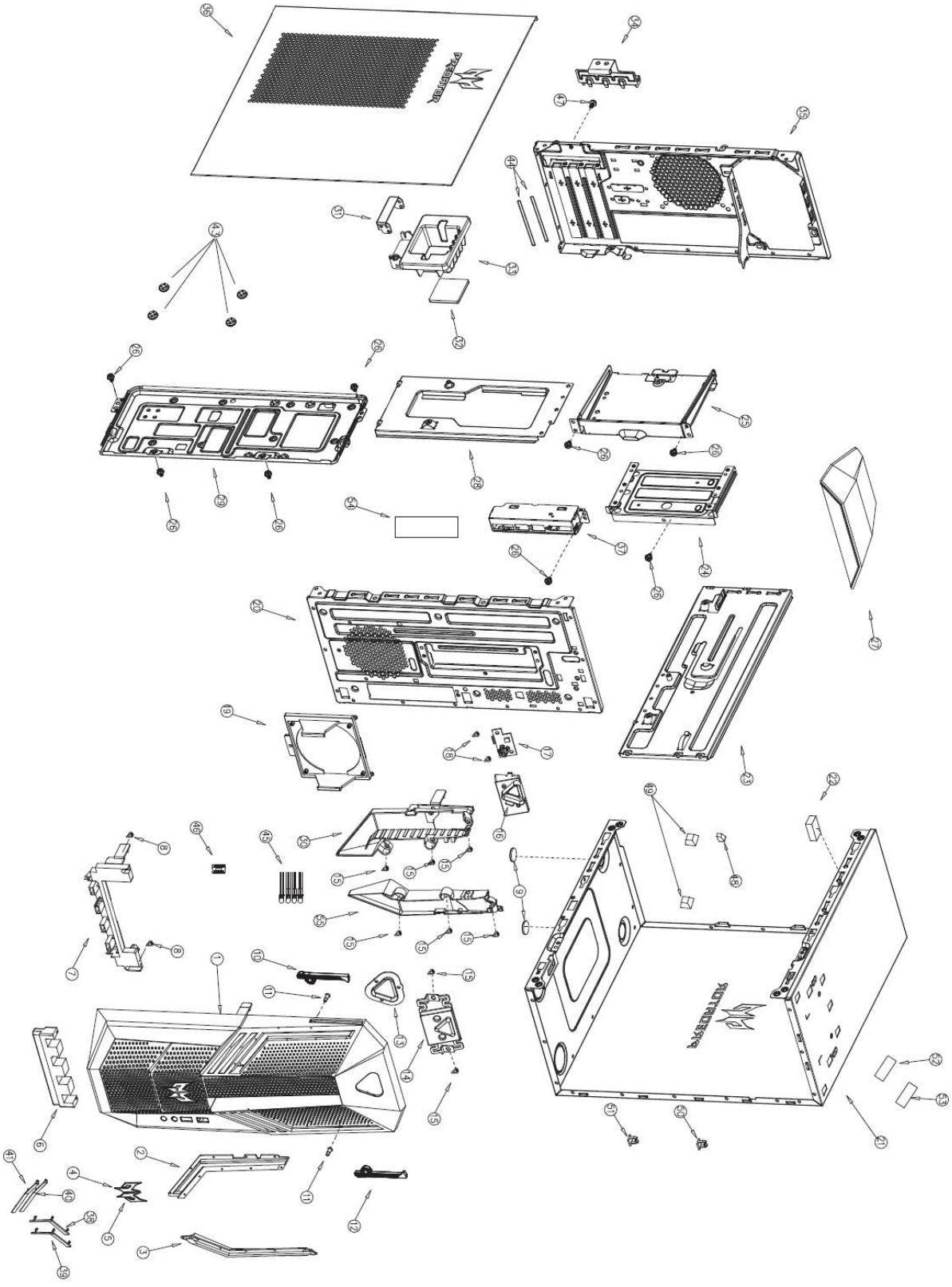
Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.

FRU (Field Replaceable Unit) List

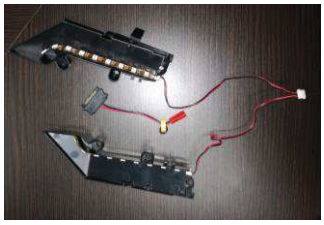
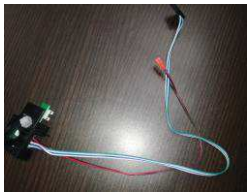
Exploded Diagram

Item	Description	Item	Description
1	Front Bezel	26	Screw #6-32*5mm
2	LED Lens Left	27	Top Cover
3	LED Lens Right	28	MB Bracket down
4	PREDATOR Logo Left	29	HDD Bracket
5	PREDATOR Logo Right	30	LED Holder Left
6	Front Bezel Rubber	31	G6 VGA Bracket
7	Front Bezel hook	32	VGA Rubber
8	Screw F3*8	33	VGA Holder
9	Rubber Foot 15.8*2mm	34	PCI Cover
10	Left ear	35	Rear Chassis
11	Screw M3	36	Side Cover L
12	Right ear	37	FIO Bracket
13	Power Button Deco	38	Deco Right up
14	Power Button	39	Deco Right down
15	Screw	40	Deco Left up
16	Power switch Holder	41	Deco Left down
17	Power switch cable	43	HDD Rubber
18	Screw	44	EMI gasket 105*6*0.5mm
19	Fan Holder	45	Front Led cable
20	Front Chassis	46	Led Power cable
21	Chassis Base	47	Screw#6-32*5mm
22	PSU Rubber	48	MB Rubber 11*11*13mm
23	MB Bracket up	49	MB Rubber 7*4.5*6mm
24	ODD Bracket down	50	Cable Clip-1
25	ODD Bracket up	51	Cable Clip-2

Item	Description	Item	Description
52	Antenna Cable Left	54	USB Mylar
53	Antenna Cable Right	55	LED Holder Right

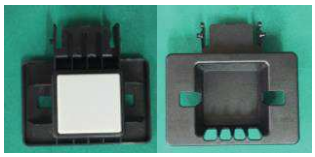


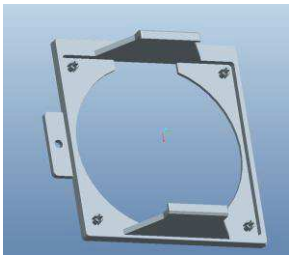
FRU List

CATEGORY	PARTNAME	ACER or ECS PART NO.
CASE/COVER/BRACKET ASSEMBLY		
	CASE-M...(BUY-ACER)...PO3-600_E.BLACK..... W/O PSU,PANEL.CABLE...LEAD-FREE.3NOD	20-502-132201
	PANEL..(BUY-ACER).BLACK.FRONT.W/ODD BEZEL.ODD DUMMY BEZEL....PO3-600_E..... LEAD-FREE.3NOD	30-520-132411
	LED SET...(BUY-ACER).W/CABLE,BAR..FRONT PANEL.PO3-600_E....LEAD-FREE.3NOD	13-120-132000
	STEADY..(BUY-ACER)..HEADSET.....PO3-600_E. LEAD-FREE.3NOD	30-700-132031
	POWER SWITCH BOARD.....(BUY-ACER)..... W/HOLDER.....LEAD-FREE.PO3-600_E.	88-131-132000

CATEGORY	PARTNAME	ACER or ECS PART NO.
	LED SET...(BUY-ACER).W/CABLE,BAR..FRONT PANEL.PO3-600_E....LEAD-FREE.3NOD	13-130-132020
	ANTENNA SET...WLAN..(BUY-ACER)..W/CABLE.. WHITE.PO3-600_E....LEAD-FREE.3NOD	13-130-132021
	BRACKET.SGCC.(BUY-ACER)..ODD...T0.6mm.. VES2710G.....LEAD-FREE(RoHS).3NOD	20-060-208021
	BRACKET.ABS+PC.(BUY-ACER).BLACK.ODD..... VES2710G.....LEAD-FREE.3NOD	30-670-208021
CABLE		
	COOLER..(BUY-ACER).12V.3800rpm..0P105477. CPU.L250mm(4P).....DC.10811.016..LEAD-FREE (RoHS/HF).AURAS	DC.10811.016

CATEGORY	PARTNAME	ACER or ECS PART NO.
	COOLER..(BUY-ACER).12V.4700rpm.. DEL-00095-R3-GP2.CPU.92*92*45.4mm L250mm(4P).....DC.10811.012..LEAD-FREE (RoHS).COOLER MASTER	DC.10811.012
CABLE		
	CABLE.SATA..7P(F)+7P(F)(90D)..L150mm.... P01-0701500013.....LEAD-FREE.HJX	50.E0HD3.001
	CABLE.FAN..4P(F)+4P*2...L50/50mm..... PO3-600_E.B041157R....LEAD-FREE.KIM WELL	14-213-132000
	CABLE.FAN..4P(F)+4P*2...L50/50mm..... PO3-600_E.GWH7854....LEAD-FREE.VSO	14-213-132001
MAINBOARD		
	M/B 1151.B36H4-AD(1.1)...(INTEL B360/ALC662). HD 6CH.GIGA LAN(SURGE/8118AS)..W/SATA3 /USB3.0/WHLK.....(OSP)..FOR ACER(SYS). DB.E1111.001...BEE...LEAD-FREE	DB.E1111.001
CPU		
	IC CPU.COFFEELAKE-S I7-3.2G U0.(BUY-ACER). LGA 1151P.3200MHz..6 CORES..TDP=65W.. 41.6GB/S.12M..(I7-8700).QNML...KC.87A01.CI7. HF.LEAD-FREE.INTEL	KC.87A01.CI7
SYSTEM FAN		
	FAN SET..12V DC.(BUY-ACER).80*80*25.4mm L125mm(4P).4500rpm.FA08025M12LPA. W/CABLE...DC.10911.007...LEAD-FREE.COOLER MASTER	DC.10911.007
	FAN SET..12V DC..80*80*25mm L300mm(4P). 4000rpm.H200032240-01-GP2.W/CABLE..... LEAD-FREE.COOLER MASTER	13-050-003802

CATEGORY	PARTNAME	ACER or ECS PART NO.
BOARD		
	VGA CARD.GEFORCE GTX 1060.6GB GDDR5. 192B.8008MHz.(BUY-ACER).HDMI+DVI-I+DP*3. (86.06.68.00.A6).120W.192.2GB/S.W/ATX BKT. ASPM.288-1N438-X01A8.DA.10611.004... LEAD-FREE.PCPARTNER	DA.10611.004
	VGA CARD.GEFORCE GTX 1070.8GB GDDR5. 256B.8008MHz.(BUY-ACER).HDMI+DVI-D+DP*3. (86.04.50.00.XX).150W.256.3GB/S.W/ATX BKT. ASPM.288-1N445-X01A8.DA.10711.005... LEAD-FREE.PCPARTNER	DA.10711.005
MEMORY		
	IC SDRAM MODULE.8G.(1G*8*8).(BUY-ACER). FBGA.D9WFL.DDR4.2666MHz.MTA8ATF1G64AZ-2G6E1...KN.8GB04.029.HF.LEAD-FREE.MICRON	KN.8GB04.029
	C SDRAM MODULE.16G.(1G*8*16).(BUY-ACER). FBGA.D9WFL.DDR4.2666MHz.MTA16ATF2G64AZ-2G6E1...KN.16G04.011.HF.LEAD-FREE. MICRON	KN.16G04.011
MISCELLANEOUS		
	COVER.ABS..BLACK.USB TYPE C....R2.. TC-885_E.....LEAD-FREE.EVERCAMEL	47.E0HD3.002
	HOLDER.ABS.(BUY-ACER).BLACK.VGA..... N50-600_E.....LEAD-FREE.3NOD	47.E0HD3.007
	GASKET.....10*10*60mm.....LEAD-FREE. SUNPNS	47.E0HD3.005
	GASKET.....10*10*60mm.....LEAD-FREE.HT	47.E0HD3.005
	PAD.THERMAL..BLUE.M.2 SSD...20*30*7mm.. TIF1280-32-05S.....HF.LEAD-FREE.ZIITEK	47.E0HD3.008

CATEGORY	PARTNAME	ACER or ECS PART NO.
	HOLDER.ABS.(BUY-ACER).TRANSPARENT. SYS FAN.....PO3-600_E.....LEAD-FREE.3NOD	30-121-132021
POWER SUPPLY		
	POWER.500W.100-127/220-240V~10/5A 50-60Hz ..PS-7501-5AF.(BUY-ACER).W/SAFETY(2000M). ES...BRONZE,LOT 6 2013..DC.5001B.004.. LEAD-FREE.LITEON	DC.5001B.004
POWER CORD		
 	POWER CORD.H05VV-F.(A12-0009-AC2 /A12-0012-AC2)..10A.250V.BLACK.L1800mm.. EUR..AC-1101065-X3....LEAD-FREE(RoHS). LUXSHARE	27.U050A.001
	POWER CORD.H05VV-F 3G.(SP023/IS14).. 10A.250V..L1800mm..EUR.....LEAD-FREE(RoHS). I-SHENG	27.U050A.001
	POWER CORD..(SP-305/IS-14)..10A.125V. BLACK.1800mm.UL CSA.US.....LEAD-FREE (RoHS).I-SHENG	27.NA20A.001
	POWER CORD.SVT-VW-1.(A12-0014-AC2 /A12-0017-AC2)..10A.125V.BLACK.L1800mm. UL/CSA.US..L43AC003-R....LEAD-FREE(RoHS). LUXSHARE	27.VPYD3.003
	POWER CORD.H05VV-F.(SP-502B/IS-14)..10A. 250V.BLACK.L1830mm..AUSTRALIA.. V546B301612186301....LEAD-FREE.I-SHENG	27.X0TD3.001
	POWER CORD.H05VV-F.(SP502B/IS14)..10A. 250V.BLACK.L1830mm..AUST.....LEAD-FREE (RoHS).I-SHENG	27.X0TD3.001

CATEGORY	PARTNAME	ACER or ECS PART NO.
HDD/HARD DISK DRIVE		
	SSD...128GB..(BUY-ACER)..SATA III..(SBFK60B9) ...LPM..RBU-SNS8180S3/128GI.KN.12807.024.. M.2(2280).IDLE=0.02W..LEAD-FREE(RoHS/HF).. KINGSTON	KN.12807.024
	SSD.TLC..256GB..(BUY-ACER)..PCI-E.. (PSF109C)...LPM..SSDPEKKW256G7.KN.2560N. 002..M.2(2280)..HF.LEAD-FREE..INTEL	KN.2560N.002
	HDD.1TB.3.5.(BUY-ACER).7200rpm.DT01ACA100 .(8K0)..SATA III.IDLE=3.7W.4096 BYTES...LPM.. KH.01K04.010...LEAD-FREE(RoHS).TOSHIBA	KH.01K04.010
	HDD.2TB.3.5.(BUY-ACER).7200rpm.DT01ACA200 .(BS0)..SATA III.IDLE=5.2W.4096 BYTES...LPM.. KH.02K04.002...LEAD-FREE(RoHS).TOSHIBA	KH.02K04.002
DVD RW DRIVE		
	DVD-RW PLDS DVD-RW 9.0mm Tray 8X DA-8AESH LF+HF W/O bezel F/W: XA1M SATA	KO.0080F.013
WIRELESS LAN		
	WLAN CARD.9560NGW....(BUY-ACER)..PCI/USB ...W/BLUETOOTH(V5.0),2T*2R.802.11a/b/g/n/ac. ASPM..9560.NGWG.NV.KE.11A0N.010..M.2(2230) ..HF.LEAD-FREE..INTEL	KE.11A0N.010
	WLAN CARD.9462NGW....(BUY-ACER)..PCI/USB ...W/BLUETOOTH(V5.0),1T*1R.802.11a/b/g/n/ac. ASPM..9462.NGWG.NV.KE.11A0N.012..M.2(2230) ..HF.LEAD-FREE..INTEL	KE.11A0N.012
KB KIT		
	KB/MOUSE.THAILAND..SK-9627.((BUY-ACER). BLUE.BOX(554.5*229.5*46.5mm).W/PREDATOR LOGO.USB.W/WIN10 ICON....LEAD-FREE. LITEON	DK.USB1B.0ET

CATEGORY	PARTNAME	ACER or ECS PART NO.
	KB/MOUSE.US..SK-9627.(BUY-ACER).BLUE. BOX(554.5*229.5*46.5mm).W/PREDATOR LOGO. USB.W/WIN10 ICON....LEAD-FREE.LITEON	DK.USB1B.0ES
SCREW		
	SCREW.I.H.M2*0.4*3.0mm D4.8 H1....SWRCH18A.NI.....LEAD-FREE(RoHS/HF).. GREAT GOLD	86.VMSD3.001
	SCREW.I.H.M2*0.4*5mm D4 H1.4.....NI..... LEAD-FREE(RoHS/HF)..GREAT GOLD	86.VQED3.001
	SCREW.I.H UNC.#6-32*3.5mm D8 H1.2/d4.4 h4 .....NI..LADDER....LEAD-FREE(RoHS)..GUO KUN	86.F5LD3.001
	SCREW.I.H UNC.#6-32*3.5mm D8 H1.2/d4.4 h4.....NI..LADDER....LEAD-FREE(RoHS/HF)..GRE AT GOLD	86.F5LD3.001
	SCREW.H.H UNC.#6-32*5mm D8 H3.....NI.. W/FL....LEAD-FREE(RoHS)..GUO KUN	86.VKBD3.002
	SCREW.H.H UNC.#6-32*5mm D8 H2.7.....NI.. W/FL....LEAD-FREE(RoHS)..GREAT GOLD	86.VKBD3.001
	SCREW.H.H.#6-32*5mm D8 H2.7...(BUY-ACER).. BLACK ZN.....LEAD-FREE..3NOD	86.F4TD3.001
	SCREW.F.H.T4.8*8.8mmm D6.2 H1.2.....ZN..... LEAD-FREE(RoHS)..GREATWALL	22-111-488800