Chapter 1

Features and Specifications

This chapter lists the features and specifications of the Aspire C24-320 AIO Computer.

NOTE The items listed in this section are for reference only. The exact configuration of your PC depends on the model purchased.

System Features

Component	Description
Operating system support	• Microsoft Windows 10 Home ML x64 • Microsoft Windows 10 Home SL x64 • Microsoft Windows 10 Home CN x64 • Endless OS
Processor	• FT4 BGA • Supports the following AMD Stoney Ridge processors: – AMD A9-9425 3.1G 1M 2133 Dual Core 15W – AMD A6-9225 2.6G 1M 2133 Dual Core 15W
Chipset	Integrated in the AMD Stoney Ridge processors
Graphics controller	AMD Radeon R5 HD Graphics
Hardware monitor	Super I/O
Memory	Support DDR4 1.2V 2133MHz SODIMMs (4GB or 8GB) single channel up to 8GB total memory
Expansion options	Two M.2 slots
Display	• 23.8” WLED backlight LCD Panel • Dual independent display support • Internal resolutions and refresh rate supported: - 800 x 600 @ 60Hz 16:9 - 1024 x 768 @ 60Hz 16:9 - 1152 x 864 @ 60Hz 16:9 - 1280 x 600 @ 60Hz 16:9 - 1280 x 720 @ 60Hz 16:9 - 1280 x 768 @ 60Hz 16:9 - 1280 x 800 @ 60Hz 16:9 - 1280 x 960 @ 60Hz 16:9 - 1280 x 1024 @ 60Hz 16:9 - 1360 x 768 @ 60Hz 16:9 - 1366 x 768 @ 60Hz 16:9 - 1400 x 1050 @ 60Hz 16:9 - 1440 x 900 @ 60Hz 16:9 - 1600 x 900 @ 60Hz 16:9 - 1680 x 1050 @ 60Hz 16:9 - 1920 x 1080 @ 60Hz 16:9 • External resolutions supported: - Maximum resolution HDMI Port: 2560 x 1600 @ 60 Hz

Component	Description
Audio	• Realtek ALC269Q • Two 2W speakers with HD Audio
I/O ports	Rear Panel I/O - One DC-In jack - One RJ45 port - One HDMI-Out port - Two USB 3.0 ports - Two USB 2.0 ports - One SD card reader - One headset combo jack (does not support microphone only device)
LED display and buttons	• Front Panel - One Power LED • Bottom Panel - One Power Button
Hard disk drive (HDD)	• One HDD bay supporting 2.5-inch SATA 3.0 HDD • Support 5400 rpm SATA HDD in 500GB/1TB/2TB capacities
Solid state drive (SSD)	• One M.2 slot supporting Solid State Drives (SSD) • Support SSD in 128/256GB capacities
Optical disc drive (ODD) ***(optional)***	• One external ODD, 9mm tray type • Supports DVD-R/RW drive or DVD-Super Multi double-layer drive
Card reader	SD card reader
Connectivity	• Wired LAN: Onboard 10/100/1000 Ethernet (Realtek RTL8111H) • WLAN option: 802.11 ac WLAN+BT (Intel 3168 Sandy Peak) • External 1.0 MP HD (720P) webcam
Adapter	65W
Security	• BIOS-based user and supervisor passwords • Intel Trusted Platform Module (TPM) • Kensington lock
System BIOS	• AMI EFI BIOS with 8 MB SPI Flash ROM • Supports ACPI and DMI • Supports Plug and Play, STR(S3)/STD(S4), hardware monitor

Physical Specifications

Aspect	Description
Chassis dimension (W x H x D)	113mm x 393mm x 540mm (4.45in x 15.47in x 21.26in)
System weight	4.05 kg (8.93 lb)
Mainboard form factor	Customized
Mainboard dimensions (W × H)	105mm x 255mm, 6 layers

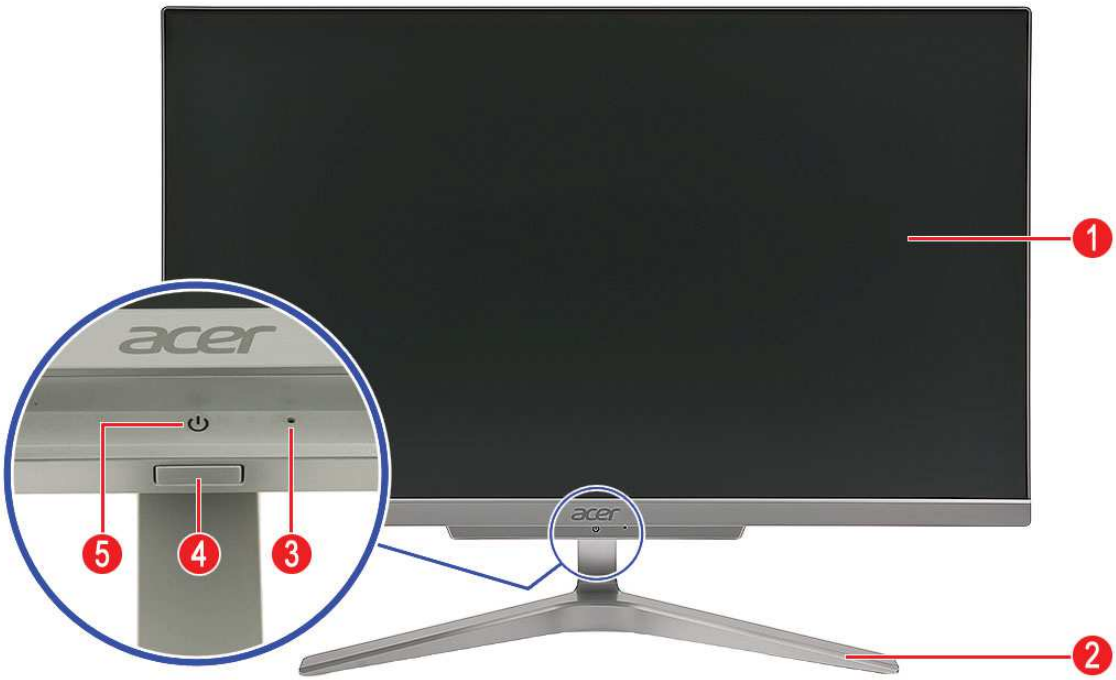
Environmental Requirements

Aspect	Description
Operating temperature	5 to 35 °C (41 to 95 °F)
Non-operating temperature	• Packed: -20 to 60 °C (-4 to 140 °F) • Unpacked: -10 to 60 °C (14 to 140 °F)
Operating humidity	-15% to 80% RH non-condensing
Non-operating humidity	-10% to 90% RH non-condensing at 40 °C

System Tour

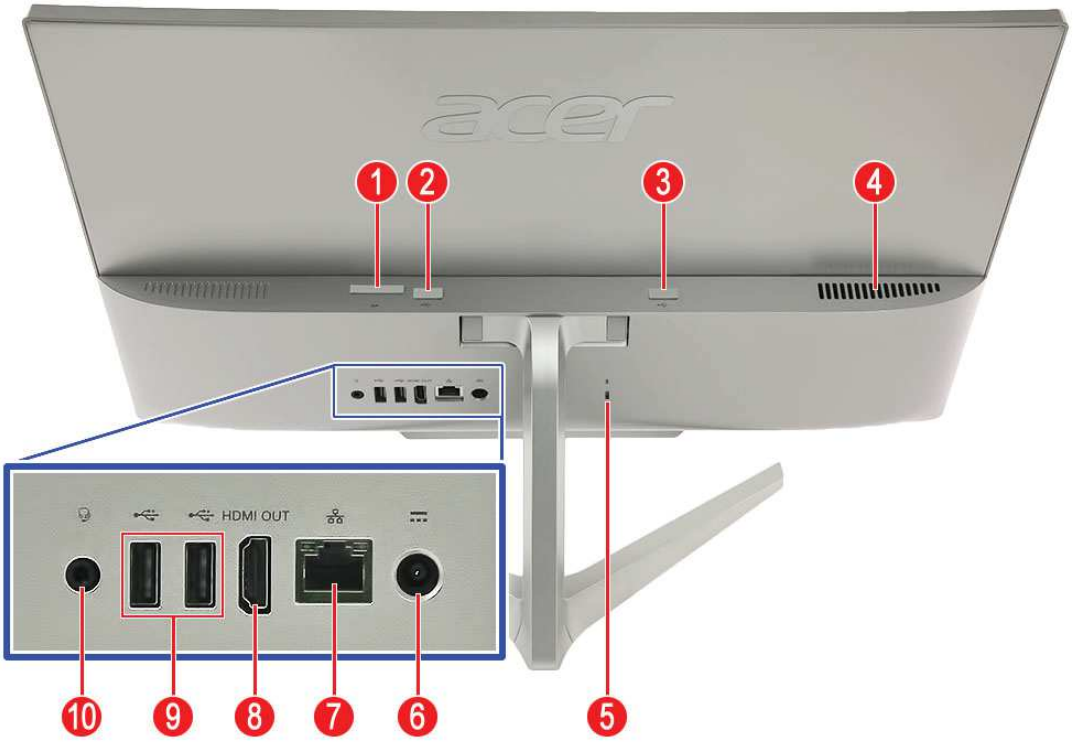
The pictures and tables in this section illustrate the physical outlook of the computer.

Front View



Item	Component
1	LCD
2	Computer stand
3	Integrated digital microphone
4	Power button
5	Power LED

Rear View



Item	Component
1	SD card reader
2	USB 3.0 port
3	USB 3.0 port
4	Air vent for heat sink
5	Kensington
6	DC-In jack
7	Ethernet port (RJ-45)
8	HDMI-Out port
9	USB 2.0 ports
10	Headset combo jack (does not support microphone only device)

Hardware Specifications

Processor

Item	Specification
Socket	FT4 BGA
Package type	28 nm
CPU type	Supports the following AMD Stoney Ridge processors: – AMD A9-9425 3.1G 1M 2133 Dual Core 15W – AMD A6-9225 2.6G 1M 2133 Dual Core 15W

Chipset

Item	Specification
System chipset	Integrated in the AMD Stoney Ridge processors
Hardware monitor	Super I/O ITE8732F

Memory

Item	Specification
Controller	Integrated in the AMD Stoney Ridge processors
Number of DIMM slot	1
Maximum memory	8GB (using one 8GB module)
Data rate	2133 MHz
DIMM type	DDR4 1.2V SODIMMs
Supported capacities	4GB or 8GB
Vendor and models	• HYNIX – 4GB HMA851S6CJR6N-VK / 8GB HMA81GS6CJR8N-VK • KINGSTON – 4GB ACR26D4S9S1ME-4 / 8GB ACR26D4S9S8ME-8 • MICRON – 4GB MTA4ATF51264HZ-2G6E1 / 8GB MTA8ATF1G64HZ-2G6E1

Hard Disk Drive

Item	Specification
Controller	Integrated in the AMD Stoney Ridge processors
Number of HDD bays	1
Form factor	2.5-inch
Interface	SATA 3.0
Supported capacities	500GB, 1TB or 2TB
Vendor and models	• Seagate – 2000GB ST2000LM007 Rosewood 2TB • Toshiba – 500GB MQ01ABF050 / 1000GB MQ04ABF100 Aquarius-B • Western Digital – 500GB WD5000LPCX-21VHAT0 MN500S-2 / 1000GB WD10SPZX-21Z10T0 MN1000S

Solid State Drive (SSD)

Item	Specification
Controller	Integrated in the AMD Stoney Ridge processors
Number of SSD bays	1
Form factor	M.2 2280 / 2242
Interface	SATA 3.0 / PCIe V3.0
Supported capacities	128GB or 256GB
Vendor and models	• Kingston – 128GB RBU-SNS8180S3 • Micron – 256GB MTFDDAV256TBN

Optical Disc Drive ***(optional)***

Item	Specification
Controller	Integrated in the AMD Stoney Ridge processors
Type	Super Multi/DVD-RW
Number of ODD bays	External
Form factor	Ultra-slim type
Interface	USB 2.0 cable
Write/read speed	8x
Vendor and models	Hitachi – GP70N

Card Reader

Item	Specification
Controller	RTS 5170
Card compatibility	• SD - SanDisk 2 GB SD card • SDHC - SanDisk 4 GB SDHC card • SDXC - Kingston 64 GB SDXC card • mini-SD - SanDisk 1 GB Mini-SD card • mini-SDHC - SanDisk 4 GB Mini-SDHC card • micro-SD - SanDisk 2 GB micro-SD card • micro-SDHC - SanDisk 4 GB micro-SDHC card

Audio

Item	Specification
Controller	RTL ALC269Q
Connectors	One headset combo jack (does not support microphone only device)

Ethernet

Item	Specification
Controller	Realtek RTL8111H
LAN protocol	10/100/1000 Mbps
LAN connector type	RJ-45

Wireless LAN

Item	Specification
WLAN module	• Intel Sandy Peak WLAN + BT • Qualcomm Atheros 9377A WLAN + BT
Form factor	M.2 2230
Interface	PCIe V3.0
Protocol	WLAN M.2 2X2 AC + BT 2230

HDMI

Item	Specification
Controller	Integrated in the AMD Stoney Ridge processors
Version	HDMI 1.4a
Maximum Resolution	2560 x 1600 @ 60 Hz

SATA Interface

Item	Specification
SATA Controller	Integrated in the AMD Stoney Ridge processors
Connectors	One SATA 3.0 port

PCIe Interface

Item	Specification
Controller	Integrated in the AMD Stoney Ridge processors
Connectors	• One M.2 2230 WLAN slot (PCIe V3.0) • One M.2 2280 / 2242 SSD slot (PCIe V3.0)

Keyboard and Input Devices

Item	Specification
Controller	Super I/O ITE8732F
Connectors	Four USB ports

Webcam

Item	Specification
Resolution	1.0 MP HD (720p)
Supported models	Foxlink FX10FF-517H-1

Power Adapter

Item	Specification
Input	100-240V
Output (max.)	19V 65W
Vendor and models	• CHICONY POWER 65W 19V A065R078L • LITE-ON 65W 19V PA-1650-86AL

Chapter 3

System Disassembly and Reassembly

This chapter provides step-by-step instructions on how to disassemble the computer for maintenance and troubleshooting purposes.

Disassembly Tools

In performing the disassembly process, you will need the following tools:

- Wrist-grounding strap and conductive mat for preventing electrostatic discharge
- Philips screwdriver
- Hex screwdriver
- Flat screwdriver
- Scissors (for cutting cable ties)

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

Pre-disassembly Procedure

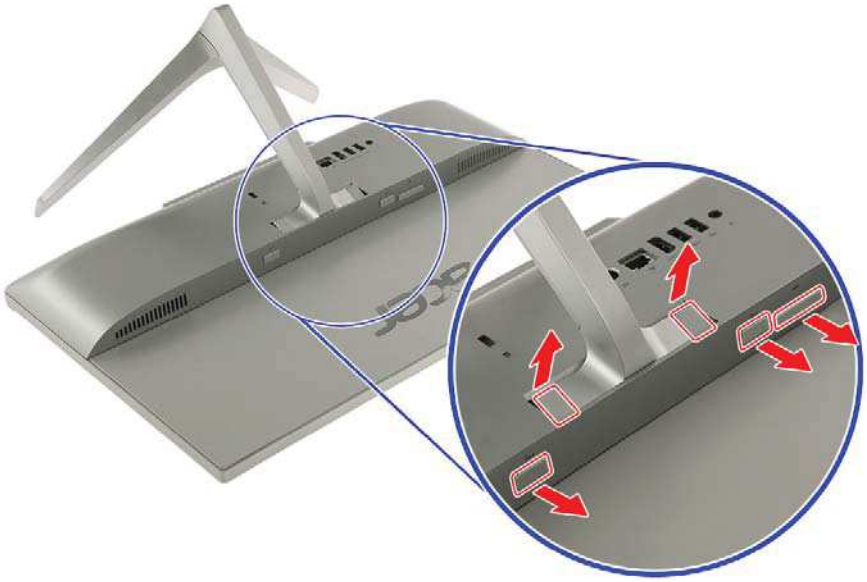
Before proceeding with the disassembly procedure, perform the steps listed below:

1. Make sure that the optical disc drive and the card reader slot are empty.
2. Turn off the power to the computer and all peripherals.
3. Unplug the power cord from the computer.
4. Unplug the network cable and all connected peripheral devices from the computer.
5. Place the computer on a flat, steady surface with the rear cover facing upward.

Disassembly Procedures

Removing the Computer Stand

1. Detach all the rubber port covers from the lower rear cover assembly.



2. Remove the four screws securing the computer stand to the lower rear cover assembly.

Quantity	Color	Torque	Part Number	Screw Type
4	Silver	8.0 ± 0.5 kgf cm	86.B93D1.002	

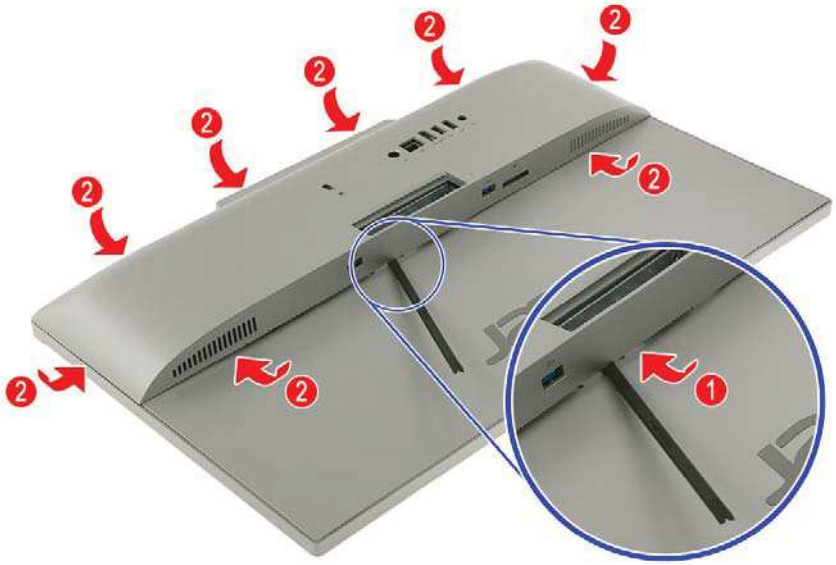
3. Detach the computer stand from the lower rear cover assembly.

Removing the Lower Rear Cover Assembly

1. Remove the screw securing the lower rear cover assembly to the main chassis assembly.

Quantity	Color	Torque	Part Number	Screw Type
1	Silver	4.5 ± 0.3 kgf cm	86.SL0D1.001	

2. Use a non-marring plastic tool to disengage the latches securing the lower rear cover assembly to the main chassis assembly. Start prying from the hinge socket (**1**), then proceed to pry the latches on the left and right of the hinge socket (**2**).



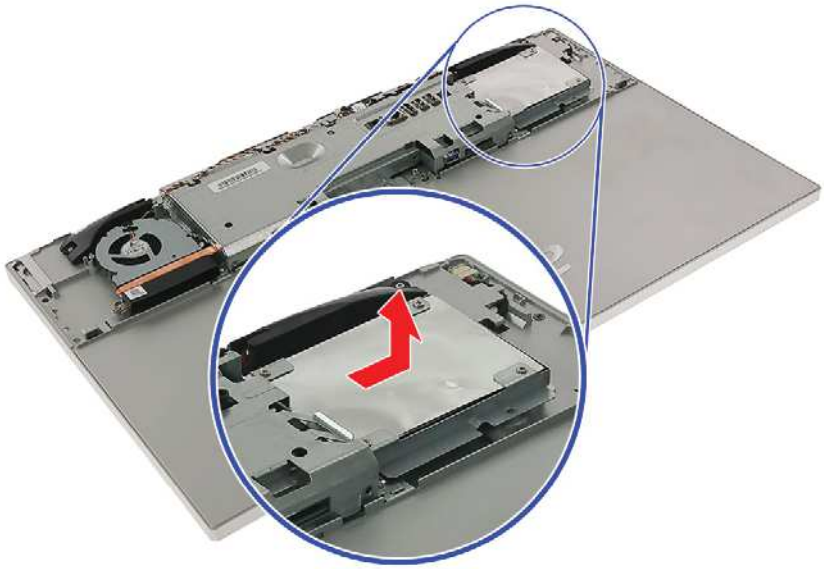
3. Detach the lower rear cover assembly from the main chassis assembly.

Removing the HDD Module

1. Remove the two screws securing the HDD bracket to the main chassis assembly.

Quantity	Color	Torque	Part Number	Screw Type
2	Silver	4.5 ± 0.3 kgf cm	86.SL0D1.001	

2. Slide to disengage the HDD module from the main chassis assembly then lift it away.



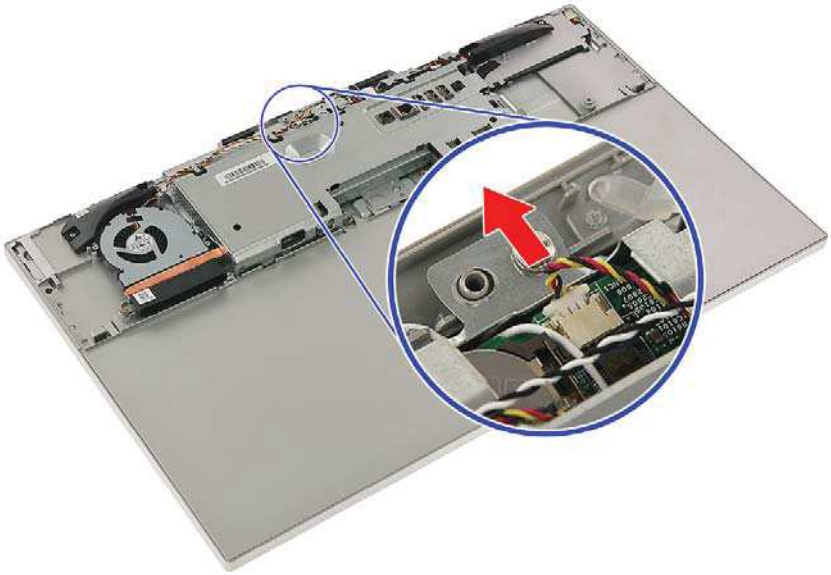
3. Remove the four screws securing the HDD module to the bracket.

Quantity	Color	Torque	Part Number	Screw Type
4	Silver	4.0 ± 0.3 kgf cm	86.SZ0D1.002	

4. Gently remove the HDD bracket from the HDD module.

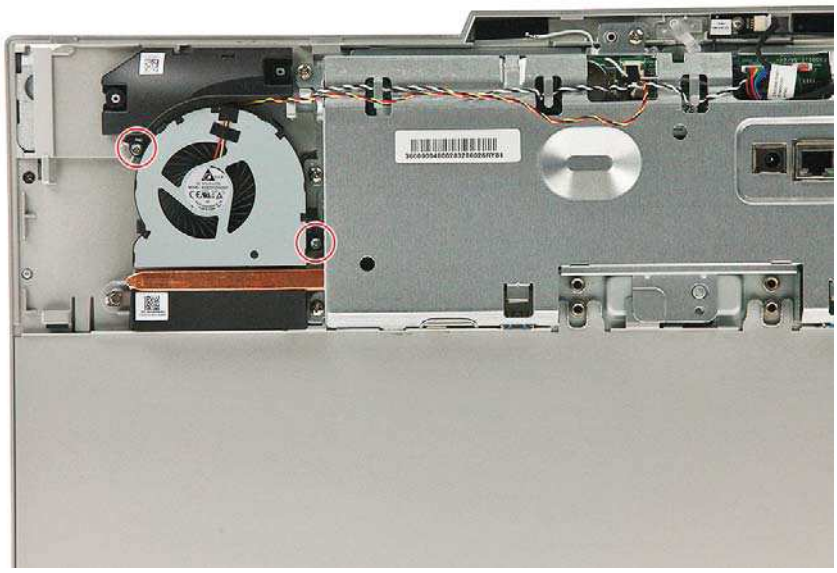
Removing the Heatsink Fan

1. Disconnect the heatsink fan cable from the mainboard.



2. Release the heatsink fan cable from the latches securing it to the mainboard bracket/cover.

3. Remove the two screws securing the heatsink fan to the main chassis assembly.

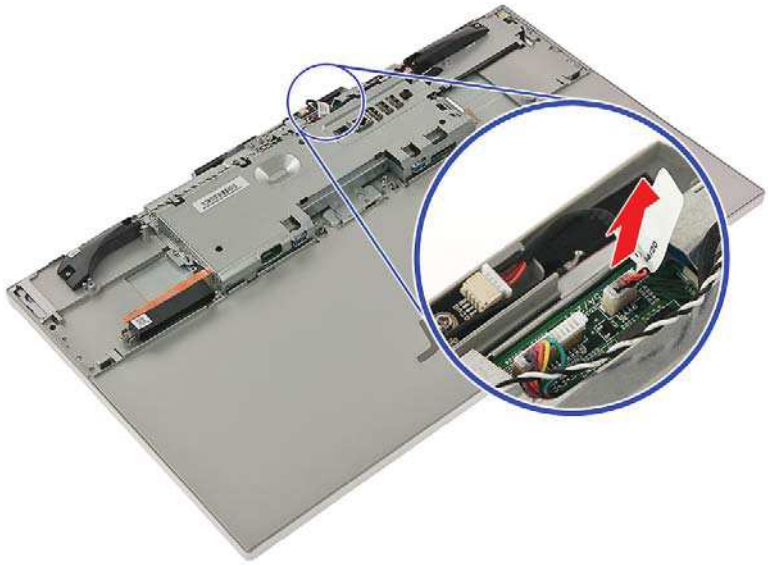


Quantity	Color	Torque	Part Number	Screw Type
2	Silver	3.0 ± 0.3 kgf cm	86.VNAD1.004	

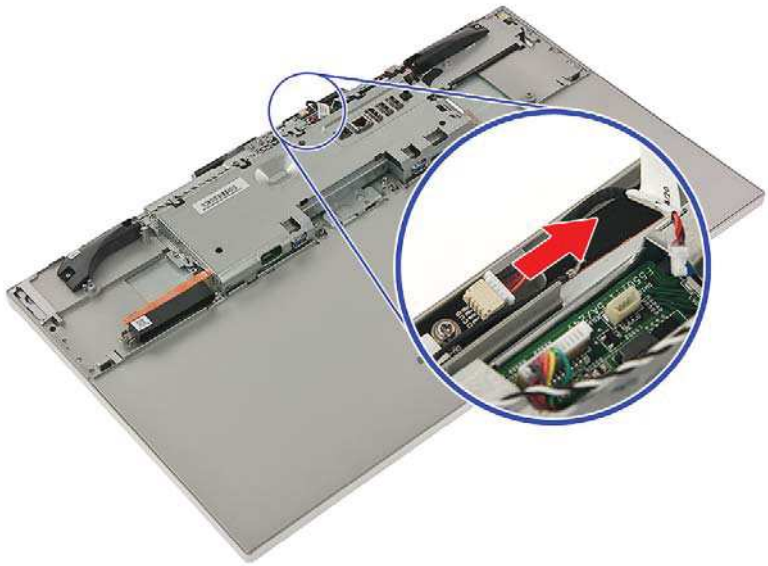
4. Detach the heatsink fan from the main chassis assembly.

Removing the Microphone Module

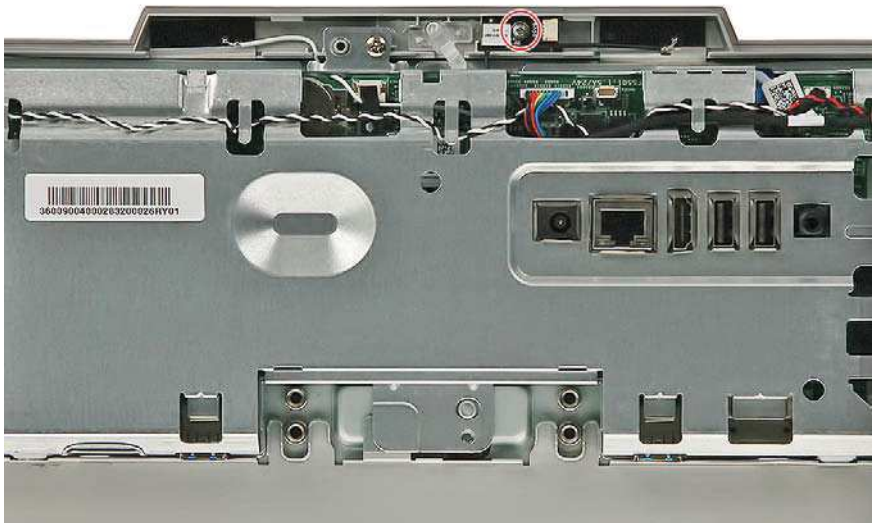
1. Disconnect the microphone cable from the mainboard.



2. Disconnect the microphone cable from the microphone module.

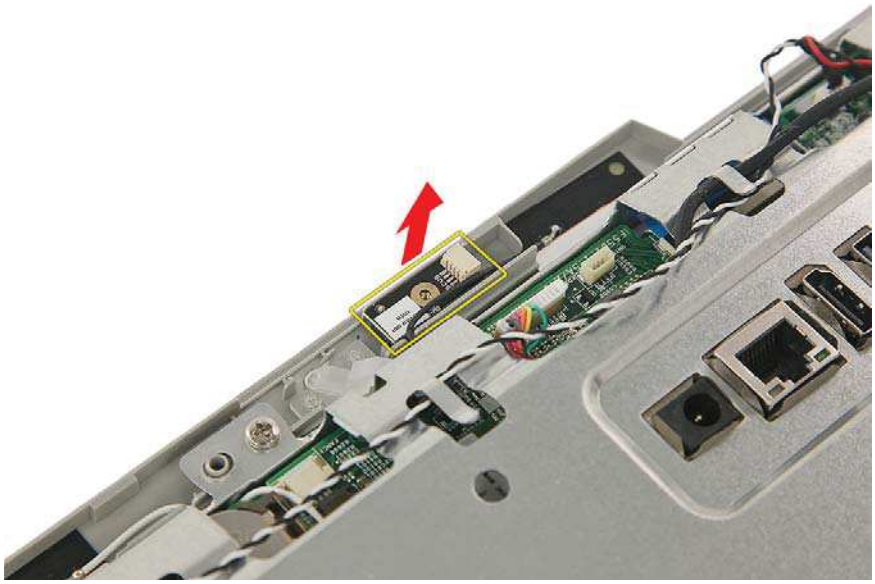


3. Remove the screw securing the microphone module to the main chassis assembly.



Quantity	Color	Torque	Part Number	Screw Type
1	Silver	1.5 ± 0.3 kgf-cm	86.NBY01.003	

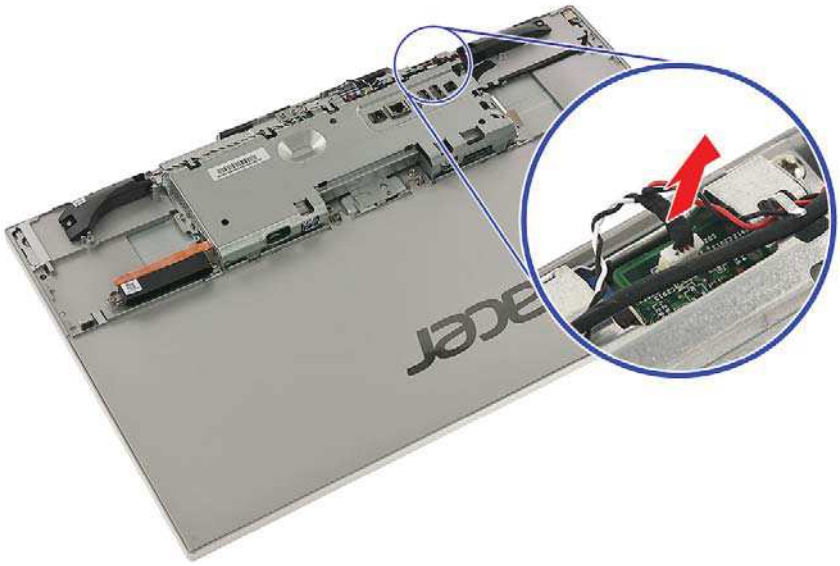
4. Detach the microphone module from the main chassis assembly.



Note: WEEE Annex VII component. A circuit board that is >10 cm^2 has been highlighted with a yellow rectangle as shown in the above image. Follow local regulations for disposing this type of circuit board.

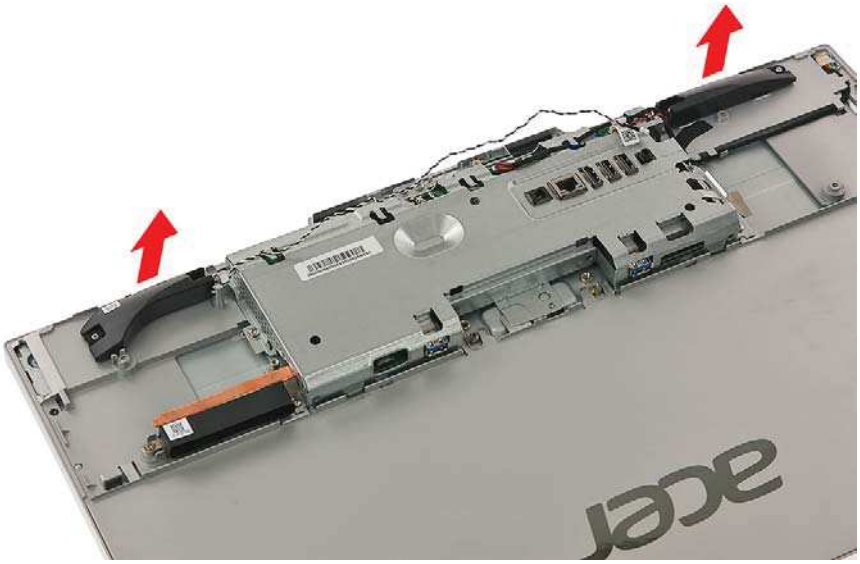
Removing the Left & Right Speakers

1. Disconnect the speaker cable from the mainboard.



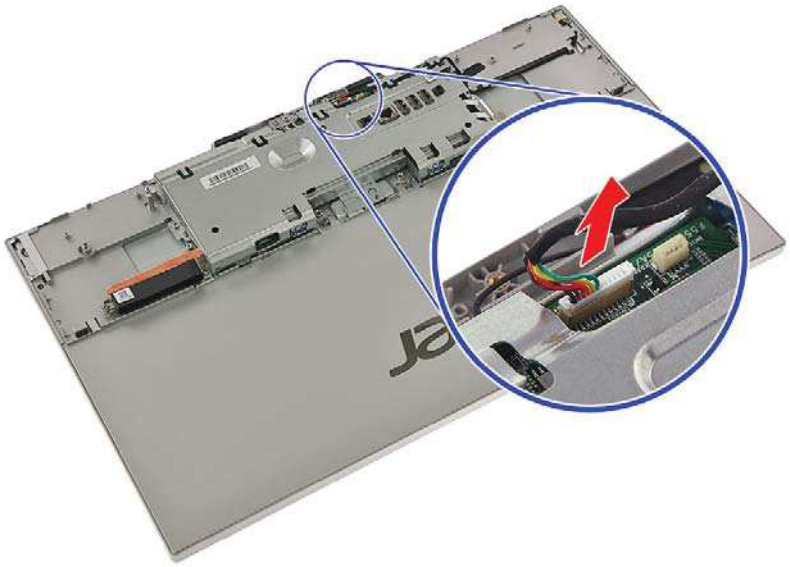
2. Release the speaker cable from the latches securing it to the mainboard bracket/cover.

3. Detach the speakers from the main chassis assembly.

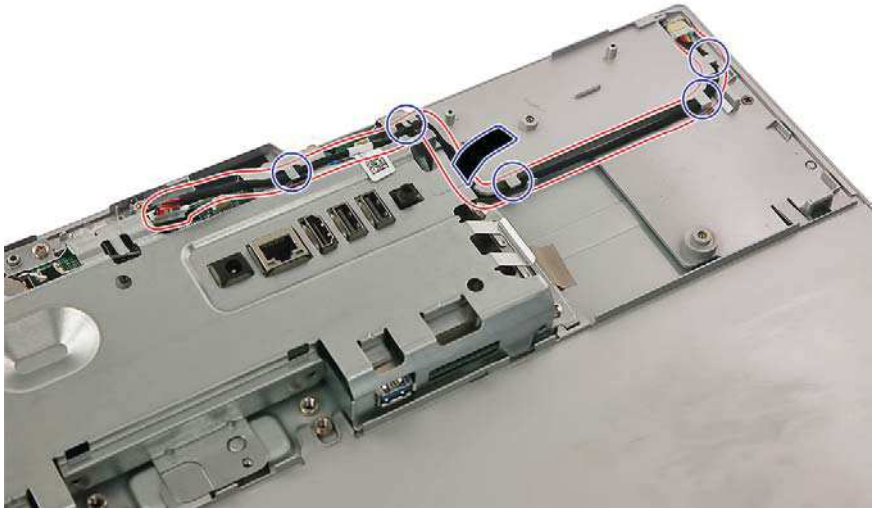


Removing the LCD Backlight Cable

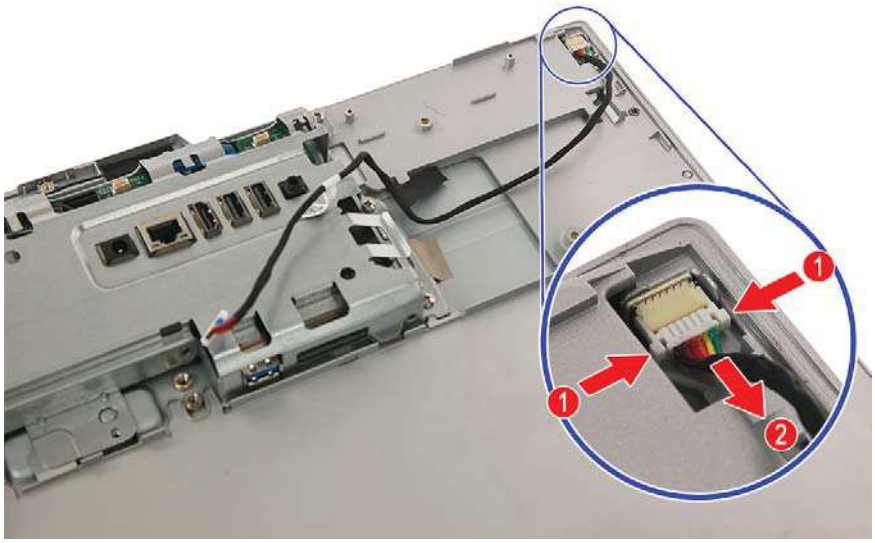
1. Disconnect the LCD backlight cable from the mainboard.



2. Release the LCD backlight cable from the latches and tape securing it to the mainboard bracket/cover.



3. Disconnect and remove the LCD backlight cable from the LCD panel.



Removing the Mainboard Bracket/Cover

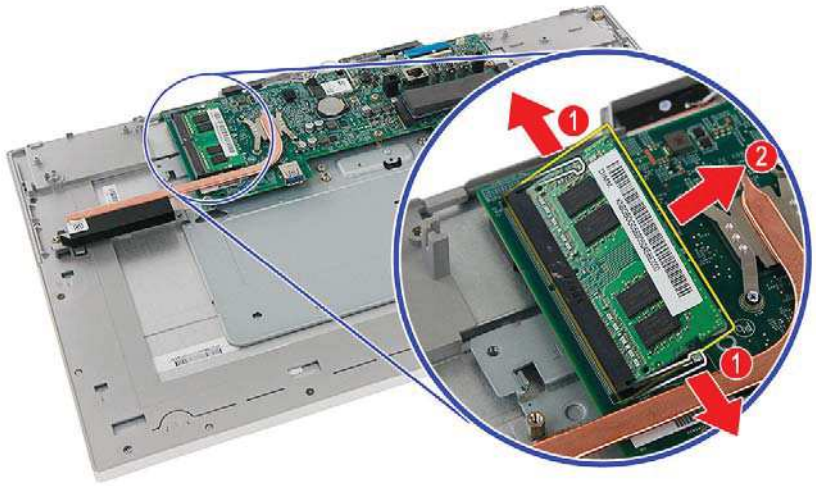
1. Remove the seven screws securing the mainboard bracket/cover to the main chassis assembly.

Quantity	Color	Torque	Part Number	Screw Type
7	Silver	4.5 ± 0.3 kgf cm	86.SL0D1.001	

2. Detach the mainboard bracket/cover from the main chassis assembly.

Removing the DIMM Module

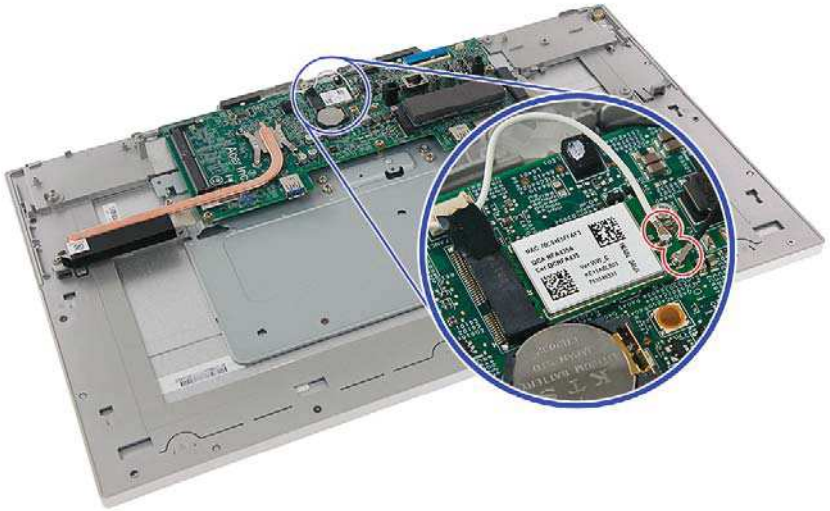
1. Release the latch on both sides of the DIMM slot (**1**) and remove the DIMM module from the slot (**2**).



Note: WEEE Annex VII component. A circuit board that is >10 cm^2 has been highlighted with a yellow rectangle as shown in the above image. Follow local regulations for disposing this type of circuit board.

Removing the WLAN Module

1. Disconnect the antenna cables from the WLAN module.



NOTE: For reference during machine reassembly, note which cable color corresponds to the main (white) and auxiliary (black) connectors.

2. Remove the screw securing the WLAN module to the mainboard.

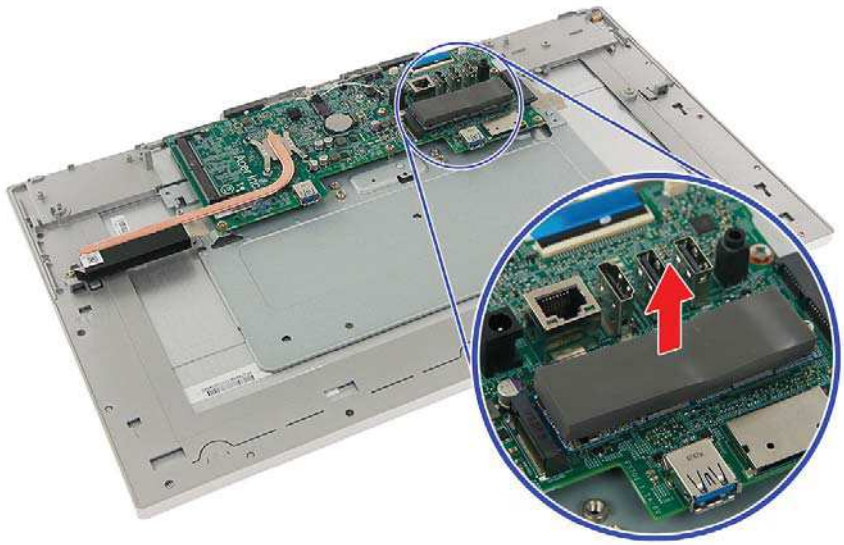
Quantity	Color	Torque	Part Number	Screw Type
1	Silver	1.5 ± 0.3 kgf-cm	86.NBY01.003	

3. Detach the WLAN module from the mainboard.

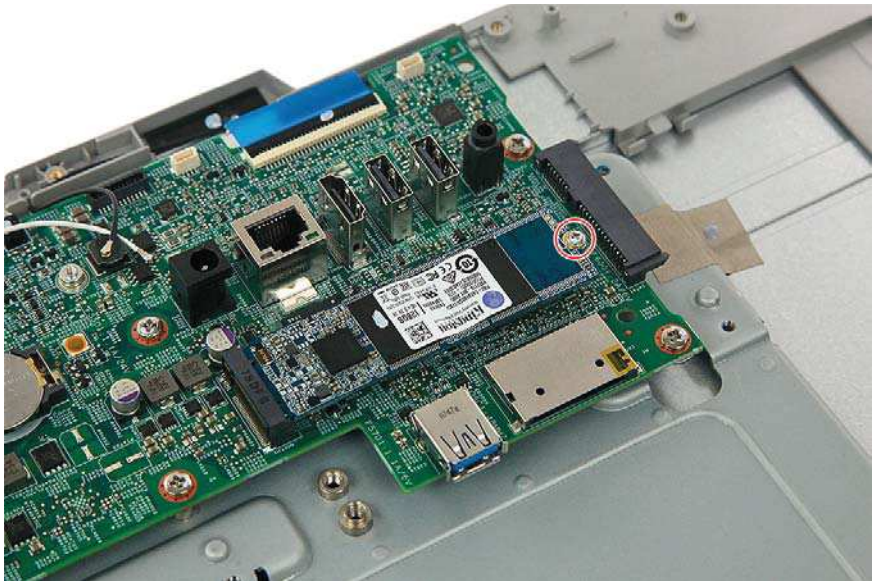
Note: WEEE Annex VII component. A circuit board that is >10 cm^2 has been highlighted with a yellow rectangle as shown in the above image. Follow local regulations for disposing this type of circuit board.

Removing the SSD Module

1. Detach the thermal pad from the SSD module.



2. Remove the screw securing the SSD module to the mainboard.



Quantity	Color	Torque	Part Number	Screw Type
1	Silver	1.5 ± 0.3 kgf-cm	86.NBY01.003	

3. Detach the SSD module from the mainboard.

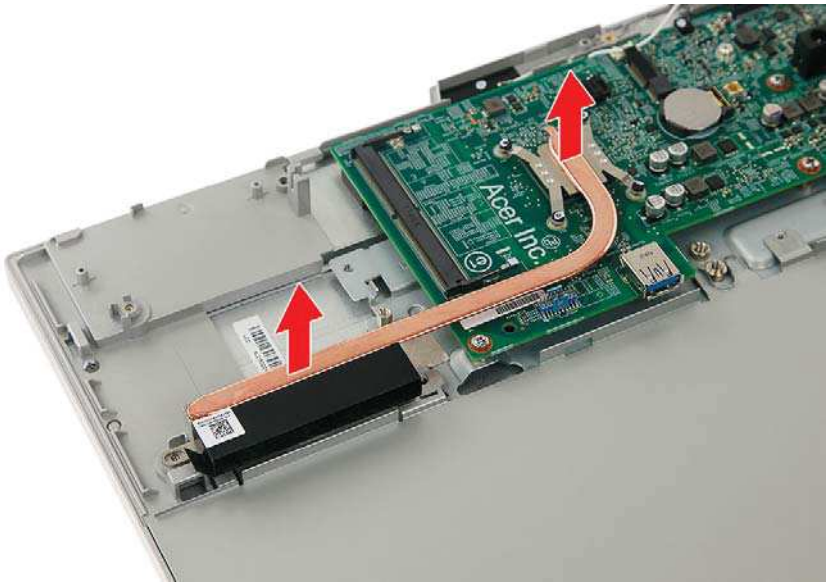
Note: WEEE Annex VII component. A circuit board that is >10 cm^2 has been highlighted with a yellow rectangle as shown in the above image. Follow local regulations for disposing this type of circuit board.

Removing the Thermal Module

1. Loosen the four screws (screw nos.1~4) securing the thermal module to the mainboard and remove one screw (screw no. 5) securing the thermal module to the main chassis assembly.

Quantity	Color	Torque	Part Number	Screw Type
4	Silver	3.0 ± 0.3 kgf cm	N/A	Thermal Screws
1	Silver	3.0 ± 0.3 kgf cm	86.VNAD1.004	

2. Detach the thermal module from the mainboard.



Clearing CMOS

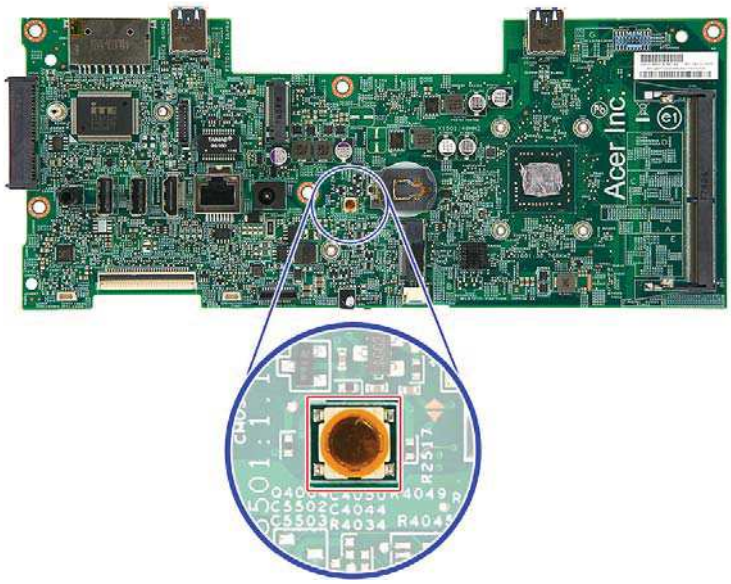
You may need to clear the Setup configuration values (CMOS) if the configuration has been corrupted, or if incorrect settings made in the Setup Utility caused error messages to be unreadable. This procedure will clear the BIOS supervisor password as well.

Use the CMOS1 jumper to clear the CMOS data.

- 1-2 position: Normal operation (default)
- 2-3 position: Clear CMOS data

To clear the CMOS data:

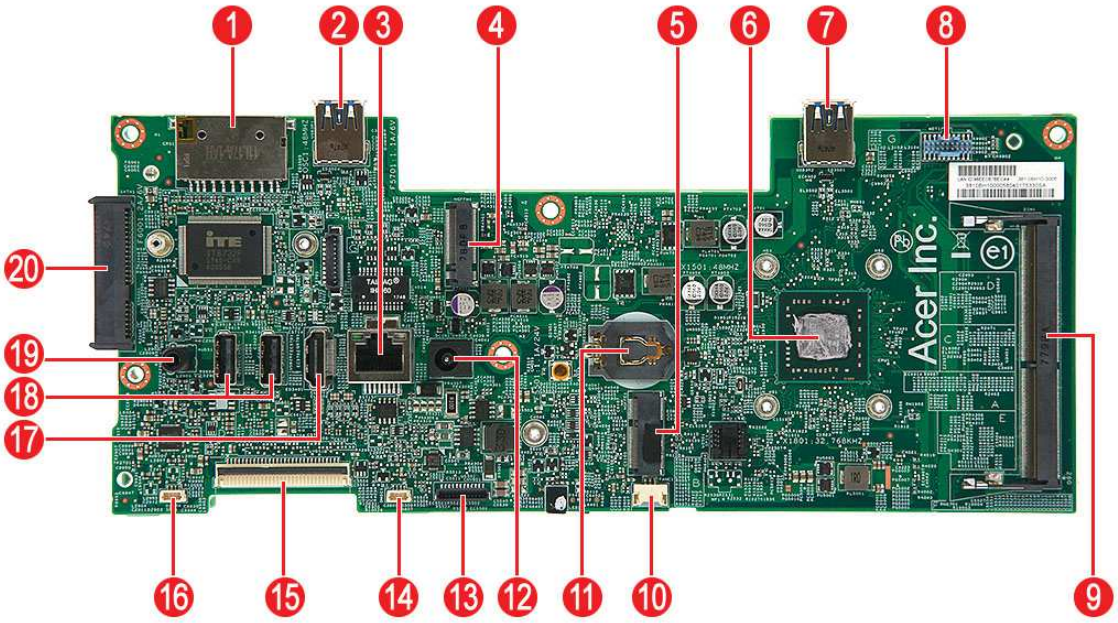
1. Turn off the power to the computer and all peripherals.
2. Unplug the power cord from the computer.
3. Unplug the network cable and all connected peripheral devices from the computer.
4. Place the computer on a flat, steady surface with the rear cover facing upward.
5. Perform the "Removing the Computer Stand" procedure described on page 24.
6. Perform the "Removing the Lower Rear Cover Assembly" procedure described on page 26.
7. Perform the "Removing the HDD Module" procedure described on page 28.
8. Perform the "Removing the Heatsink Fan" procedure described on page 30.
9. Perform the "Removing the Microphone Module" procedure described on page 32.
10. Perform the "Removing the Left & Right Speakers" procedure described on page 34.
11. Perform the "Removing the LCD Backlight Cable" procedure described on page 36.
12. Perform the "Removing the Mainboard Bracket/Cover" procedure described on page 38.
13. Locate the CMOS1 button on the mainboard.



14. Push the CMOS1 button to clear CMOS.
15. Perform the "Reinstalling the Mainboard Bracket/Cover" procedure described on page 69.
16. Perform the "Reinstalling the LCD Backlight Cable" procedure described on page 70.
17. Perform the "Reinstalling the Left & Right Speakers" procedure described on page 72.
18. Perform the "Reinstalling the Microphone Module" procedure described on page 74.
19. Perform the "Reinstalling the Heatsink Fan" procedure described on page 76.

Mainboard Layout

This section shows the major mainboard components.



No.	Code	Component	No.	Code	Component
1	CRS1	Card reader port	11	BTT1	Battery slot
2	USB3R1	Rear USB 3.0 port	12	DCIN1	DC 19V connector
3	RJ1	RJ-45 port	13	CNVBD1	LCD backlight connector
4	NGFFM1	M.2 SSD connector	14	DMIC1	Internal microphone connector
5	NGFFE1	M.2 WLAN connector	15	LVDS1	30 pin LVDS connector
6	CPU1	CPU	16	SPK1	Internal speaker connector
7	USB3R2	Rear USB 3.0 port	17	HDMI1	HDMI-Out port
8	CAM1	Webcam connector	18	USB2R1/2	Rear USB 2.0 ports
9	DIM2	SODIMM2 slot	19	AUDS1	Audio combo jack port
10	FANC1	CPU fan connector	20	SATA1	SATA 3.0 connector (HDD)