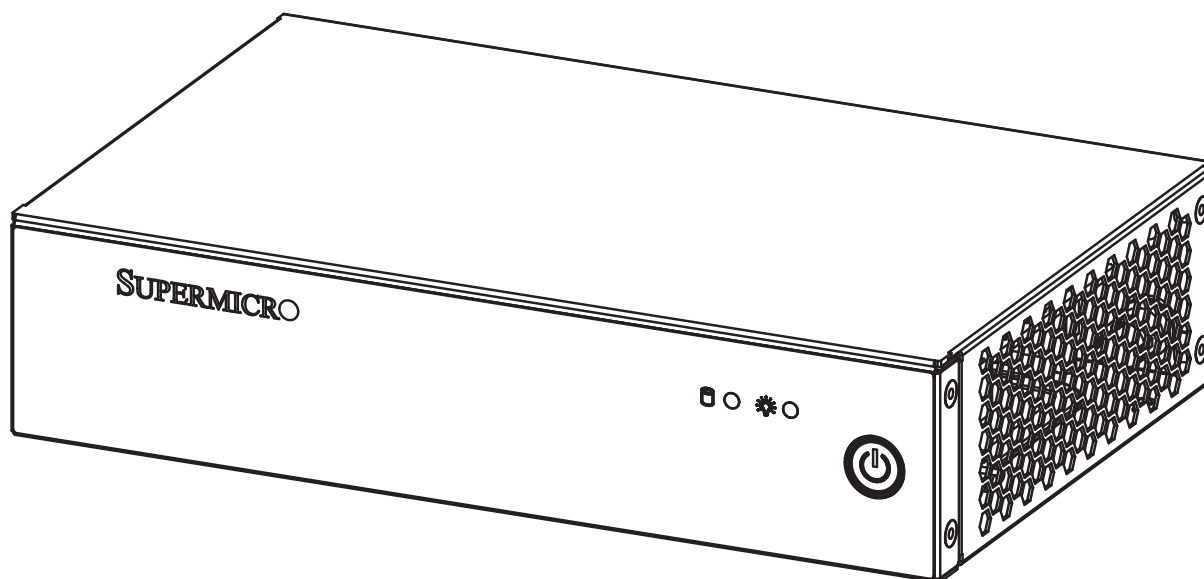




SuperServer[®] E102-9W-H/E/L/C



USER'S MANUAL

Revision 1.0b

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Manual Revision 1.0b

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Preface

About this Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the SuperServer E102-9W-H/E/L/C. Installation and maintenance should be performed by experienced technicians only.

Please refer to the E102-9W-H/E/L/C server specifications page on our website for updates on supported memory, processors and operating systems (<http://www.supermicro.com>).

Notes

For your system to work properly, please follow the links below to download all necessary drivers/utilities and the user's manual for your server.

- Supermicro product manuals: <http://www.supermicro.com/support/manuals/>
- Product drivers and utilities: <https://www.supermicro.com/wdl/driver>
- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm

If you have any questions, please contact our support team at: support@supermicro.com

This manual may be periodically updated without notice. Please check the Supermicro website for possible updates to the manual revision level.

Secure Data Deletion

A secure data deletion tool designed to fully erase all data from storage devices can be found on our website: https://www.supermicro.com/about/policies/disclaimer.cfm?url=/wdl/utility/Lot9_Secure_Data_Deletion_Utility/

Warnings

Special attention should be given to the following symbols used in this manual.



Warning! Indicates important information given to prevent equipment/property damage or personal injury.



Warning! Indicates high voltage may be encountered when performing a procedure.

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Chapter 1

Introduction

1.1 Overview

The SuperServer E102-9W-H/E/L/C is a compact, embedded system comprised of the CSE-E102 chassis and the X11SWN-H/E/L/C single processor motherboard. The E102-9W-H/E/L/C is designed for IoT embedded applications such as industrial automation, environment monitoring, surveillance, and kiosks. Refer to our website for information on operating systems that have been certified for use with the system (www.supermicro.com).

This chapter provides a brief outline of the functions and features. In addition to the motherboard and chassis, several important parts that are included with the system are listed below.

Main Parts List		
Description	Part Number	Quantity
Power Adapter	MCP-250-10134-0N	1

Note: The following safety models associated with the E102-9W-H/E/L/C have been certified as compliant with CSA or UL models: E102-60 and E102-A6X11.

Important Links

For your system to work properly, follow the links below to download all necessary drivers and utilities for your server.

- Product drivers and utilities: <https://www.supermicro.com/wdl/driver>
- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm
- If you have any questions, please contact our support team at: support@supermicro.com

This manual may be periodically updated without notice. Check the Supermicro website for possible updates to the manual revision level.

1.2 System Features

The following table provides an overview of the main features of the E102-9W-H/E/L/C. Refer to Appendix C for additional specifications.

System Features
Motherboards
X11SWN-H, X11SWN-E, X11SWN-L, X11SWN-C
Chassis
CSE-E102
CPU
E102-9W-C supports Intel® Celeron 4305UE Processor E102-9W-H, E102-9W-E, and E102-9W-L support Intel® Whiskey Lake-U i7-8665UE/i5-8365UE/i3-8145UE
Input/Output
LAN: 2x 1GbE ports Video: 1x Dual-Mode Display port, 1x HDMI 1.4 port USB: 4x USB 3.1 Gen 2 ports Optional: Mic-in / Line Out, 4x COM (2 RS232, 2 RS232/422/485)
Cooling
1x 40x40x10mm fan
Memory
E102-9W-C supports up to 64GB of non-ECC SO-DIMM DDR4 2133 MHz in two memory slots E102-9W-H, E102-9W-E, and E102-9W-L support up to 64GB of non-ECC SO-DIMM DDR4 2400 MHz in two memory slots
Expansion Slots
1x M.2 B-Key 3042/2242/2280 (SATA 6Gb/s / USB3 / USB2) with Nano SIM holder 1x M.2 E-Key 2230 (PCIe x1 / USB2 / CNVi) 1x M.2 2242/2280 M-Key (PCIe 3.0 x4, SATA Gen3 x1, NVMe support)
Power
Lockable 60W Power Adapter for 12V DC
Form Factor
3.5" SBC small form factor (4"x5.75")
Dimensions
(WxHxD) 7.48" x 4.72" x 1.72" in. (195 x 151 x 44 mm)

1.3 Chassis Features

Front Features

See the illustration below for the features included on the front of the chassis.

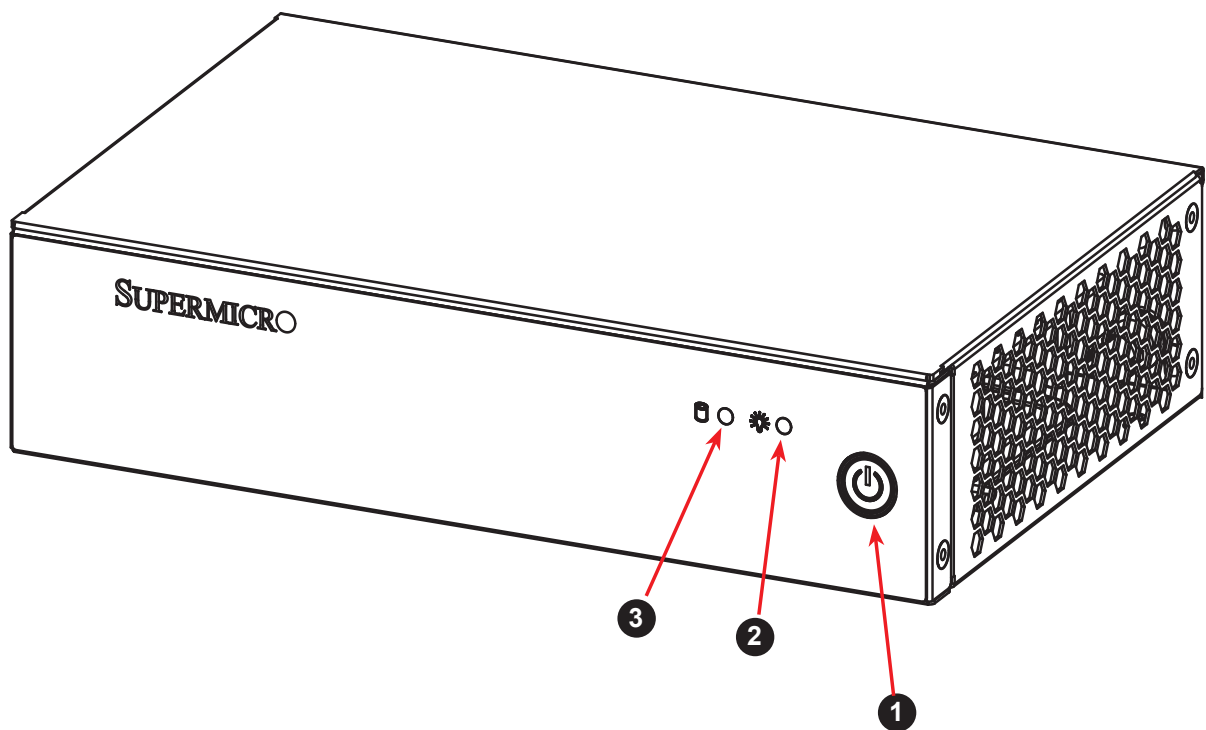


Figure 1-1. Front View

Front Chassis Features		
Item	Feature	Description
1	Power Button	The power switch applies or removes power to the system. Turning off power removes the main power but maintains standby power.
2	Power LED	The Power LED is green when the system is on and orange when the system is in standby mode.
3	HDD LED	The HDD LED flashes when activity is detected on the internal storage drives.

Rear Features

The chassis rear holds input/output ports, described in Chapter 3.

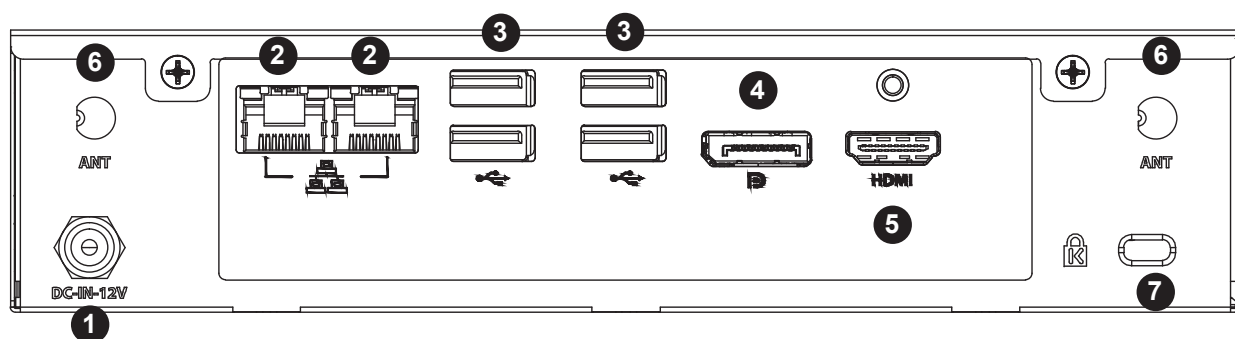


Figure 1-2. Rear View

Rear Chassis Features		
Item	Features	Description
1	Power Input	Use this port for the 60W DC power input
2	LAN	2x 1GbE network ports
3	USB	4x USB 3.1 ports
4	DP++	Dual-Mode Display Port
5	HDMI	High Definition Multimedia Interface 1.4
6	Antenna cut-outs	2x cut-outs for mounting antennas
7	Security Slot	Kensington® Security Slot

Chassis Dimensions

The compact chassis measures 190 x 121 mm from the top view and 190 x 43.6 mm from the I/O view.

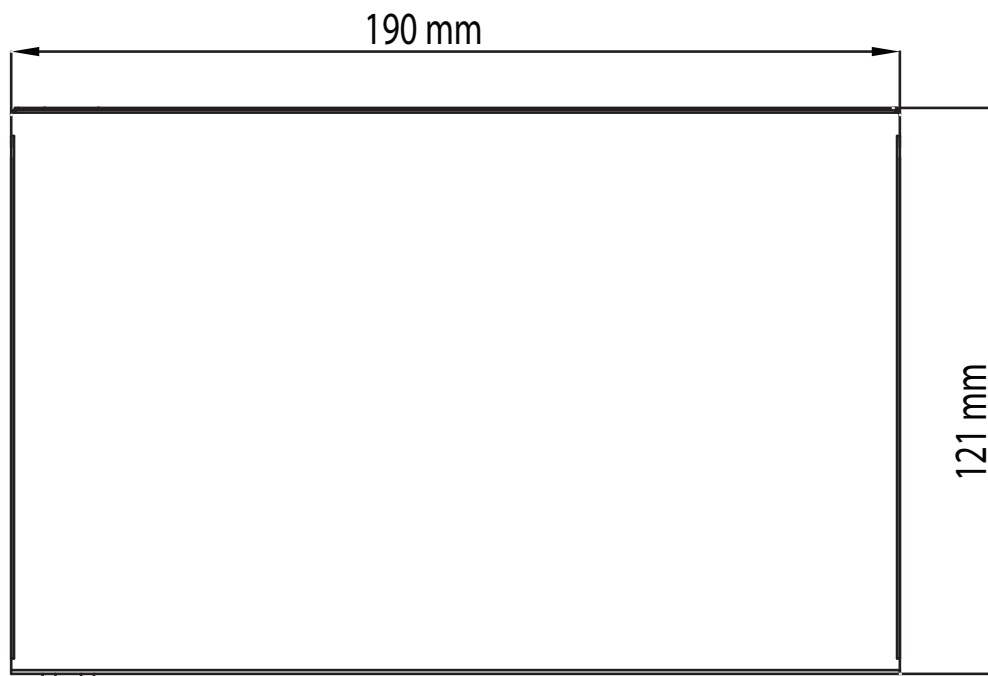


Figure 1-3. Chassis Dimensions (Top View)

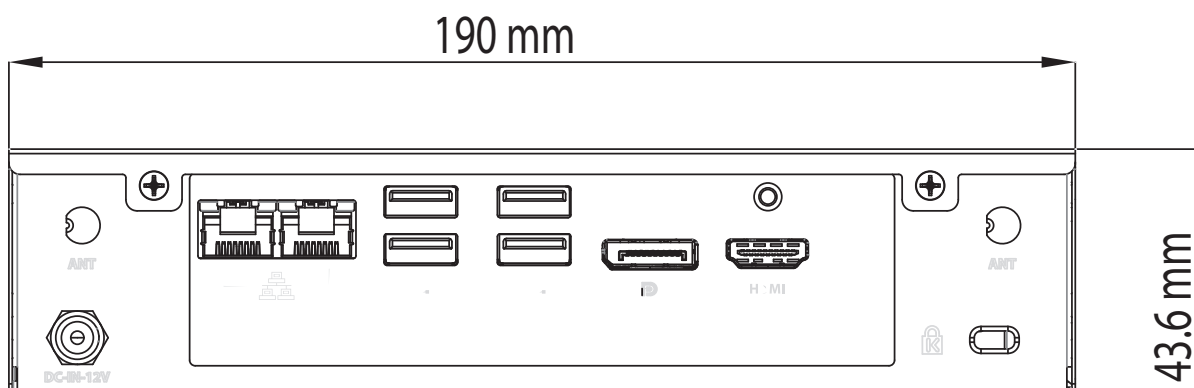
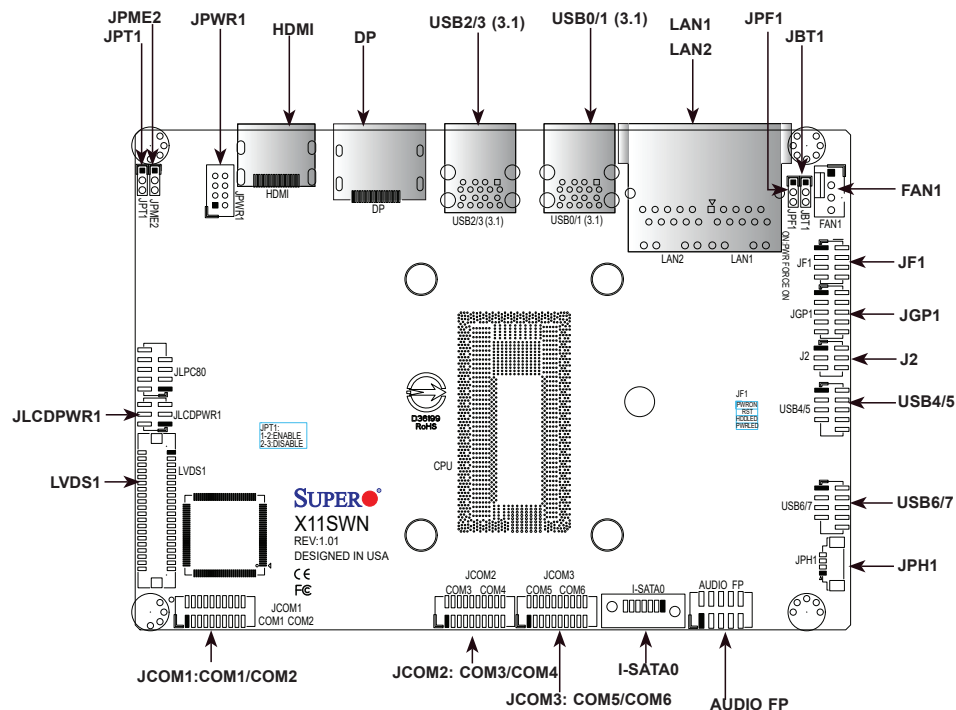


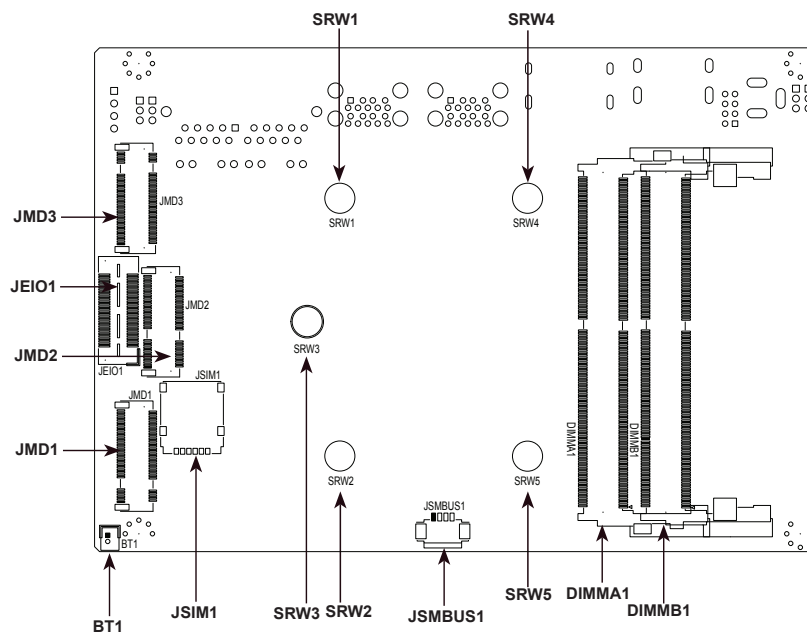
Figure 1-4. Chassis Dimensions (I/O View)

1.4 Motherboard Layout

Below is a layout of the X11SWN-H with jumper, connector, and LED locations shown. See the table on the following page for descriptions. For detailed descriptions, pinout information, and jumper settings, refer to Chapter 3.



Top Layout



Bottom Layout

Figure 1-5. Motherboard Layout

Note: Components not documented are for internal testing only.

Quick Reference Table

Jumper	Description	Default Setting
JBT1	CMOS Clear	Pins 1-2* Normal Operation Pins 2-3 Clear CMOS
JLCDPWR1	LVDS Panel Power Source Selection	Pins 1-3* (3.3V) Pins 3-5 (5V) Pins 3-4 (12V)
JPF1	Power Force On	Pins 1-2* (Force Power ON) Pins 2-3 (Power Button ON)
JPME2	Manufacturing Mode Select	Pins 1-2 (Normal)
JPT1	TPM Enable/Disable	Pins 1-2* (Enabled) Pins 2-3 (Disabled)
J2	SIM Detection	Pins 2-4* (High Active) Pins 4-6 (Low Active)

Connector	Description
AUDIO FP	Front Panel Audio Header (Mic-In/Line-Out)
BT1	Onboard Battery Header (bottom side)
JCOM1	COM1/COM2 Headers (RS232/422/485)
JCOM2	COM3/COM4 Headers (RS232)
JCOM3	COM5/COM6 Headers (RS232)
DP	Dual-Mode Display Port (DP++)
FAN1	System Fan Header
HDMI	High Definition Multimedia Interface
I-SATA	SATA 6Gb/s (3.0) Port
JEIO1	Extended I/O (bottom side)
JF1	Front Control Panel Header
JGP1	General Purpose I/O Header
JMD1	M.2 B-Key 2242/3042/2280 (SATA 3.0/USB 3.0/USB 2.0 with Nano SIM) Slot (bottom side)
JMD2	M.2 E-Key 2230 (PCIe x1/USB2.0/CNVi) Slot (bottom side)
JMD3	M.2 M-Key 2242/2280 (PCIe x4/SATA) Slot (bottom side)
JPH1	4-pin HDD Power Output Connector
JPWR1	8-pin +12-24V ATX Power Input Connector
JSIM1	Nano SIM Card Slot (bottom side)
JSMBUS1	System Management Bus Header (bottom side)
LAN1/LAN2	Gigabit Ethernet Ports
LVDS1	Low-Voltage Differential Signaling (LVDS) Connector
SRW1 - SRW5	M.2 Mounting Holes
USB0/1, USB2/3	Back Panel USB 3.1 Gen2 Ports
USB4/5, USB6/7	Front Accessible USB 2.0 Headers

* Default Setting

System Block Diagram

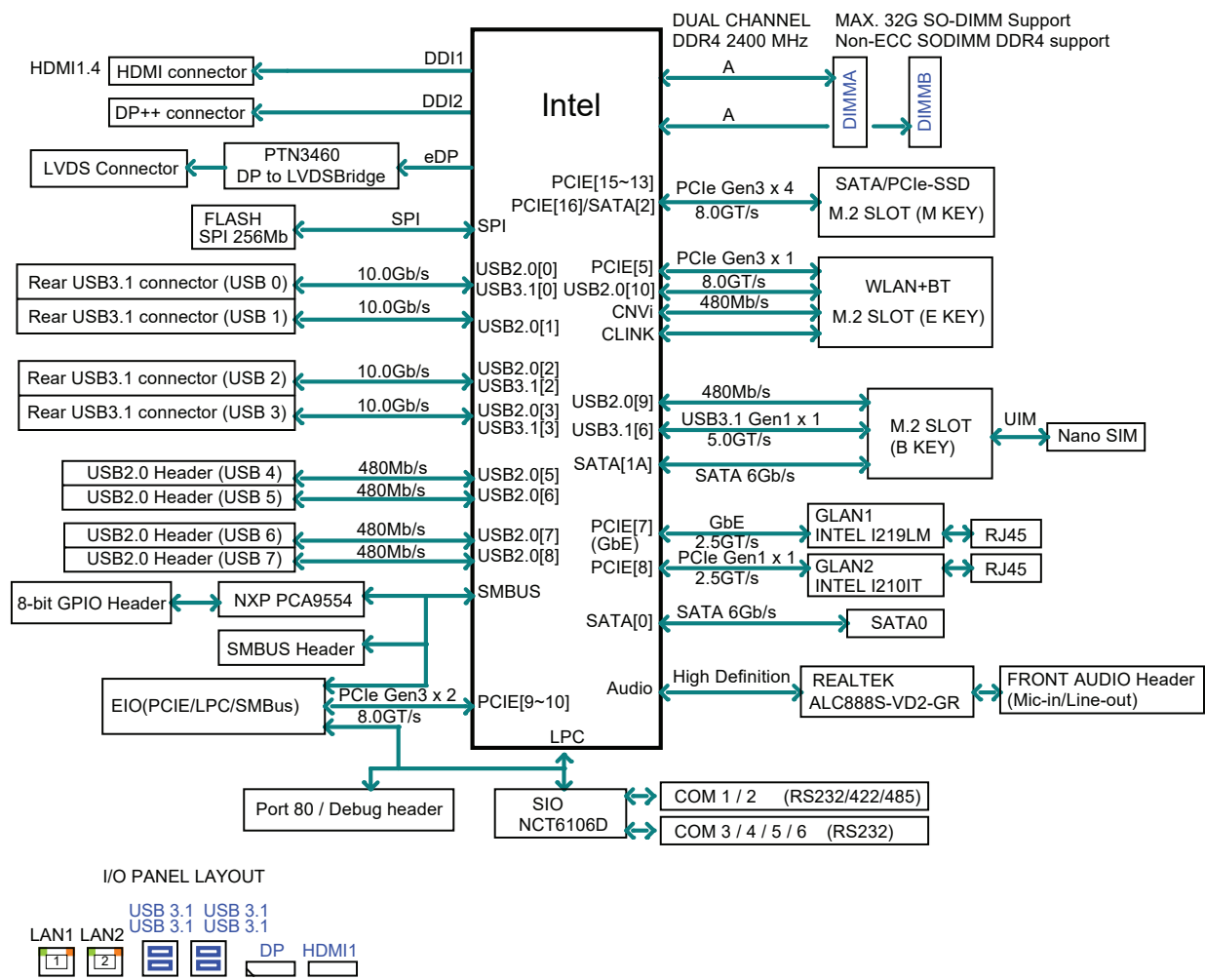


Figure 1-6. System Block Diagram

Note: This is a general block diagram and might not exactly represent the features on your motherboard. See the System Specifications appendix for the actual specifications of your motherboard.

1.5 System Installation

This section provides advice and instructions for mounting your system. The system is shipped with the onboard processor and the motherboard installed in the chassis.

Unpacking the System

Inspect the box in which the system was shipped and note if it was damaged. If the system itself shows damage, file a damage claim with the carrier.

Warnings and Precautions

Review the electrical and general safety precautions in Appendix B.

Installing Components to your System

- **Memory:** If your system is not already fully integrated with system memory, refer to Chapter 2 for details on compatible types of memory and the installation procedure.
- **Drives and Storage:** Refer to Chapter 2 for instructions on installing drives.
- **Installing Mounting Brackets:** Refer to Chapter 2 for instructions on installing mounting brackets.
- **Input/Output:** Refer to Chapter 3 for information about I/O ports.
- **Software:** Refer to Chapter 4 for software installation information, including drivers and monitoring programs.

Chapter 2

Maintenance and Component Installation

This chapter provides instructions on installing and replacing main system components. To prevent compatibility issues, only use components that match the specifications and/or part numbers given.

Installation or replacement of most components require that power first be removed from the system. Please follow the procedures given in each section.

2.1 Removing Power

Use the following procedure to ensure that power has been removed from the system.

1. Use the operating system to power down the system.
2. After the system has completely shut down, disconnect the AC adapter power cord from the power source.
3. Disconnect the power cord from the chassis.

2.2 Accessing the System

The chassis features a removable top cover.

Removing the Top Cover

1. Remove two screws holding the cover at the chassis rear.
2. Slide the cover to the rear as illustrated above to release the cover hooks from the chassis, and lift the cover off.

Caution: Except for short periods of time, do *not* operate the server without the cover in place. It helps provide proper airflow and prevent overheating.

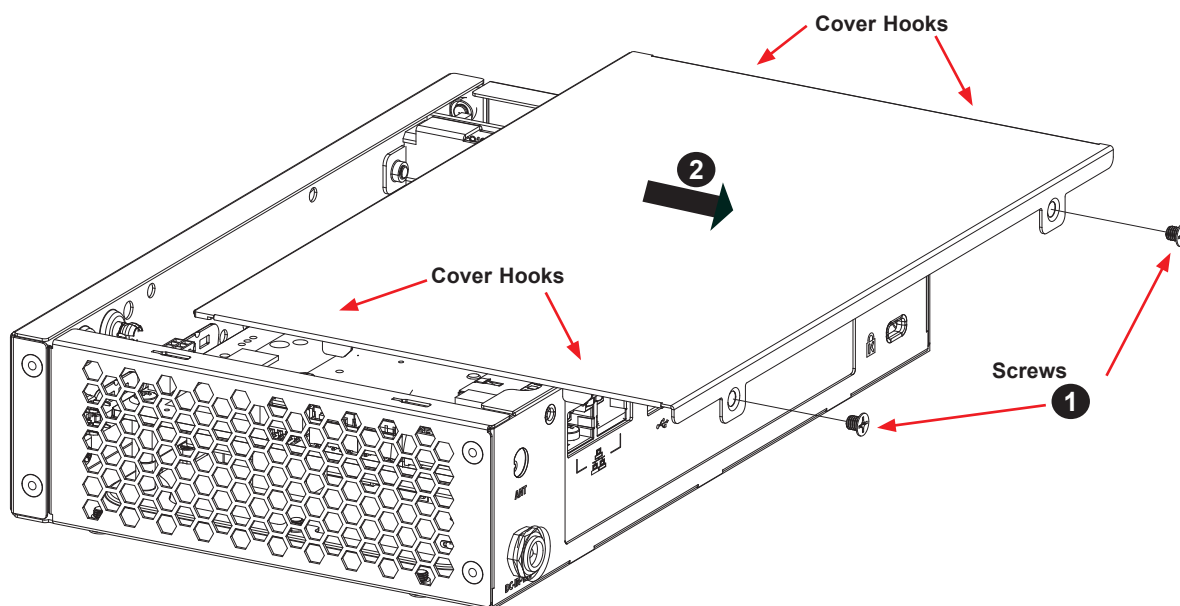


Figure 2-1. Removing the Chassis Cover

Motherboard Removal

The X11SWN-H/E/L/C can be removed from the chassis to install motherboard or chassis components.

Removing the Motherboard

1. Remove the top chassis cover as described on the previous page.
2. Remove the four screws holding the motherboard to the chassis floor.
3. Lift the motherboard out of the chassis.

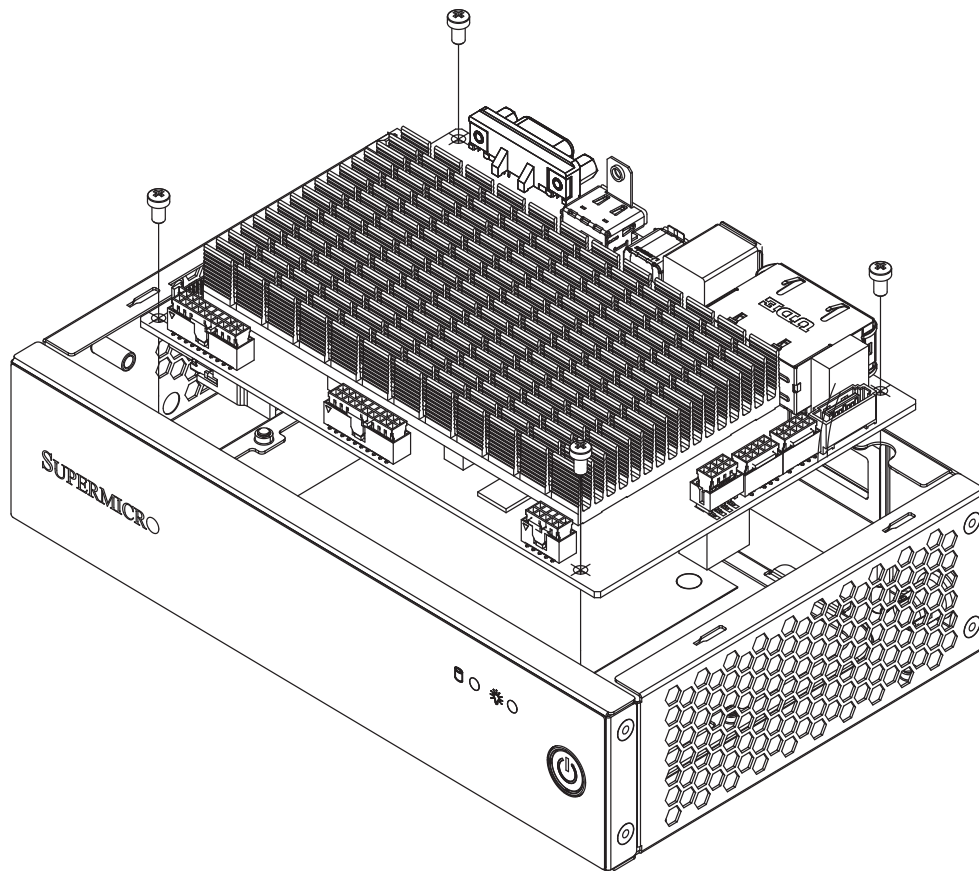


Figure 2-2. Motherboard Removal

Note: The figure above is for illustrative purposes. Details may differ from the E102-9W-H/E/L/C.

2.3 Motherboard Components

Processor

The E102-9W-C supports the Intel® Celeron 4305UE Processor. E102-9W-H, E102-9W-E, and E102-9W-L support Intel® Whiskey Lake-U i7-8665UE/i5-8365UE/i3-8145UE

Memory Support

The X11SWN-C motherboard supports up to 64GB of non-ECC SO-DIMM DDR4 memory with speeds of up to 2133 MHz in two memory slots. The X11SWN-H, X11SWN-E, and X11SWN-L motherboards support up to 64GB of non-ECC SO-DIMM DDR4 memory with speeds of up to 2400 MHz in two memory slots.

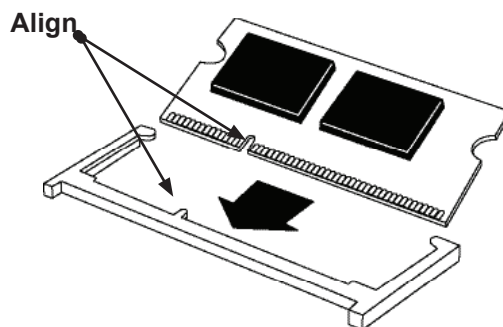
Note: Check the Supermicro website for recommended memory modules.

Installing Memory

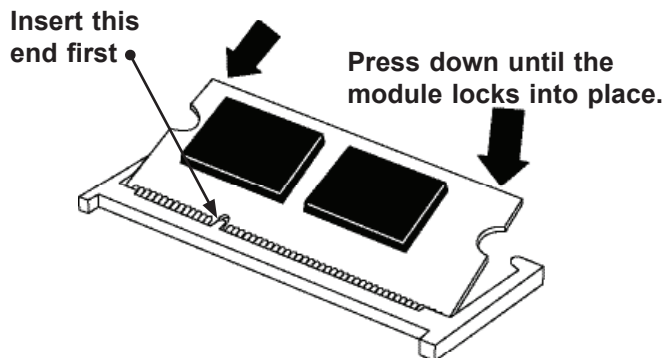
Caution: Exercise extreme care when installing or removing DIMM modules to prevent damage.

SO-DIMM Installation

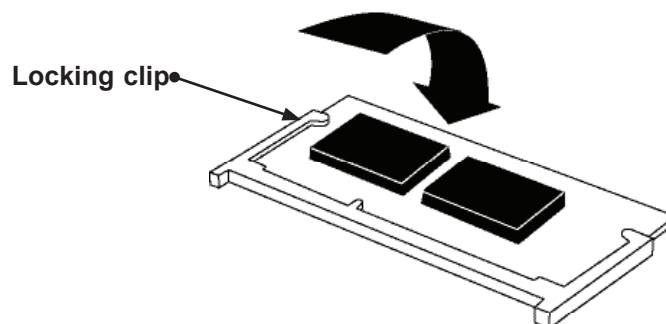
1. Remove the motherboard from the chassis and carefully turn the motherboard over to the bottom side.



2. Position the SO-DIMM module's bottom key so it aligns with the receptive point on the slot.



3. Insert the SO-DIMM module vertically at about a 45 degree angle. Press down until the module locks into place.
4. The side clips will automatically secure the SO-DIMM module, locking it into place.



SO-DIMM Removal

1. Push the side clips at the end of the slot to release the SO-DIMM module.
2. Pull the SO-DIMM module up to remove it from the slot.

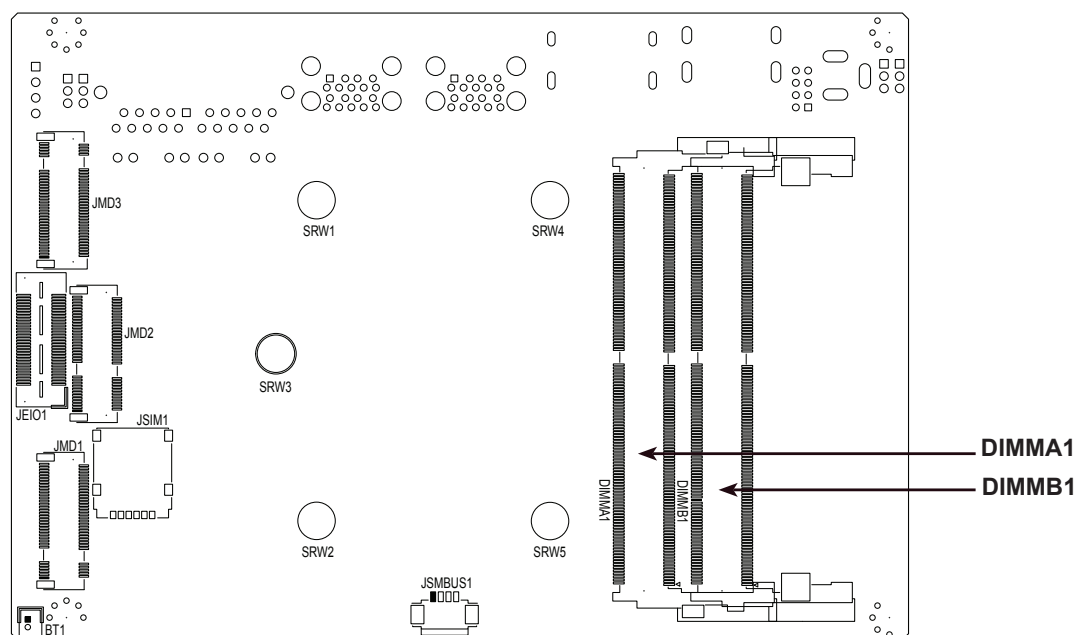


Figure 2-3. SO-DIMM Labels on Bottom of the Motherboard

Solid State Storage

This motherboard supports internally mounted solid state storage cards by means of three M.2 drives.

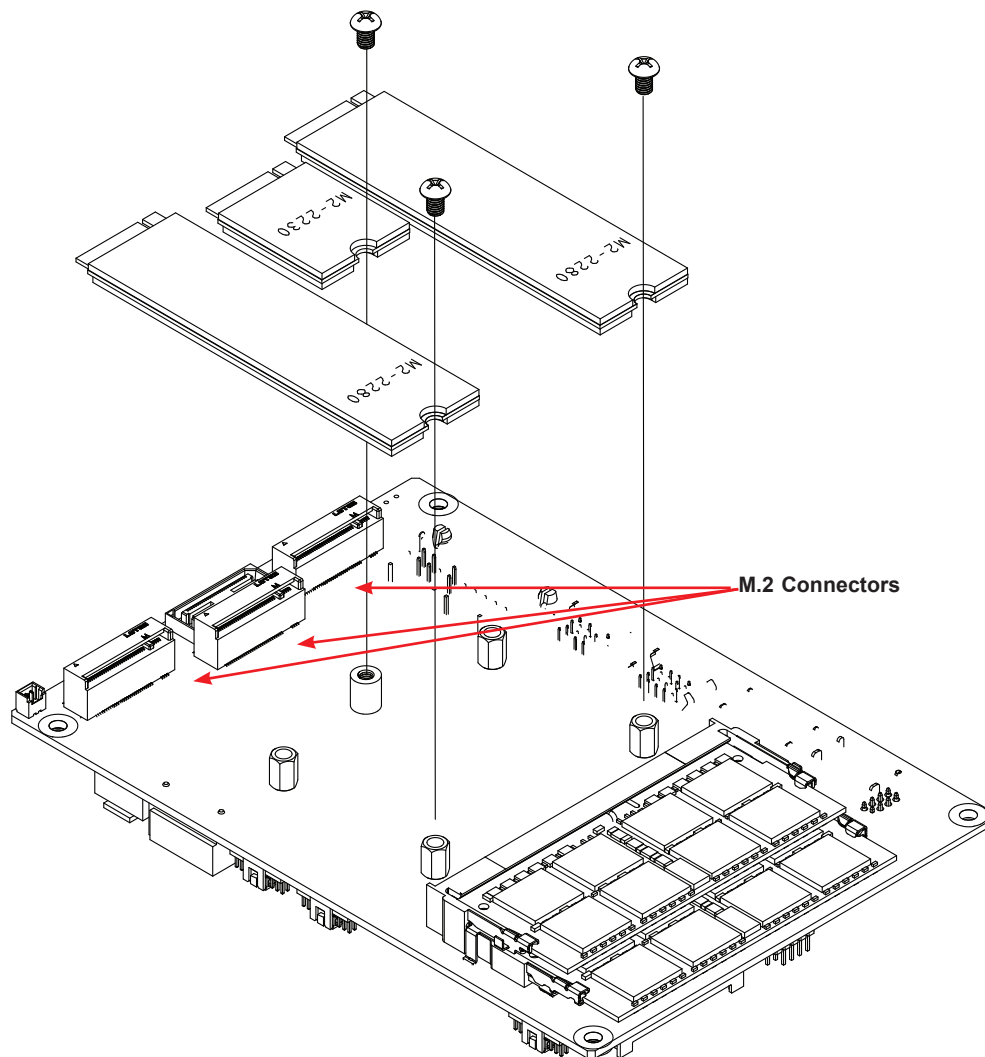


Figure 2-4. Installing M.2 Expansion Cards

Installing an M.2 Card

1. Gently insert the M.2 card into the connector.
2. Use a screw to secure the M.2 card to the standoff.

2.4 Battery Removal and Installation

Battery Removal

To remove the battery, follow the steps below:

1. Power off your system and remove the cover as described in Sections 2.1 and 2.2.
2. Remove the battery cable at the BT1 connector on the board.
3. Remove the battery.

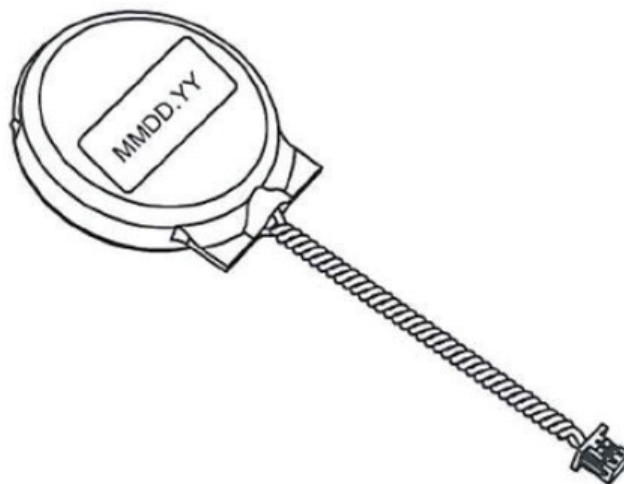
Proper Battery Disposal

Handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

Battery Installation

1. Unplug the power cord.
2. Connect the battery cable into the battery connector (BT1) and push it down until you hear a click to ensure that the cable is securely locked.

The battery is temporarily placed on the heatsink during shipping. Use the foam tape on the back side of the battery to secure the battery to a flat surface on the bottom of the motherboard or a proper location in the system. Do not place the battery on the heatsink during operation.



2.5 Chassis Components

Installing the Hard Drive

The CSE-E102 can accommodate a single fixed 2.5" hard drive of 7 mm height. It is installed to the inside of the bottom cover of the chassis. Use an enterprise quality drive.

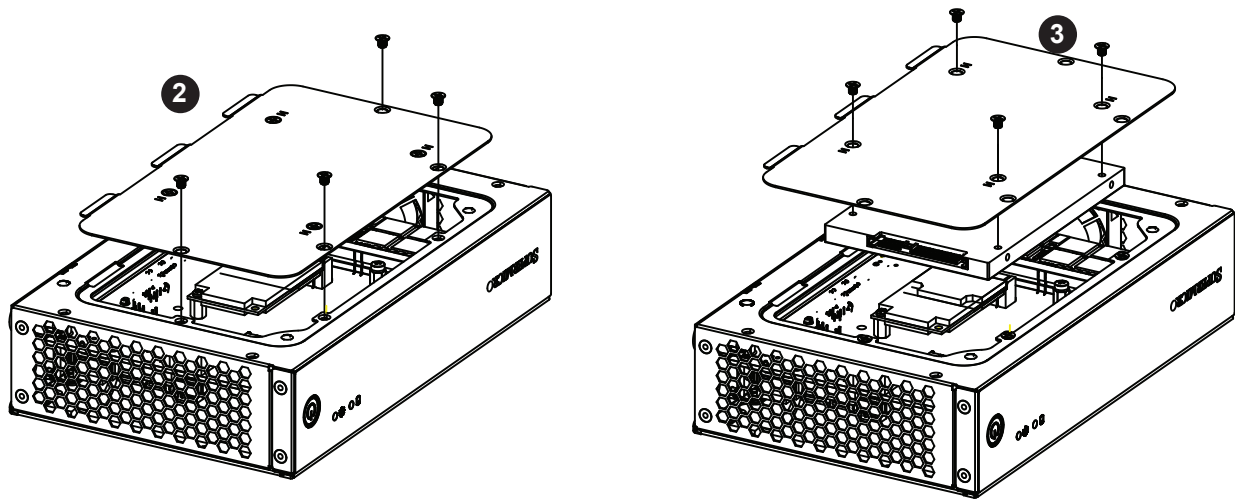


Figure 2-4. Installing the Hard Drive

Installing the Hard Drive

The motherboard should be installed before installing the hard drive.

1. Make sure there is no power to the system as described in section 2.1 and remove the chassis cover.
2. Remove the four screws securing the bottom cover tray to the chassis and set them aside for later use. Lift the cover out. On the inside of this bottom cover is where the hard drive is mounted.
3. Place the hard drive on to the inside of the bottom cover and secure it to the tray with the four screws provided with the hard drive, as shown.
4. Attach the cable SATA connector and to the motherboard connector. This cable carries both the SATA signal and the SATA power.
5. Return the hard drive bottom cover assembly into the chassis, aligning the screw holes of the bottom tray with the holes in the chassis. Secure the tray to the chassis support bracket with the screws previously set aside.
6. Power up the system.

System Cooling

The E102-9W-H/E/L/C includes a 40x40x10 mm cooling fan.

Installing the System Fan

1. Power down the system and remove the chassis cover as described in Sections 2.1 and 2.2.
2. If the motherboard is installed in the chassis, remove the motherboard from the chassis as described in Section 2.2.
3. To install the fan, align the fan with the holes in the wall of the chassis.
4. Secure the fan with two screws.
5. Install the motherboard and connect the fan cable to the fan header on the motherboard.
6. Reinstall the chassis top cover and power up the system.

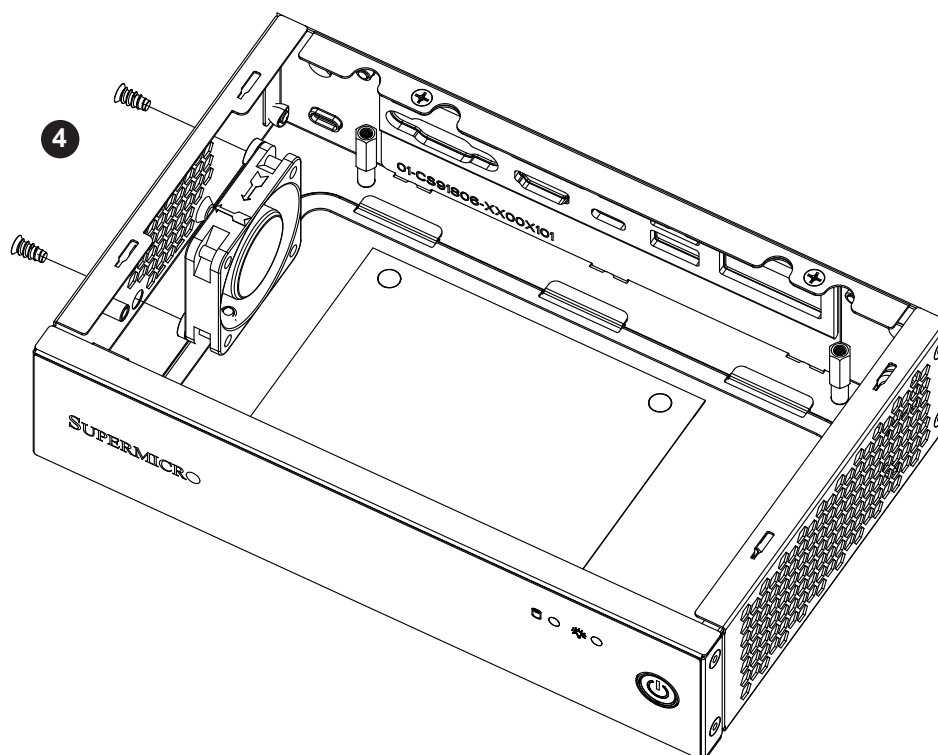


Figure 2-5. System Fan

Chapter 3

Motherboard Connections

This section describes the connections on the motherboard and provides pinout definitions. Depending on how the system is configured, not all connections are required. The LEDs on the motherboard are also described here. A motherboard layout indicating component locations can be found in Chapter 1.

Review the Safety Precautions in Appendix B before installing or removing components.

3.1 Power Connections

Power Connectors

JPWR1 is the 12-24V DC power connector that provides power to the motherboard. JPH1 is a 4-pin HDD power connector that provides power to the hard disk drives.

8-pin 12-24V Power Pin Definitions	
Pins	Definition
1 - 4	Ground
5 - 8	+12-24V

4-pin HDD Power Pin Definitions	
Pins	Definition
1	12V
2-3	Ground
4	5V

3.2 Headers and Connectors

Fan Header

There is one fan header with 4-pins on the motherboard. Pins 1-3 are backward compatible with traditional 3-pin fans. The onboard fan speeds are controlled by Thermal Management (via Hardware Monitoring) in the BIOS. When using Thermal Management setting, please use all 3-pin fans or all 4-pin fans.

Fan Header Pin Definitions	
Pin#	Definition
1	Ground (Black)
2	+12V (Red)
3	Tachometer
4	PWM Control

Front Panel Audio Header

A 10-pin front panel audio header located on the motherboard allows you to use the onboard sound for audio playback. Connect an audio cable to this header to use this feature. Refer to the table below for pin definitions.

Audio Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	Microphone_Left	2	Audio_Ground
3	Microphone_Right	4	Audio_Detect
5	Line_Out_Right	6	Ground
7	Jack_Detect	8	Key
9	Line_Out_Left	10	Ground

SATA Ports

The X11SWN-H/E/L/C motherboard has one I-SATA 3.0 ports. Refer to the table below for pin definitions. SATA ports provide serial-link signal connections, which are faster than the connections of Parallel ATA.

SATA 3.0 Port Pin Definitions	
Pin#	Signal
1	Ground
2	SATA_TXP
3	SATA_TXN
4	Ground
5	SATA_RXN
6	SATA_RXP
7	Ground

M.2 Slots

The X11SWN-H/E/L/C motherboard has three M.2 slots. M.2 was formerly known as Next Generation Form Factor (NGFF). M.2 allows for a variety of card sizes, increased functionality, and spatial efficiency. The M.2 slot at JMD1 supports M.2 B-Key SATA 3.1/USB 3.0/USB 2.0 modules with Nano SIM in a 2242/3042/2280 form factor, whereas the M.2 slot at JMD2 supports M.2 E-Key PCIe x1/USB2.0/CNVi modules in a 2230 form factor. The M.2 slot at JMD3 supports M.2 M-Key PCIe x4/SATA modules in a 2242/2280 form factor. Refer to the tables below for pin definitions.

M.2 Pin Definition (JMD1)			
Pin#	Definition	Pin#	Definition
1	N/C	2	P3V3SB
3	GND	4	P3V3SB
5	GND	6	FULL_CARD_POWER_OFF#(PU TO P1V8SB only)
7	USB_D+	8	W_DISABLE1#(PU TO P3V3SB only)
9	USB_D-	10	N/C
11	GND	12-19	KEY B
20-22	N/C	23	WAKE_ON_WWAN#(PU TO P1V8SB only)
24-25	N/C	26	W_DISABLE2#(PU TO P1V8SB only)
27	GND	28	N/C
29	USB3.0-Rx-	30	UIM-RESET
31	USB3.0-Rx+	32	UIM-CLK
33	GND	34	UIM-DATA
35	USB3.0-Tx-	36	UIM-PWR
37	USB3.0-Tx+	38	N/C
39	GND	40	N/C
41	SATA-B+	42	N/C
43	SATA-B-	44	Alert# (PU to P1V8SB only)
45	GND	46	N/C
47	SATA-A-	48	N/C
49	SATA-A+	50	N/C
51	GND	52-56	N/C
57	GND	58-65	N/C
66	SIM_DETECT	67	RESET#
68	N/C	69	N/C
70	P3V3SB	71	GND
72	P3V3SB	73	GND
74	P3V3SB	75	N/C

M.2 Slots (continued)

M.2 Pin Definition (JMD2)			
Pin#	Definition	Pin#	Definition
1	GND	2	P3V3SB
3	USB_D+	4	P3V3SB
5	USB_D-	6	N/C
7	GND	8	CNV_BT_I2S_SCLK
9	CNV_WR_LANE1_DN	10	CNV_RF_RESET_N
11	CNV_WR_LANE1_DP	12	CNV_BT_I2S_SDO
13	GND	14	MODEM_CLKREQ
15	CNV_WR_LANE0_DN	16	N/C
17	CNV_WR_LANE0_DP	18	GND
19	GND	20	UART_BT_WAKE_N
21	CNV_WR_CLK_DN	22	CNV_BRI_RSP
23	CNV_WR_CLK_DP	24	KEY E
25	KEY E	26	KEY E
27	KEY E	28	KEY E
29	KEY E	30	KEY E
31	KEY E	32	CNV_RGI_DT
33	GND	34	CNV_RGI_RSP
35	PETp0	36	CNV_BRI_DT
37	PETn0	38	CLINK_RST_N
39	GND	40	CLINK_DATA
41	PERp0	42	CLINK_CLK
43	PERn0	44	CNV_PA_BLANKING
45	GND	46	CNV_MFUART2_TXD
47	REFCLKp0	48	CNV_MFUART2_RXD
49	REFCLKn0	50	SUSCLK
51	GND	52	PERST0#
53	CLKREQ0#	54	BT_DISABLE2#
55	PEWAKE0#	56	WIFI_DISABLE2#
57	GND	58	N/C
59	CNV_WT_LANE1_DN	60	N/C
61	CNV_WT_LANE1_DP	62	N/C
63	GND	64	CLKIN_XTAL
65	CNV_WT_LANE0_DN	66	N/C
67	CNV_WT_LANE0_DP	68	N/C
69	GND	70	N/C
71	CNV_WT_CLK_DN	72	P3V3SB
73	CNV_WT_CLK_DP	74	P3V3SB
75	GND		

M.2 Slots (continued)

M.2 Pin Definition (JMD3)			
Pin#	Definition	Pin#	Definition
1	GND	2	P3V3
3	GND	4	P3V3
5	PERn3	6	N/C
7	PERp3	8	N/C
9	GND	10	N/C
11	PETn3	12	P3V3
13	PETp3	14	P3V3
15	GND	16	P3V3
17	PERn2	18	P3V3
19	PERp2	20	N/C
21	GND	22	N/C
23	PETn2	24	N/C
25	PETp2	26	N/C
27	GND	28	N/C
29	PERn1	30	N/C
31	PERp1	32	N/C
33	GND	34	N/C
35	PETn1	36	N/C
37	PETp1	38	N/C
39	GND	40	N/C
41	PERn0/SATA-B+	42	N/C
43	PERp0/SATA-B-	44	N/C
45	GND	46	N/C
47	PETn0/SATA-A-	48	N/C
49	PETp0/SATA-A+	50	PERST#
51	GND	52	CLKREQ#
53	REFCLKn	54	N/C
55	REFCLKp	56	N/C
57	GND	58	N/C
59	KEY M	60	KEY M
61	KEY M	62	KEY M
63	KEY M	64	KEY M
65	KEY M	66	KEY M
67	N/C	68	SUSCLK
69	PEDET	70	P3V3
71	GND	72	P3V3
73	GND	74	P3V3
75	GND		

Battery Connector

BT1 is a two-pin connector for an external CMOS battery. This connector is also used to clear the CMOS. To clear the CMOS, remove the battery, short pins 1-2 for more than 10 seconds and then install the battery.

Universal Serial Bus (USB) Ports

The motherboard has four USB 3.1 Gen 2 ports (USB0/1, USB2/3) on the I/O back panel. There are two USB 2.0 headers (USB4/5, USB6/7) that provide four USB connections. These onboard headers can be used to provide front side USB access with a cable (not included).

USB 2.0 Header Pin Definitions (USB4/5)			
Pin#	Definition	Pin#	Definition
1	+5V	2	+5V
3	USB_PN4	4	USB_PN5
5	USB_PP4	6	USB_PP5
7	Ground	8	Ground
9	Key	10	Ground

USB 2.0 Header Pin Definitions (USB6/7)			
Pin#	Definition	Pin#	Definition
1	+5V	2	+5V
3	USB_PN6	4	USB_PN7
5	USB_PP6	6	USB_PP7
7	Ground	8	Ground
9	Key	10	Ground

General Purpose I/O Header

The JGP1 (General Purpose Input/Output) header is a general purpose I/O expander on a pin header via the SMBus. Each pin can be configured to be an input pin or output pin. The GPIO is controlled via the PCA9554APW 8-bit GPIO expansion from PCH SMBus. The base address is 0xF040. The expander slave address is 0x4C for WRITE and READ. See the table below for pin definitions.

GPIO Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	P3V3SB	2	GND
3	GP_P3V3_GP0	4	GP_P3V3_GP4
5	GP_P3V3_GP1	6	GP_P3V3_GP5
7	GP_P3V3_GP2	8	GP_P3V3_GP6
9	GP_P3V3_GP3	10	GP_P3V3_GP7

LVDS Connector

LVDS1 is the LVDS connector. LVDS (low-voltage differential signaling) is a high-speed digital interface that operates at low power. It is a type of connection that is used with an LVDS LCD panel. The connector combines LCD VCC Power (pins 9-10), LVDS high speed digital interface, backlight power 3.3V (pin 7) and 12V (pins 1-5), backlight enable (pin 15), and dimming control (pin 13). Select the correct LCD VCC power according to the LCD specification by JLCDPWR1 (3.3V/5V/12V) before enabling the LVDS panel. Refer to the table below for vendor part number, mating, and crimping contact connector information before making the LVDS/backlight cable.

LVDS Connector Pin Definitions			
Pin#	Definition	Pin#	Definition
39	GND	40	GND
37	LVDSB D3N	38	LVDSB D3P
35	LVDSB CLKN	36	LVDSB CLKP
33	LVDSB D2N	34	LVDSB D2P
31	LVDSB D1N	32	LVDSB D1P
29	LVDSB D0N	30	LVDSB D0P
27	GND	28	GND
25	LVDSA D3N	26	LVDSA D3P
23	LVDSA CLKN	24	LVDSA CLKP
21	LVDSA D2N	22	LVDSA D2P
19	LVDSA D1N	20	LVDSA D1P
17	LVDSA D0N	18	LVDSA D0P
15	BKLTEN	16	GND
13	BKLTCTL	14	PVCCEN
11	DDC CLK	12	DDC DATA
9	LCDVCC	10	LCDVCC
7	3.3V	8	GND
5	12V	6	GND
3	12V	4	12V
1	12V	2	12V

System Management Bus Header

A System Management Bus header for additional slave devices or sensors is located at JSMBUS1. See the table below for pin definitions.

SMBus Header Pin Definitions	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	NC

Nano SIM Slot

The JSIM1 slot supports a Nano SIM card.

JEIO1

This E/I/O header provides flexibility support for the following functions: PCIe x2, LPC, SMBus, and Power, so that it allows customers to make their own I/O module to fit different kinds of vertical market I/O demands.

Functions
PCI Express
LPC
SMBus
Power
N/C
GND

E/I/O Pin Definition				
Pin#	Definition		Pin#	Definition
1	PCIE_RX_DP0	61 GND	2	PCIE_TX_DP0
3	PCIE_RX_DN0		4	PCIE_TX_DN0
5	GND		6	GND
7	PCIE_RX_DP1		8	PCIE_TX_DP1
9	PCIE_RX_DN1		10	PCIE_TX_DN0
11	GND		12	GND
13	CLK_100M_DP		14	N/C
15	CLK_100M_DN		16	N/C
17	GND		18	N/C
19	N/C		20	N/C
21	N/C	62 GND	22	GND
23	GND		24	N/C
25	N/C		26	N/C
27	N/C		28	GND
29	GND		30	N/C
31	N/C		32	WAKE_EIO_N
33	N/C		34	N/C
35	GND		36	N/C
37	N/C		38	SMB_CLK
39	N/C		40	SMB_DAT
41	P5VSB	63 GND	42	P3VSB
43	P5VSB		44	LPC_LFRAME_N
45	P12VSB		46	LPC_AD3
47	SOC_LPC_CLKOUT1		48	LPC_AD2
49	PLTR_TPM_80PORT_N		50	LPC_AD1
51	LPC_SERIRQ		52	LPC_AD0
53	P3V3		54	P5V
55	PS_ON_N		56	GND
57	N/C		58	N/C
59	N/C		60	N/C

3.3 Ports

Rear I/O Ports

See Figure 3-1 below for the locations and descriptions of the various I/O ports on the front of the motherboard.

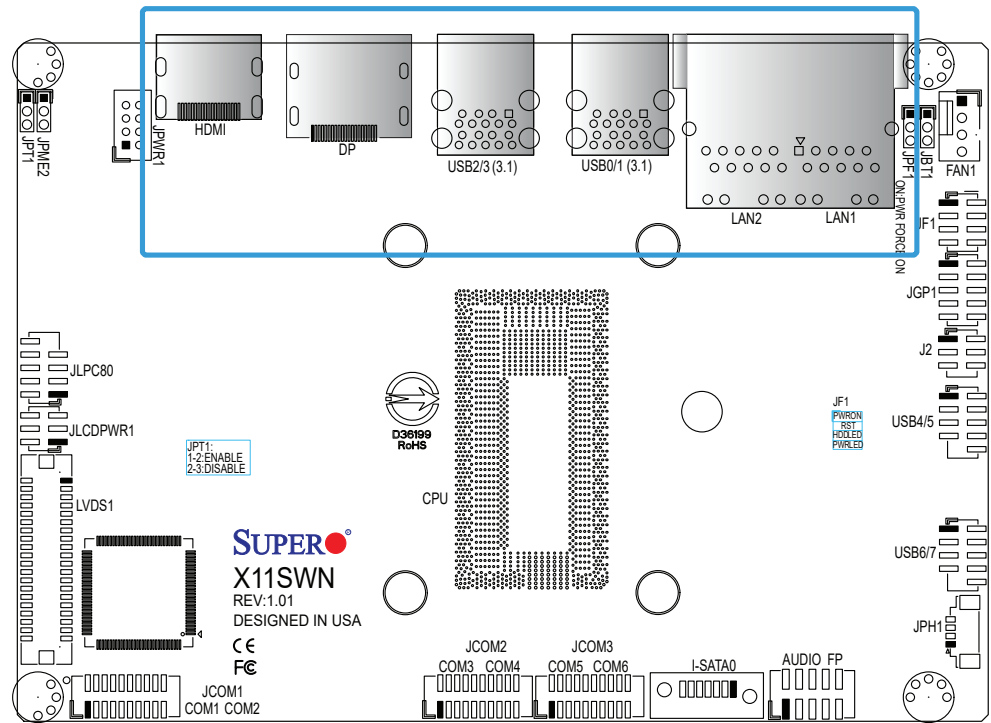
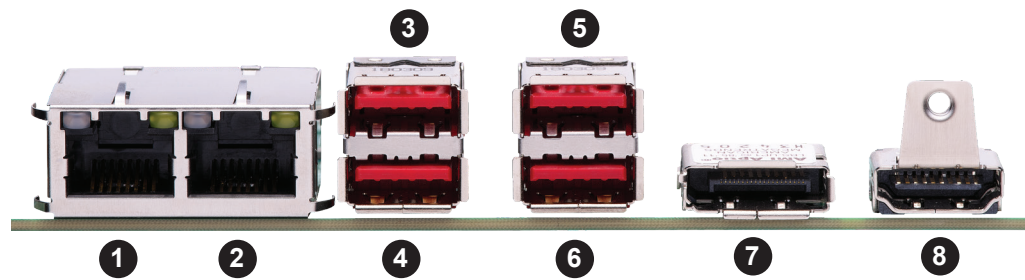


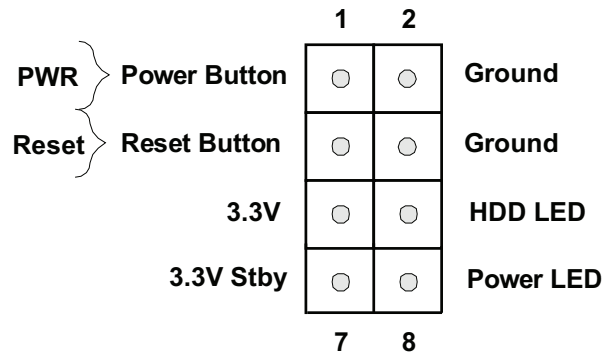
Figure 3-1. I/O Port Definitions



Rear I/O Ports			
#	Description	#	Description
1.	LAN1	6.	USB2 (USB3.1 Gen 2)
2.	LAN2	7.	USB3 (USB3.1 Gen 2)
3.	USB1 (USB3.1 Gen 2)	8.	DP++
4.	USB0 (USB3.1 Gen 2)	9.	HDMI

Control Panel

JF1 contains header pins for various buttons and indicators that are normally located on a control panel at the front of the chassis. These connectors are designed specifically for use with Supermicro chassis. Refer to the figure below for the descriptions of the front control panel buttons and LED indicators.



Power Button

The Power Button connection is located on pins 1 and 2 of JF1. Momentarily contacting both pins will power on/off the system. This button can also be configured to function as a suspend button (with a setting in the BIOS - see Chapter 5). To turn off the power in the suspend mode, press the button for at least four seconds. Refer to the table below for pin definitions.

Power Button Pin Definitions (JF1)	
Pins	Definition
1	Signal
2	Ground

Reset Button

The Reset Button connection is located on pins 3 and 4 of JF1. Attach it to a hardware reset switch on the computer case to reset the system. Refer to the table below for pin definitions.

Reset Button Pin Definitions (JF1)	
Pins	Definition
3	Reset
4	Ground

HDD LED

The HDD LED connection is located on pins 5 and 6 of JF1. Attach a cable here to show hard drive activity status. Refer to the table below for pin definitions.

HDD LED Pin Definitions (JF1)	
Pins	Definition
5	+3.3V
6	HDD LED

Power LED

The Power LED connection is located on pins 7 and 8 of JF1. Refer to the table below for pin definitions.

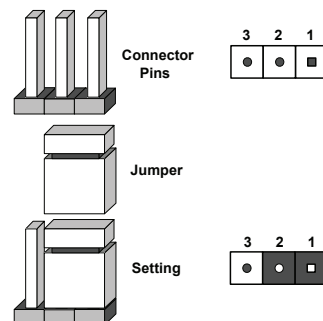
Power LED Pin Definitions (JF1)	
Pins	Definition
7	+3.3V Stby
8	PWR LED

3.4 Jumper Settings

How Jumpers Work

To modify the operation of the motherboard, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. See the diagram below for an example of jumping pins 1 and 2. Refer to the motherboard layout page for jumper locations.

Note: On two-pin jumpers, Closed means the jumper is on and Open means the jumper is off the pins.



CMOS Clear

JBT1 is used to clear the CMOS. Shut down the system before clearing the CMOS.

CMOS Clear Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Normal Operation (Default)
Pins 2-3	CMOS Clear

JLCDPWR1

Use this jumper to select the power voltage for the LVDS panel. Make sure that the specifications of the cable is compatible with the panel to prevent damage.

LVDS VCC Power Selection Jumper Settings	
Jumper Setting	Definition
Pins 1-3	3.3V (Default)
Pins 3-5	5V
Pins 3-4	12V

Manufacturing Mode Select

Close pins 2-3 of jumper JPME2 to bypass SPI flash security and force the system to operate in the manufacturing mode, which will allow the user to flash the system firmware from a host server for system setting modifications. Refer to the table below for jumper settings.

Manufacturing Mode Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Normal (Default)
Pins 2-3	Manufacturing Mode

Force Power On

Use jumper JPF1 to select the FORCE POWER ON function when the AC power cord is plugged in. When enabling force power on and AC power recovery, the system will boot up automatically without pressing the power button.

Force Power On Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Force Power On (Default) (when AC power cord is plugged)
Pins 2-3	PWR BTN Power On (when AC power cord is plugged)

TPM Enable

Use JPT1 to enable or disable support for the TPM module. Refer to the table below for jumper settings.

TPM Enable/Disable Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Enabled (Default)
Pins 2-3	Disabled

SIM Detection

This jumper is for wireless WAN module detection. Since each wireless WAN module vendor has a different condition of detection, check with the vendor for the correct detection type and set the J2 jumper before installing the module.

SIM Detection Jumper Settings	
Jumper Setting	Definition
Pins 2-4	High Active (Default)
Pins 4-6	Low Active

3.5 LED Indicator

LAN Port LEDs

Each Ethernet LAN port has two LEDs. The yellow LED on the right side indicates link and activity, while the left LED may be green, amber, or off to indicate the speed of the connection.

LAN1/2 LED (Connection Speed Indicator)	
LED Color	Definition
Off	10 Mb/s
Green	100 Mb/s
Amber	1 Gb/s

Chapter 4

Software

After the hardware has been installed, you can install the Operating System (OS), configure RAID settings and install the drivers.

4.1 Microsoft Windows OS Installation

If you will be using RAID, you must configure RAID settings before installing the Windows OS and the RAID driver. Refer to the RAID Configuration User Guides posted on our website at www.supermicro.com/support/manuals.

Installing the OS

1. Create a method to access the MS Windows installation ISO file. That might be a DVD, perhaps using an external USB/SATA DVD drive, or a USB flash drive, or the IPMI KVM console.
2. Retrieve the proper RST/RSTe driver. Go to the Supermicro web page for your motherboard and click on "Download the Latest Drivers and Utilities", select the proper driver, and copy it to a USB flash drive.
3. Boot from a bootable device with Windows OS installation. You can see a bootable device list by pressing **F11** during the system startup.

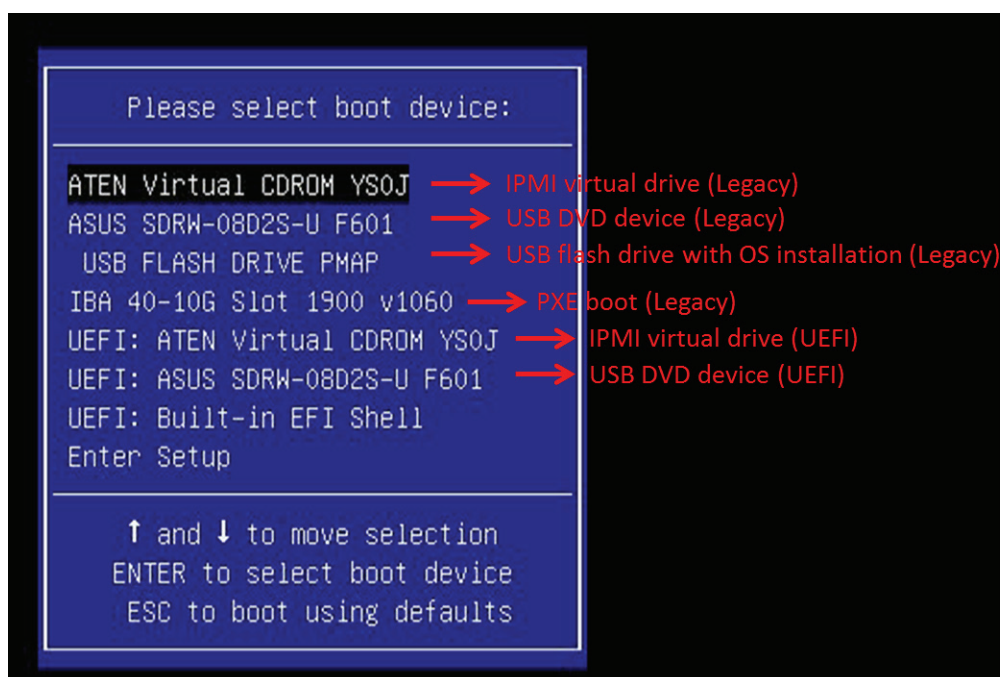


Figure 4-1. Select Boot Device

4. During Windows Setup, continue to the dialog where you select the drives on which to install Windows. If the disk you want to use is not listed, click on “Load driver” link at the bottom left corner.

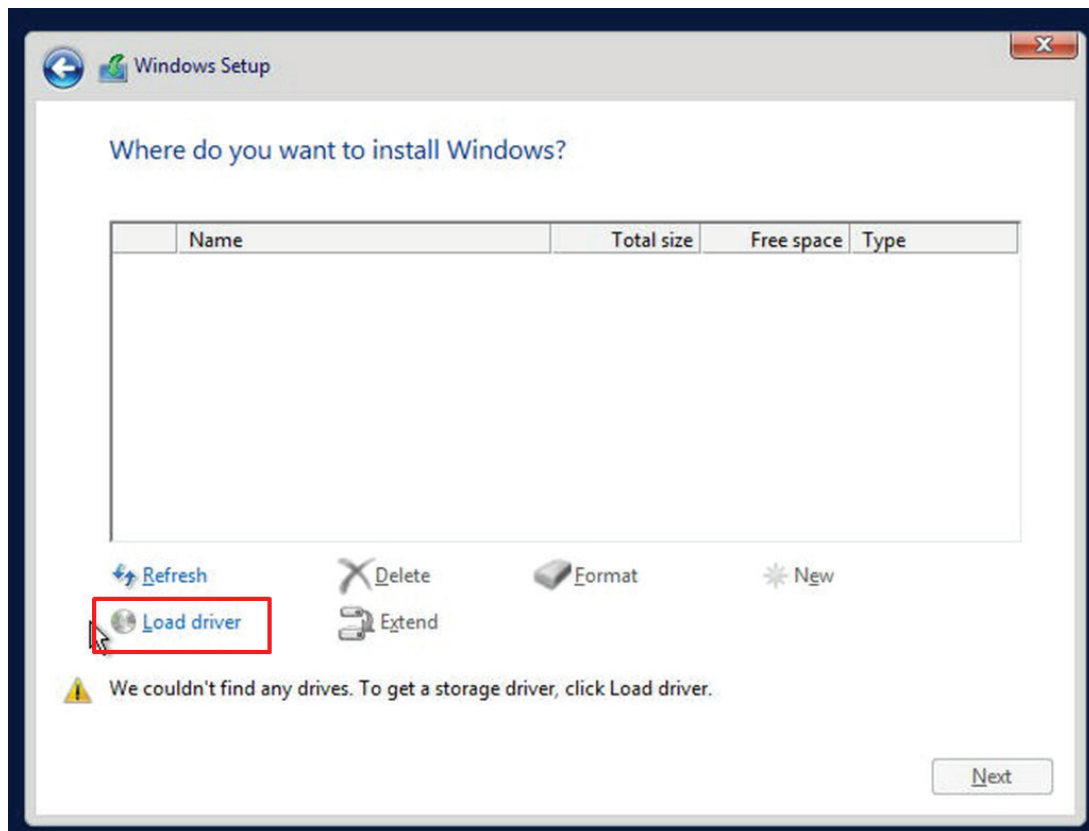


Figure 4-2. Load Driver Link

To load the driver, browse the USB flash drive for the proper driver files.

- For RAID, choose the SATA/sSATA RAID driver indicated then choose the storage drive on which you want to install it.
 - For non-RAID, choose the SATA/sSATA AHCI driver indicated then choose the storage drive on which you want to install it.
5. Once all devices are specified, continue with the installation.
 6. After the Windows OS installation has completed, the system will automatically reboot multiple times.

4.2 Driver Installation

The Supermicro website contains drivers and utilities for your system at <https://www.supermicro.com/wdl/driver>. Some of these must be installed, such as the chipset driver.

After accessing the website, go into the CDR_Images (in the parent directory of the above link) and locate the ISO file for your motherboard. Download this file to a USB flash drive or a DVD. (You may also use a utility to extract the ISO file if preferred.)

Another option is to go to the Supermicro website at <http://www.supermicro.com/products/>. Find the product page for your motherboard, and "Download the Latest Drivers and Utilities".

Insert the flash drive or disk and the screenshot shown below should appear.

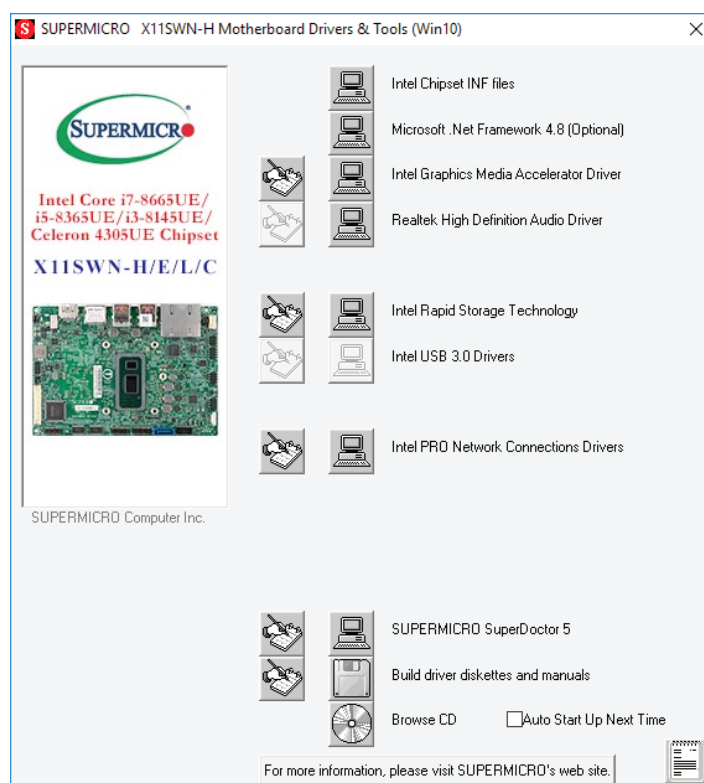


Figure 4-3. Driver & Tool Installation Screen

Note: Click the icons showing a hand writing on paper to view the readme files for each item. Click the computer icons to the right of these items to install each item (from top to the bottom) one at a time. **After installing each item, you must re-boot the system before moving on to the next item on the list.** The bottom icon with a CD on it allows you to view the entire contents.

4.3 SuperDoctor® 5

The Supermicro SuperDoctor 5 is a program that functions in a command-line or web-based interface for Windows and Linux operating systems. The program monitors such system health information as CPU temperature, system voltages, system power consumption, fan speed, and provides alerts via email or Simple Network Management Protocol (SNMP).

SuperDoctor 5 comes in local and remote management versions and can be used with Nagios to maximize your system monitoring needs. With SuperDoctor 5 Management Server (SSM Server), you can remotely control power on/off and reset chassis intrusion for multiple systems with SuperDoctor 5 or IPMI. SuperDoctor 5 Management Server monitors HTTP, FTP, and SMTP services to optimize the efficiency of your operation.

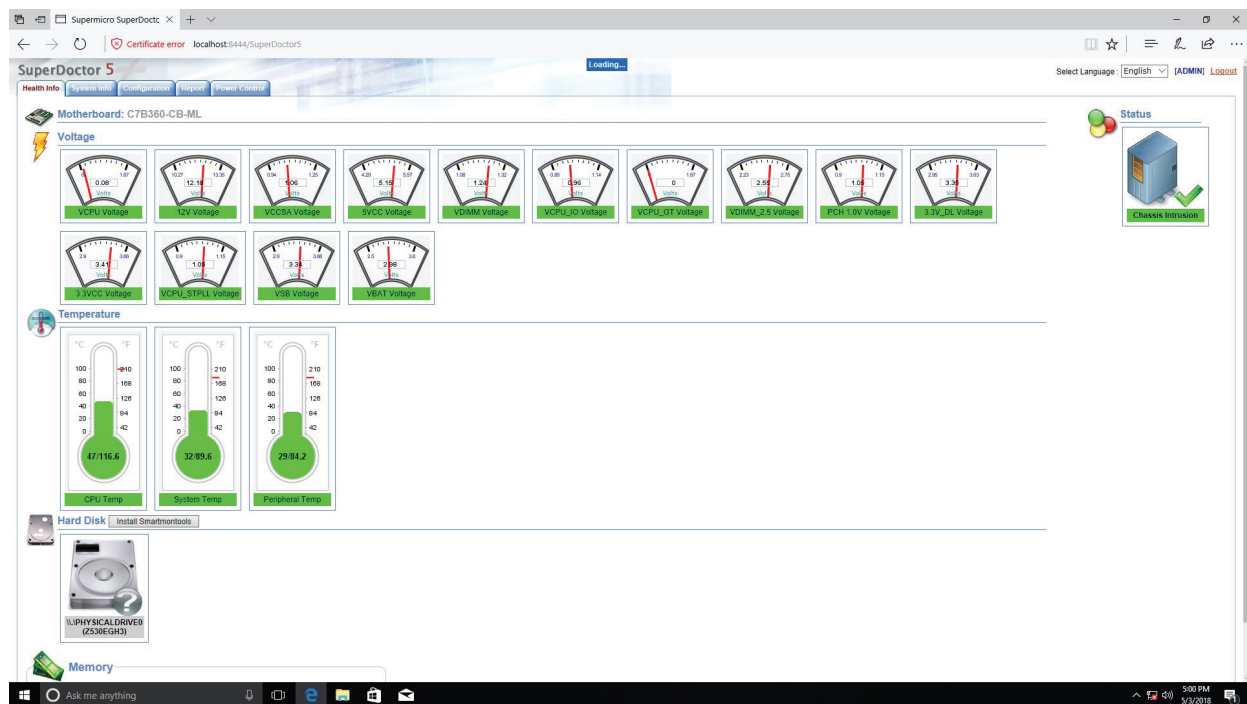


Figure 4-4. SuperDoctor 5 Interface Display Screen (Health Information)

Chapter 5

UEFI BIOS

5.1 Introduction

This chapter describes the AMIBIOS™ Setup utility for the X11SWN-H/E/L/C motherboard. The BIOS is stored on a chip and can be easily upgraded using a flash program.

Note: Due to periodic changes to the BIOS, some settings may have been added or deleted and might not yet be recorded in this manual. Please refer to the Manual Download area of our website for any changes to BIOS that may not be reflected in this manual.

Starting the Setup Utility

To enter the BIOS Setup Utility, hit the <Delete> key while the system is booting up. (In most cases, the <Delete> key is used to invoke the BIOS setup screen. There are a few cases when other keys are used, such as <F1>, <F2>, etc.) Each main BIOS menu option is described in this manual.

The Main BIOS screen has two main frames. The left frame displays all the options that can be configured. "Grayed-out" options cannot be configured. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it. (Note that BIOS has default text messages built in. We retain the option to include, omit, or change any of these text messages.) Settings printed in **Bold** are the default values.

A " ►" indicates a submenu. Highlighting such an item and pressing the <Enter> key will open the list of settings within that submenu.

The BIOS setup utility uses a key-based navigation system called hot keys. Most of these hot keys (<F1>, <Enter>, <ESC>, <Arrow> keys, etc.) can be used at any time during the setup navigation process.

5.2 Main Setup

When you first enter the AMI BIOS setup utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab on the top of the screen. The Main BIOS setup screen is shown below and the following features will be displayed:



System Date/System Time

Use this option to change the system date and time. Highlight *System Date* or *System Time* using the arrow keys. Enter new values using the keyboard. Press the <Tab> key or the arrow keys to move between fields. The date must be entered in MM/DD/YYYY format. The time is entered in HH:MM:SS format.

Note: The time is in the 24-hour format. For example, 5:30 P.M. appears as 17:30:00. The date's default value is the BIOS build date after RTC reset.

Supermicro X11SWN-H/E/L/C

BIOS Version

This feature displays the version of the BIOS ROM used in the system.

Build Date

This feature displays the date when the version of the BIOS ROM used in the system was built.

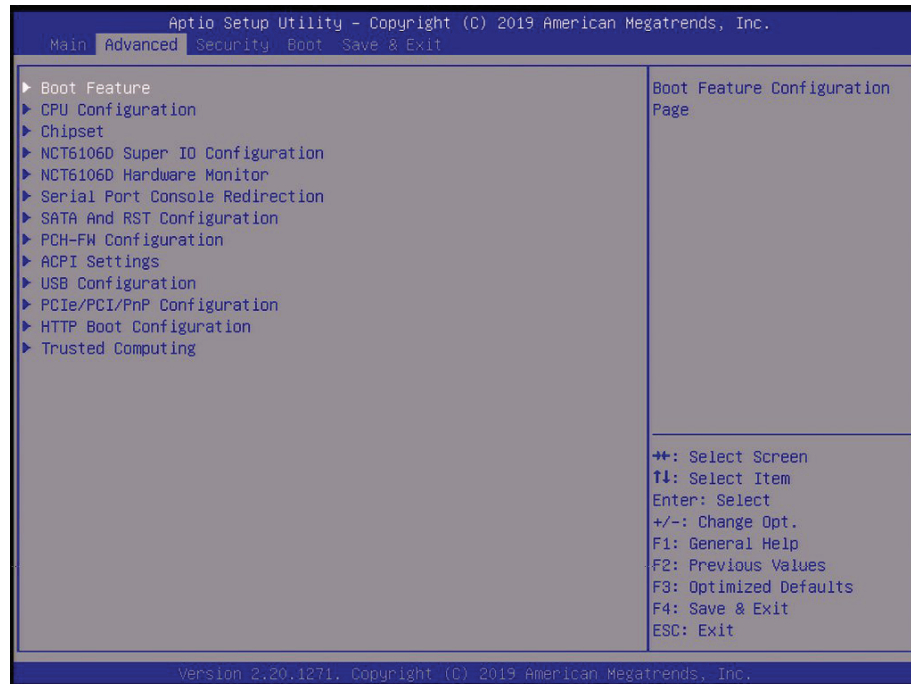
Memory Information

Total Memory

This feature displays the total size of memory available in the system.

5.3 Advanced

Use this menu to configure advanced settings.



Warning: Take caution when changing the Advanced settings. An incorrect value, a very high DRAM frequency or an incorrect BIOS timing setting may cause the system to malfunction. When this occurs, restore to default manufacturer settings.

► Boot Feature

Fast Boot

Enable this feature to reduce the time the computer takes to boot up. The computer will boot with a minimal set of required devices. This feature does not have an effect on BBS boot options in the Boot tab. The options are **Disabled** and **Enabled**.

Quiet Boot

Use this feature to select the screen display between POST messages or the OEM logo at bootup. Select **Disabled** to display the POST messages. Select **Enabled** to display the OEM logo instead of the normal POST messages. The options are **Disabled** and **Enabled**.

Bootup NumLock State

Use this feature to set the power-on state for the Numlock key. The options are **Off** and **On**.

Option ROM Messages

Use this feature to set the display mode for the Option ROM. The options are **Force BIOS** and **Keep Current**.

Wait For "F1" If Error

This feature forces the system to wait until the F1 key is pressed if an error occurs. The options are **Disabled** and **Enabled**.

Re-try Boot

If this feature is enabled, the BIOS will automatically reboot the system from a specified boot device after its initial boot failure. The options are **Disabled** and **EFI Boot**.

Port 61h bit-4 Emulation

Select **Enabled** to enable the emulation of Port 61h bit-4 toggling in SMM (System Management Mode). The options are **Disabled** and **Enabled**.

Watch Dog Function

If enabled, the Watch Dog timer will allow the system to reboot when it is inactive for more than five minutes. The options are **Disabled** and **Enabled**.

Restore on AC Power Loss

Use this feature to set the power state after a power outage. Select **Power Off** for the system power to remain off after a power loss. Select **Power On** for the system power to be turned on after a power loss. Select **Last State** to allow the system to resume its last power state before a power loss. The options are **Stay Off**, **Power On**, and **Last State**.

Power Button Function

This feature controls how the system shuts down when the power button is pressed. Select **4 Seconds Override** for the user to power off the system after pressing and holding the power button for four seconds or longer. Select **Instant Off** to instantly power off the system as soon as the user presses the power button. The options are **Instant Off** and **4 Seconds Override**. This option only works when JPF1 is set to pins 2-3 - PWR BTN Power On. If JPF1 is under pins 1-2 - Force Power On, it will always power on when the AC is plugged in.

►CPU Configuration

The following CPU information will display:

- CPU type
- CPU Signature
- Microcode Patch
- Max CPU Speed
- Min CPU Speed
- Processor Cores
- Hyper Threading Technology
- VMX
- SMX/TXT
- 64-bit
- EIST Technology
- CPU C3 state
- CPU C6 state
- CPU C7 state
- CPU C8 state
- CPU C9 state
- CPU C10 state
- L1 Data Cache
- L1 Instruction Cache
- L2 Cache
- L3 Cache
- L4 Cache

Hardware Prefetcher (Available when supported by the CPU)

If set to Enable, the hardware prefetcher will prefetch streams of data and instructions from the main memory to the L2 cache to improve CPU performance. The options are Disabled and **Enabled**.

Adjacent Cache Prefetch (Available when supported by the CPU)

The CPU prefetches the cache line for 64 bytes if this feature is set to Disabled. The CPU prefetches both cache lines for 128 bytes as comprised if this feature is set to Enable. The options are Disabled and **Enabled**.

Intel (VMX) Virtualization Technology

Use this feature to enable the Vanderpool Technology. This technology allows the system to run several operating systems simultaneously. The options are Disabled and **Enabled**.

Active Processor Cores

This feature determines how many CPU cores will be activated for each CPU. When all is selected, all cores in the CPU will be activated. The options are **All**, 1, 2, and 3.

Hyper-Threading

Select Enabled to support Intel Hyper-threading Technology to enhance CPU performance. The options are Disabled and **Enabled**.

AES

Select Enabled for Intel CPU Advanced Encryption Standard (AES) instructions support to enhance data integrity. The options are Disabled and **Enabled**.

Boot Performance Mode

This feature allows the user to select the performance state that the BIOS will set before the operating system handoff. The options are Power Saving, **Max Non-Turbo Performance**, and Turbo Performance.

Intel® SpeedStep™

Intel SpeedStep Technology allows the system to automatically adjust processor voltage and core frequency to reduce power consumption and heat dissipation. The options are Disabled and **Enabled**.

Intel® Speed Shift Technology

Use this feature to enable or disable Intel Speed Shift Technology support. When this feature is enabled, the Collaborative Processor Performance Control (CPPC) version 2 interface will be available to control CPU P-States. The options are Disabled and **Enabled**.

Turbo Mode

Select Enable for processor cores to run faster than the frequency specified by the manufacturer. The options are Disabled and **Enabled**.

Package Power Limit MSR Lock

Select Enabled to lock the package power limit for the model specific registers. The options are **Disabled** and Enabled.

Power Limit 1 Override

Select Enabled to support average power limit (PL1) override. The options are **Disabled** and Enabled.

Power Limit 1

Use this feature to configure the value for Power Limit 1. The value is in milli watts and the step size is 125mW. Use the number keys on your keyboard to enter the value. Enter 0 to use the manufacture default setting If the value is 0, the BIOS will set PL1 as 1.25* TDP. This feature is hidden when Power Limit 1 Override is Disabled.

Power Limit 2 Override

Select Enabled to support rapid power limit (PL2) override. The options are Disabled and **Enabled**.

Power Limit 2

Use this feature to configure the value for Power Limit 2. The value is in milli watts and the step size is 125mW. Use the number keys on your keyboard to enter the value. Enter 0 to use the manufacture default setting If the value is 0, the BIOS will set PL2 as 1.25* TDP.

1-Core Ratio Limit Override

This increases (multiplies) 1 clock speed in the CPU core in relation to the bus speed when one CPU core is active. Press "+" or "-" on your keyboard to change the value. Enter **44** to use the manufacture default setting.

2-Core Ratio Limit Override

This increases (multiplies) 2 clock speeds in the CPU core in relation to the bus speed when two CPU cores are active. Press "+" or "-" on your keyboard to change the value. Enter **44** to use the manufacture default setting.

3-Core Ratio Limit Override

This increases (multiplies) 3 clock speeds in the CPU core in relation to the bus speed when three CPU cores are active. Press "+" or "-" on your keyboard to change the value. Enter **42** to use the manufacture default setting.

4-Core Ratio Limit Override

This increases (multiplies) 4 clock speeds in the CPU core in relation to the bus speed when four CPU cores are active. Press "+" or "-" on your keyboard to change the value. Enter **42** to use the manufacture default setting.

C states

Use this feature to enable the C-State of the CPU. The options are Disabled and **Enabled**.

Enhanced C-states

Use this feature to enable the enhanced C-State of the CPU. The options are Disabled and **Enabled**.

C-State Auto Demotion

Use this feature to prevent unnecessary excursions into the C-states to improve latency. The options are Disabled, C1, C3, and **C1 and C3**.

C-State Un-demotion

This feature allows the user to enable or disable the un-demotion of C-State. The options are Disabled, C1, C3, and **C1 and C3**.

Package C-State Demotion

Use this feature to enable or disable the Package C-State demotion. The options are **Disabled** and Enabled.

Package C-State Un-demotion

Use this feature to enable or disable the Package C-State un-demotion. The options are **Disabled** and Enabled.

CState Pre-Wake

This feature allows the user to enable or disable the C-State Pre-Wake. The options are Disabled and **Enabled**.

Package C State Limit

Use this feature to set the Package C-State limit. The options are C0/C1, C2, C3, C6, C7, C7s, C8, C9, C10, Cpu Default, and **Auto**.

Monitor/Mwait

Select Enable to enable the Monitor/Mwait instructions. The Monitor instructions monitors a region of memory for writes, and MWait instructions instruct the CPU to stop until the monitored region begins to write. The options are Disabled and **Enabled**.

► Chipset Configuration

Warning: Setting the wrong values in the sections below may cause the system to malfunction.

► System Agent (SA) Configuration

► Memory Configuration

Memory Configuration

- Memory RC Version
- Memory Frequency
- Memory Timing (tCL-tRCD-tRP-tRAS)
- DIMMA1
- DIMMB1

Maximum Memory Frequency

Use this feature to set the maximum memory frequency for onboard memory modules. The options are **Auto**, 1067, 1200, 1333, 1400, 1600, 1800, 1867, 2000, 2133, 2200, 2400, 2600, and 2667.

Max TOLUD

This feature sets the maximum TOLUD value, which specifies the "Top of Low Usable DRAM" memory space to be used by internal graphics devices, GTT Stolen Memory, and TSEG, respectively, if these devices are enabled. The options are **Dynamic**, 1 GB, 1.25 GB, 1.5 GB, 1.75 GB, 2 GB, 2.25 GB, 2.5 GB, 2.75 GB, 3 GB, 3.25 GB, and 3.5 GB.

Memory Scrambler

Use this feature to enable or disable memory scrambler support. The options are Disabled and **Enabled**.

MRC Fast Boot

Use this feature to enable or disable fast path through the memory reference code. The options are Disabled and **Enabled**.

►Graphics Configuration

Graphics Configuration

IGFX VBIOS Version 1015

IGFX GOP Version N/A

Internal Graphics

Select Auto to keep an internal graphics device installed on an expansion slot supported by the CPU to be automatically enabled. The options are **Auto**, Disabled, and Enabled.

IGFX Graphic Output

Use this feature to select the preferred graphic output type. The options are **VGA** and Embedded Display.

****If the feature above is set to Embedded Display, the next five features will become available for configuration:***

Panel select

Use this feature to select the panel resolution. The options are **Use EDID in SPI ROM**, 800x600, 1024x768, 1280x1024, 1366x768, 800x480, 1920x1080, and OEM Define.

Panel Channel Type

Use this feature to select the Panel Channel Type. The options are **Disabled**, Odd Channel, Even Channel, and Both Channel.

Dual LVDS Mode

Use this feature to select a single or dual mode bus for the LVDS display. The options are **Disabled**, Single LVDS Bus Mode, and Dual LVDS Bus Mode.

Panel Color Depth

Use this feature to select the panel color depth. The options are **Disabled**, VESA and JEIDA18 bpp, VESA 24 bpp, and JEIDA 24 bpp.

Backlight Brightness

Use this feature to select the backlight brightness for the panel display. Select a range from 1 to 16.

GTT Size

Use this feature to set the memory size to be used by the graphics translation table (GTT). The options are 2MB, 4MB, and **8MB**.

Aperture Size

Use this feature to set the Aperture size, which is the size of system memory reserved by the BIOS for graphics device use. The options are 128MB, **256MB**, 512MB, 1024MB, and 2048MB.

DVMT Pre-Allocated

Dynamic Video Memory Technology (DVMT) allows dynamic allocation of system memory to be used for video devices to ensure best use of available system memory based on the DVMT 5.0 platform. The options are 0M, **32M**, 64M, 4M, 8M, 12M, 16M, 20M, 24M, 28M, 36M, 40M, 44M, 48M, 52M, 56M, and 60M.

DVMT Total Gfx Mem

Use this feature to set the total memory size to be used by internal graphics devices based on the DVMT 5.0 platform. The options are 128MB, **256MB**, and MAX.

VDD Enable

Enabling this feature will force VDD in the BIOS. The options are Disabled and **Enabled**.

PM Support

Enable this feature to activate Power Management BIOS support. The options are **Enabled** and Disabled.

PAVP Enable

Protected Audio Video Path (PAVP) decodes Intel integrated graphics encrypted video. The options are **Enabled** and Disabled.

Cdynmax Clamping Enable

Enable this feature to activate Cdynmax Clamping. The options are **Enabled** and Disabled.

Graphics Clock Frequency

Use this feature to set the internal graphics clock frequency. The options are 337.5 Mhz, 450 Mhz, 540 Mhz, and **675 Mhz**.

Skip CD Clock Init in S3 resume

Use this feature to enable skipping of the full CD initialization. If set to Disabled, the full CD clock will initialize. The options are Enabled and **Disabled**.

►GT - Power Management Control

RC6 (Render Standby)

Use this feature to enable render standby support. The options are Disabled and **Enabled**.

Maximum GT frequency

Use this feature to define the Maximum GT frequency. Choose between 33MHz (RPN) and 1200MHz (RP0). Any value beyond this range will be clipped to its min/max supported by the CPU. The options are **Default Max Frequency**, 100MHz, 150MHz, 200MHz, 250MHz, 300MHz, 350MHz, 400MHz, 450MHz, 500MHz, 550MHz, 600MHz, 650MHz, 700MHz, 750MHz, 800MHz, 850MHz, 900MHz, 950MHz, 1000MHz, 1050MHz, 1100MHz, 1150MHz, and 1200MHz.

Disable Turbo GT frequency

Use this feature to disable Turbo GT frequency. If set to Enabled, Turbo GT frequency becomes disabled. If set to Disabled, GT frequency limiters will be removed. The options are Enabled and **Disabled**.

VT-d

Select Enabled to activate Intel Virtualization Technology support for Direct I/O VT-d by reporting the I/O device assignments to VMM through the DMAR ACPI Tables. This feature offers fully-protected I/O resource-sharing across the Intel platforms, providing the user with greater reliability, security and availability in networking and data-sharing. The options are Disabled and **Enabled**.

SW Guard Extensions (SGX)

Select Enabled to activate the Software Guard Extensions (SGX). The options are Disabled, Enabled, and **Software Controlled**.

Select Owner EPOCH input type

There are three Owner EPOCH modes (each EPOCH is 64 bit). The options are **No Change in Owner EPOCHs**, Change to New Random Owner EPOCHs, and Manual User Defined Owner EPOCHs.

GNA Device (B0:D8:F0)

Use this feature to enable SA GNA device. The options are **Enabled** and Disabled.

X2APIC Opt Out

The feature "VT-D" must be enabled for this feature to be configurable. Use this feature to enable or disable X2APIC Opt Out. The options are Enabled and **Disabled**.

► PCH-IO Configuration

PCH-IO Configuration

PCH SKU Name Q370

Stepping B0

► PCI Express Configuration

DMI Link ASPM Control

Use this feature to set the ASPM (Active State Power Management) state on the SA (System Agent) side of the DMI Link. The options are Disabled, L0s, L1, L0sL1, and **Auto**.

Peer Memory Write Enable

Use this feature to enable or disable peer memory write. The options are **Disabled** and Enabled.

► M.2 E-Key/M.2 B-Key

ASPM 0

Use this feature to activate the Active State Power Management (ASPM) level for a PCIe device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. The options are Disabled, L0s, L1, L0sL1, and **Auto**.

L1 Substates

Use this feature to set the PCI Express L1 Substates. The options are Disabled, L1.1, and **L1.1 & L1.2**.

PCIe Speed

Use this feature to select the PCI Express port speed. The options are **Auto**, Gen1, Gen2, and Gen3.

PCIe PLL SSC

Use this feature to enable PCIe Phase-locked Loop (PLL) Spread Spectrum Clocking (SSC). The options are **Disabled** and Enabled.

IOAPIC 24-119 Entries

Use this feature to enable or disable IOAPIC 24-119 entries. IRQ 24-119 may be used by PCH devices. Disabling those IRQs may cause certain devices to fail. The options are Disabled and **Enabled**.

►NCT6106D Super IO Configuration

NCT6106D Super IO Configuration

Super IO Chip NCT6106D

►Serial Port 1 Configuration

Serial Port 1

Select Enabled to enable the selected onboard serial port. The options are Disabled and **Enabled**.

Device Settings

This feature displays the status of a serial port specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, (IO=3F8h; IRQ=4;), (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;).

COM Serial Port Type

Use this feature to select the COM1 port type. The options are **RS232 Mode**, RS422/RS485 Full Duplex Mode, and RS485 Half Duplex Mode.

►Serial Port 2 Configuration

Serial Port 2

Select Enabled to enable the selected onboard serial port. The options are Disabled and **Enabled**.

Device Settings

This feature displays the status of a serial port specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, (IO=2F8h; IRQ=3;), (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;).

COM Serial Port Type

Use this feature to select the COM2 port type. The options are **RS232 Mode**, RS422/RS485 Full Duplex Mode, and RS485 Half Duplex Mode.

►Serial Port 3 Configuration

Serial Port 3

Select Enabled to enable the selected onboard serial port. The options are Disabled and Enabled.

Device Settings

This feature displays the status of a serial port specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, (IO=3E8h; IRQ=7;), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=220h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), and (IO=228h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;).

►Serial Port 4 Configuration

Serial Port 4

Select Enabled to enable the selected onboard serial port. The options are Disabled and Enabled.

Device Settings

This feature displays the status of a serial port specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, (IO=2E8h; IRQ=7;), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=220h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), and (IO=228h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;).

► Serial Port 5 Configuration

Serial Port 5

Select Enabled to enable the selected onboard serial port. The options are Disabled and **Enabled**.

Device Settings

This feature displays the status of a serial port specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, (IO=228h; IRQ=7;), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=220h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), and (IO=228h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;).

► Serial Port 6 Configuration

Serial Port 6

Select Enabled to enable the selected onboard serial port. The options are Disabled and **Enabled**.

Device Settings

This feature displays the status of a serial port specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address. The options are **Auto**, (IO=220h; IRQ=7;), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), (IO=220h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;), and (IO=228h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;).

► NCT6106D Hardware Monitor

► System Health

Fan Speed Control Mode

Use this feature to set the fan speed control mode. The options are **Standard**, Quiet, and Full Speed.

- CPU Temperature
- Peripheral Temperature

- System Temperature
- PCH Temperature
- FAN1
- Vcore
- VDIMM
- 12V
- 5V
- AVSB
- 3VCC
- 3VSB
- VBAT

►Serial Port Console Redirection

COM1 - COM6

COM Console Redirection

Select Enabled to enable COM Port 1 for Console Redirection, which will allow a client machine to be connected to a host machine at a remote site for networking. The options are **Disabled** and Enabled.

****If the feature above is set to Enabled, the following features will become available for configuration:***

►Console Redirection Settings

COM Terminal Type

This feature allows you to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII Character set. Select VT100+ to add color and function key support. Select ANSI to use the Extended ASCII Character Set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are VT100, **VT100+**, VT-UTF8, and ANSI.

COM Bits per second

Use this feature to set the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 38400, 57600, and **115200** (bits per second).

COM Data Bits

Use this feature to set the data transmission size for Console Redirection. The options are 7 and 8.

COM Parity

A parity bit can be sent along with regular data bits to detect data transmission errors. Select Even if the parity bit is set to 0, and the number of 1's in data bits is even. Select Odd if the parity bit is set to 0, and the number of 1's in data bits is odd. Select None if you do not want to send a parity bit with your data bits in transmission. Select Mark to add a mark as a parity bit to be sent along with the data bits. Select Space to add a Space as a parity bit to be sent with your data bits. The options are **None**, Even, Odd, Mark, and Space.

COM Stop Bits

A stop bit indicates the end of a serial data packet. Select 1 Stop Bit for standard serial data communication. Select 2 Stop Bits if slower devices are used. The options are 1 and 2.

COM Flow Control

Use this feature to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None** and Hardware RTS/CTS.

COM VT-UTF8 Combo Key Support

Select Enabled to enable VT-UTF8 Combination Key support for ANSI/VT100 terminals. The options are Disabled and **Enabled**.

COM Recorder Mode

Select Enabled to capture the data displayed on a terminal and send it as text messages to a remote server. The options are **Disabled** and Enabled.

COM Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are Disabled and **Enabled**.

COM Legacy OS Redirection Resolution

Use this feature to select the number of rows and columns used in Console Redirection for legacy OS support. The options are **80x24** and 80x25.

COM Putty KeyPad

This feature selects Function Keys and KeyPad settings for Putty, which is a terminal emulator designed for the Windows OS. The options are **VT100**, LINUX, XTERMR6, SCO, ESCN, and VT400.

COM Redirection After BIOS POST

Use this feature to enable or disable legacy console redirection after BIOS POST. When set to BootLoader, legacy console redirection is disabled before booting the OS. When set to Always Enable, legacy console redirection remains enabled when booting the OS. The options are **Always Enable** and BootLoader.

AMT SOL

AMT SOL Console Redirection

This port is disabled.

Legacy Console Redirection

Redirection COM Port

Use this feature to select a COM port to display redirection of Legacy OS and Legacy OPRM messages. The options are **COM1**, COM2, COM3, COM4, COM5, and COM6.

Serial Port for Out-of-Band Management/Windows Emergency Management Services (EMS)

Console Redirection

Select Enabled to use a COM port selected by the user for EMS Console Redirection. The options are **Disabled** and Enabled.

****If the feature above is set to Enabled, the following features are available for configuration:***

►Console Redirection Settings

Out-of-Band Mgmt Port

The feature selects a serial port in a client server to be used by the Microsoft Windows Emergency Management Services (EMS) to communicate with a remote host server. The options are **COM1**, COM2, COM3, COM4, COM5, and COM6.

Terminal Type

Use this feature to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII character set. Select VT100+ to add color and function key support. Select ANSI to use the extended ASCII character set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are VT100, VT100+, **VT-UTF8**, and ANSI.

Bits per second

This feature sets the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 57600, and **115200** (bits per second).

Flow Control

Use this feature to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are **None**, Hardware RTS/CTS, and Software Xon/Xoff.

Data Bits

Parity

Stop Bits

► SATA and RST Configuration

SATA Controller(s)

This feature enables or disables the onboard SATA controller supported by the Intel PCH chip. The options are **Enabled** and Disabled.

SATA Mode Selection

Select AHCI to configure a SATA drive specified by the user as an AHCI drive. Select RAID to configure a SATA drive specified by the user as a RAID drive. The options are **AHCI** and RAID.

Aggressive LPM Support

When this feature is enabled, the SATA AHCI controller manages the power usage of the SATA link. The controller will put the link in a low power mode during extended periods of I/O inactivity, and will return the link to an active state when I/O activity resumes. The options are Disabled and **Enabled**.

Storage Option ROM/UEFI Driver

Select UEFI to load the EFI driver for system boot. Select Legacy to load a legacy driver for system boot. The options are Do not Launch, EFI, and **Legacy**.

Serial ATA Port 0 - 2

This feature displays the information detected on the installed SATA drive on the particular SATA port.

- Model number of drive and capacity
- Software Preserve Support

Serial ATA Port 0 - 2 Hot Plug

Set this feature to Enable for hot plug support, which will allow the user to replace a SATA drive without shutting down the system. The options are Disabled and **Enabled**.

Serial ATA Port 0 - 2 Spin Up Device

Set this feature to enable or disable the PCH to initialize the device. The options are **Disabled** and Enabled.

Serial ATA Port 0 - 2 SATA Device Type

Use this feature to specify if the SATA port specified by the user should be connected to a Solid State Drive or a Hard Disk Drive. The options are **Hard Disk Drive** and Solid State Drive.

►PCH-FW Configuration**ME Firmware Version****ME Firmware Mode: Normal Mode****ME Firmware SKU: Corporate SKU****ME FW Image Re-Flash**

Use this feature to update the Management Engine firmware. The options are **Disabled** and Enabled.

Manageability Features State

Enabled this feature to allow system administrators to configure the ME BIOS extension (MEBx) configuration settings. The options are Disabled and **Enabled**.

AMT BIOS Features

Disable this feature to deny access to the MEBx setup. The options are **Disabled** and Enabled.

****If the feature "AMT BIOS Features" is set to Enabled, the AMT Configuration submenu will be available for configuration:***

►AMT Configuration

ASF support

Use this feature to enable or disable Alert Standard Format support. This feature sends an alert about a potential issue when the operating system is in a sleep state. The options are Disabled and **Enabled**.

USB Provisioning of AMT

Use this feature to enable or disable USB provisioning. The options are **Disabled** and Enabled.

►CIRA Configuration

Activate Remote Assistance Process

Use this feature to activate Remote Assistance. Enabling this feature will also trigger the CIRA boot. The options are **Disabled** and Enabled.

****If the feature "Activate Remote Assistance Process" above is set to Enabled, the feature below will be available for configuration:***

CIRA Timeout

Use this feature to set the timeout value for MPS connection. Use **0** for the default timeout value of 60 seconds.

►ASF Configuration

PET Progress

Use this feature to enable or disable PET Events Progress to receive PET Events alerts. The options are Disabled and **Enabled**.

WatchDog

Select Enabled to allow AMT to reset or power down the system if the operating system or BIOS hangs or crashes. The options are **Disabled** and Enabled.

OS Timer / BIOS Timer

These options appear if Watch Dog (above) is enabled. This is a timed delay in seconds, before a system power down or reset after a BIOS or operating system failure is detected. Enter the value in seconds.

ASF Sensors Table

Enable this feature for the ASF Sensor Table to be added into the ASF! ACPI table. The options are **Disabled** and Enabled.

►Secure Erase Configuration

Secure Erase mode

Select Real to securely erase a solid state drive. The options are **Simulated** and Real.

Force Secure Erase

Select Enabled to force a secure erase of the solid state drive on the next boot. The options are **Disabled** and Enabled.

►OEM Flags Settings

MEBx hotkey Pressed

Use this feature to specify whether the MEBx hotkey should be enabled during the system boot. The options are **Disabled** and Enabled.

MEBx Selection Screen

Use this feature to select the type of MEBx selection screen. Press 1 to enter the ME Configuration screen and 2 to initiate a remote connection. Network access must be activated for a remote connection. The options are **Disabled** and Enabled.

Hide Unconfigure ME Confirmation Prompt

Use this feature to hide the unconfigure ME confirmation prompt. The options are **Disabled** and Enabled.

MEBx OEM Debug Menu Enable

Use this feature to enable or disable the OEM debug menu in MEBx. The options are **Disabled** and Enabled.

Unconfigure ME

Use this feature to reset the MEBx password to default. The options are **Disabled** and Enabled.

►MEBx Resolution Settings

Non-UI Mode Resolution

Use this feature to specify the resolution for the non-UI text mode. The options are **Auto**, 80x25, and 100x31.

UI Mode Resolution

Use this feature to specify the resolution for the UI text mode. The options are **Auto**, 80x25, and 100x31.

Graphics Mode Resolution

Use this feature to specify the resolution for the graphics mode. The options are **Auto**, 640x480, 800x600, and 1024x768.

►ACPI Settings

Use this feature to configure Advanced Configuration and Power Interface (ACPI) power management settings for your system.

ACPI Sleep State

Use this feature to select the ACPI Sleep State that the system will enter into when the suspend button is activated. The options are Suspend Disabled and **S3 (Suspend to RAM)**.

High Precision Event Timer

Select Enabled to activate the High Precision Event Timer (HPET) that produces periodic interrupts at a much higher frequency than a Real-time Clock (RTC) does in synchronizing multimedia streams, providing smooth playback and reducing the dependency on other timestamp calculation devices, such as an x86 RDTSC Instruction embedded in the CPU. The High Performance Event Timer is used to replace the 8254 Programmable Interval Timer. The options are Disabled and **Enabled**.

Native PCIE Enable

Enable this feature to grant control of PCI Express Native hot plug, PCI Express Power Management Events, and PCI Express Capability Structure Control. The options are Disabled and **Enabled**.

Native ASPM

Select Enabled for the operating system to control the ASPM, or Disabled for the BIOS to control the ASPM. The options are Auto, Enabled, and **Disabled**.

Headless Mode Support

Enable this feature for the system to function without a keyboard, monitor, or mouse attached. The options are **Disabled** and **Enabled**.

►USB Configuration

USB Configuration

USB Module Version: 21

USB Controllers: 1 XHCI

USB Devices: 1 Keyboard

Legacy USB Support

Select Enabled to support onboard legacy USB devices. Select Auto to disable legacy support if there are no legacy USB devices present. Select Disable to have all USB devices available for EFI applications only. The options are **Enabled**, **Disabled**, and **Auto**.

XHCI Hand-off

This is a work-around solution for operating systems that do not support XHCI (Extensible Host Controller Interface) hand-off. The XHCI ownership change should be claimed by the XHCI driver. The settings are **Enabled** and **Disabled**.

USB Mass Storage Driver Support

Select Enabled for USB mass storage device support. The options are **Disabled** and **Enabled**.

Port 60/64 Emulation

Select Enabled for I/O port 60h/64h emulation support, which in turn, will provide complete legacy USB keyboard support for the operating systems that do not support legacy USB devices. The options are **Disabled** and **Enabled**.

►PCIe/PCI/PnP Configuration

Option ROM execution

Video

Use this feature to select the execution of the video OpROM. The options are **Do not launch**, **UEFI**, and **Legacy**.

Above 4G Decoding (Available if the system supports 64-bit PCI decoding)

Select Enabled to decode a PCI device that supports 64-bit in the space above 4G Address. The options are **Disabled** and **Enabled**.

SR-IOV Support

Use this feature to enable or disable Single Root IO Virtualization Support. The options are **Disabled** and **Enabled**.

BME DMA Mitigation

Enable this feature to help block DMA attacks. The options are **Disabled** and **Enabled**.

NVMe Firmware Source

Use this feature to select the NVMe firmware to support booting. The options are **Vendor Defined Firmware** and **AMI Native Support**. The default option, Vendor Firmware, is pre-installed on the drive and may resolve errata or enable innovative functions for the drive. The other option, AMI Native Support, is offered by the BIOS with a generic method.

Consistent Device Name Support

Use this feature to consistently name onboard devices and slots. The options are **Disabled** and **Enabled**.

PCIe/PCI/PnP Configuration

M.2 E-Key OPROM

Use this feature to select which firmware to be loaded for the add-on card in this slot. The options are **Disabled**, **Legacy**, and **EFI**.

M.2 M-Key OPROM

Use this feature to select which firmware to be loaded for the add-on card in this slot. The options are **Disabled**, **Legacy**, and **EFI**.

Onboard LAN1 Support

Use this feature to select which firmware to be loaded for LAN port 1 used for system boot. The options are **Disabled** and **Enabled**.

Onboard LAN2 Support

Use this feature to select which firmware to be loaded for LAN port 2 used for system boot. The options are **Disabled** and **Enabled**.

Onboard LAN Option ROM Type

Use this feature to select which firmware to be loaded for onboard LAN devices. The options are **Legacy** and **EFI**. Select **Legacy** to display and configure the onboard LAN Option ROM features.

Onboard LAN1 Option ROM

Use this feature to select which firmware function to be loaded for LAN port 1 used for system boot. The options are **Disabled** and **PXE**.

Onboard LAN2 Option ROM

Use this feature to select which firmware function to be loaded for LAN port 2 used for system boot. The options are **Disabled**, PXE, and iSCSI.

Network Stack

Select Enabled to enable PXE (Preboot Execution Environment) or UEFI (Unified Extensible Firmware Interface) for network stack support. The options are Disabled and **Enabled**.

****If the feature above is set to Enabled, the features below will be available for configuration:***

Ipv4 PXE Support

Select Enabled to enable IPv4 PXE boot support. The options are Disabled and **Enabled**.

Ipv4 HTTP Support

Select Enabled to enable IPv4 HTTP boot support. The options are **Disabled** and Enabled.

Ipv6 PXE Support

Select Enabled to enable IPv6 PXE boot support. The options are Disabled and **Enabled**.

Ipv6 HTTP Support

Select Enabled to enable IPv6 HTTP boot support. The options are **Disabled** and Enabled.

IPSEC Certificate

The feature appears if Network Stack is enabled. Internet Protocol Security (IPSEC) offers a secure connection for remote computers using a secure tunnel. The options are Disabled and **Enabled**.

PXE boot wait time

Use this feature to specify the wait time to press the ESC key to abort the PXE boot. Press "+" or "-" on your keyboard to change the value. The default setting is **0**.

Media detect count

Use this feature to specify the number of times media will be checked. Press "+" or "-" on your keyboard to change the value. The default setting is **1**.

► HTTP BOOT Configuration

HTTP BOOT Configuration

Http Boot One Time

Use this feature to create the HTTP boot option. The options are **Disabled** and **Enabled**.

Input the description

Highlight the feature and press enter to create a description.

Boot URI

Highlight the feature and press enter to create a boot URI.

► Trusted Computing

The X11SWN-H/E/L/C supports TPM 1.2 and 2.0. The following Trusted Platform Module (TPM) information will display if a TPM 2.0 module is detected:

TPM20 Device Found

Vendor:

Firmware Version:

Security Device Support

If this feature and the TPM jumper on the motherboard are both set to **Enabled**, onboard security devices will be enabled for TPM support to enhance data integrity and network security. Reboot the system for a change on this setting to take effect. The options are **Disabled** and **Enabled**.

The following TPM information will be displayed:

- Active PCR banks
- Available PCR banks

****If the feature "Security Device Support" is enabled, the following features are available for configuration:***

SHA-1 PCR Bank

Use this feature to disable or enable the SHA-1 Platform Configuration Register (PCR) bank for the installed TPM device. The options are **Disabled** and **Enabled**.

SHA256 PCR Bank

Use this feature to disable or enable the SHA256 Platform Configuration Register (PCR) bank for the installed TPM device. The options are **Disabled** and **Enabled**.

Pending Operation

Use this feature to schedule a TPM-related operation to be performed by a security device for system data integrity. The options are **None** and TPM Clear.

Note: Your system will reboot to carry out a pending TPM operation.

Pending Operation

Use this feature to schedule a TPM-related operation to be performed by a security device for system data integrity. Your system will reboot to carry out a pending TPM operation. The options are **None** and TPM Clear.

Platform Hierarchy

Use this feature to disable or enable platform hierarchy for platform protection. The options are Disabled and **Enabled**.

Storage Hierarchy

Use this feature to disable or enable storage hierarchy for cryptographic protection. The options are Disabled and **Enabled**.

Endorsement Hierarchy

Use this feature to disable or enable endorsement hierarchy for privacy control. The options are Disabled and **Enabled**.

TPM2.0 UEFI Spec Version

Use this feature to specify the TPM UEFI spec version. TCG 1.2 has support for Windows® 2012, Windows 8, and Windows 10. TCG 2 has support for Windows 10 or later. The options are TCG_1_2 and **TCG_2**.

Physical Presence Spec Version

Use this feature to select the PPI spec version. The options are 1.2 and **1.3**.

PH Randomization

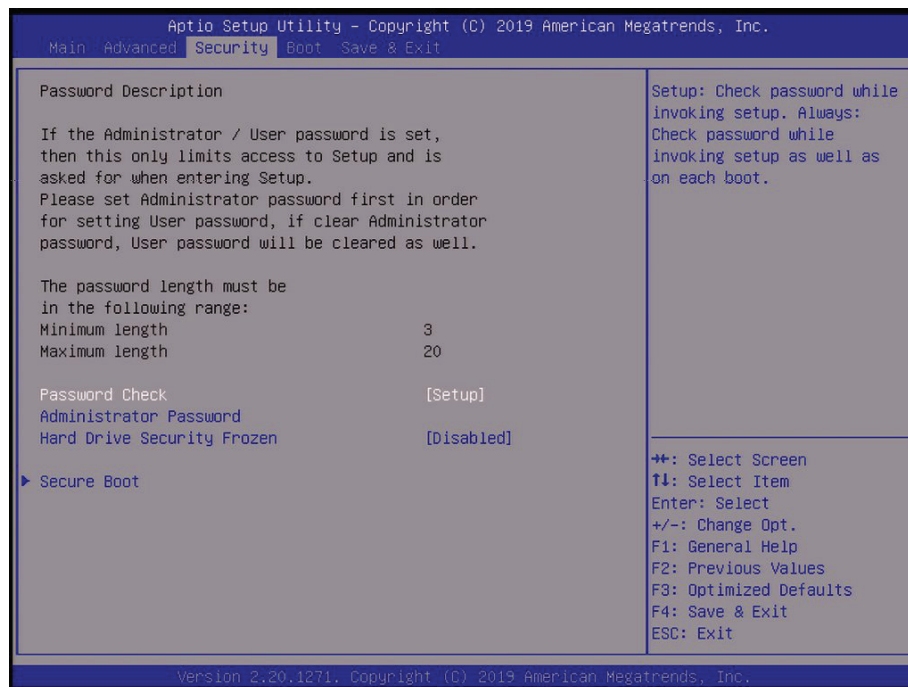
Use this feature to disable or enable Platform Hierarchy (PH) Randomization. The options are **Disabled** and Enabled.

TXT Support

Intel TXT (Trusted Execution Technology) helps protect against software-based attacks and ensures protection, confidentiality and integrity of data stored or created on the system. Use this feature to enable or disable TXT Support. The options are **Disabled** and Enabled.

5.4 Security

Use this menu to configure the security settings.



Password Check

Select Setup for the system to check for a password at Setup. Select Always for the system to check for a password at bootup or upon entering the BIOS Setup utility. The options are **Setup** and Always.

Administrator Password

Use this feature to set the administrator password which is required to enter the BIOS setup utility. The length of the password should be from 3 to 20 characters long.

Hard Drive Security Frozen

Use this feature to disable or enable the BIOS security frozen command to SATA and NVMe devices. The options are Enabled and **Disabled**.

► Secure Boot

System Mode

Secure Boot

Attempt Secure Boot

Select Enable for secure boot support to ensure system security at bootup. The options are **Disabled** and Enabled.

Secure Boot Mode

This feature allows you to select the desired secure boot mode for the system. The options are Standard and **Custom**.

****If Secure Boot Mode is set to Custom, Key Management features are available for configuration:***

CSM Support

This feature is for manufacturing debugging purposes.

► Key Management

Vendor Keys

Provision Factory Default keys

Select Enabled to install the default Secure Boot keys set by the manufacturer. The options are **Disabled** and Enabled.

****If the feature above is set to Enabled, the next four features are available for configuration:***

► Install Factory Default Keys

Select Yes to install all factory keys to the default settings. The options are Yes and No.

► Reset to Setup Mode

Select Yes to delete all Secure Boot key databases and force the system to Setup Mode. The options are Yes and No.

► Save all Secure Boot variables

Use this feature to copy the NVRAM contents of the secure boot variables to a file.

► Enroll Efi Image

This feature allows the image to run in Secure Boot mode.

Device Guard Ready**► Remove 'UEFI CA' from DB**

Use this feature to remove the Microsoft UEFI CA certificate from the database. The options are Yes and No.

► Restore DB Defaults

Select Yes to restore all DBs to the default settings. The options are Yes and No.

Secure Boot variable | Size | Keys# | Key Source**► Platform Key (PK)****Update**

Select Yes to load a factory default PK or No to load from a file on an external media.

► Key Exchange Keys (KEK)**Update**

Select Yes to load a factory default KEK or No to load from a file on an external media.

Append

Select Yes to add the KEK from the manufacturer's defaults list to the existing KEK. Select No to load the KEK from a file. The options are Yes and No.

► Authorized Signatures**Update**

Select Yes to load a factory default db or No to load from a file on an external media.

Append

Select Yes to add the db from the manufacturer's defaults list to the existing db. Select No to load the db from a file. The options are Yes and No.

► Forbidden Signatures**Update**

Select Yes to load a factory default dbx or No to load from a file on an external media.

Append

Select Yes to add the dbx from the manufacturer's defaults list to the existing dbx. Select No to load the dbx from a file. The options are Yes and No.

► Authorized TimeStamps**Update**

Select Yes to load a factory default dbt or No to load from a file on an external media.

Append

Select Yes to add the dbt from the manufacturer's defaults list to the existing dbt. Select No to load the dbt from a file. The options are Yes and No.

► OsRecovery Signatures**Update**

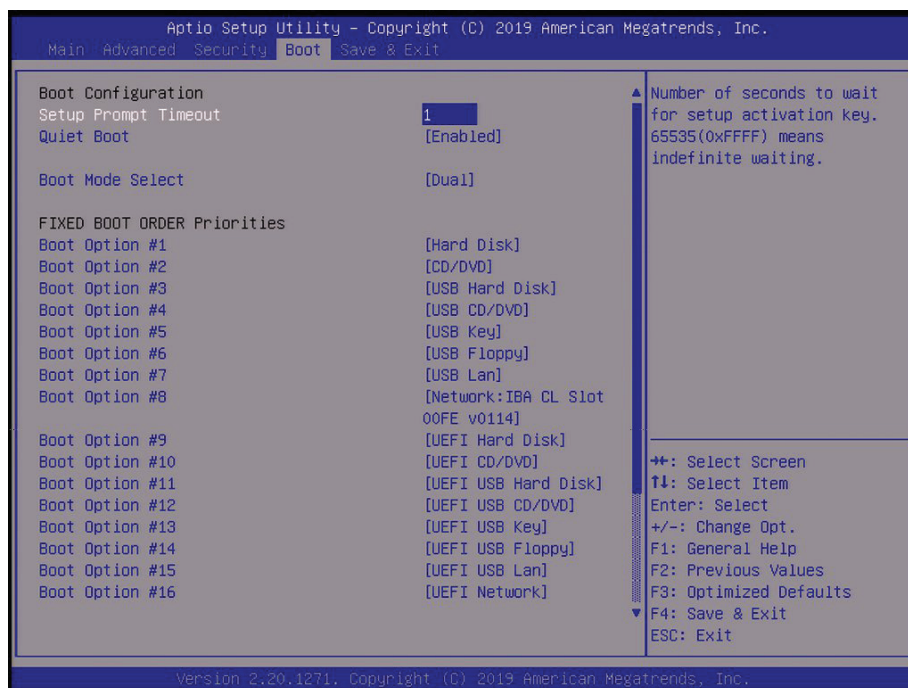
Select Yes to load a factory default dbr or No to load from a file on an external media.

Append

Select Yes to add the dbr from the manufacturer's defaults list to the existing dbr. Select No to load the dbr from a file. The options are Yes and No.

5.5 Boot

Use this menu to configure boot settings:



Setup Prompt Timeout

Use this feature to specify the length of time (in seconds) for the BIOS to wait before rebooting the system when the setup activation key is pressed. Enter the value of 65535 (0xFFFF) for the BIOS to wait indefinitely. The default setting is 1.

Quiet Boot

Use this feature to select the screen display between POST messages or the OEM logo at bootup. Select Disabled to display the POST messages. Select Enabled to display the OEM logo instead of the normal POST messages. The options are Disabled and **Enabled**.

Boot Mode Select

Use this feature to select the boot mode. The options are Legacy, UEFI, and **Dual**.

Fixed BOOT ORDER Priorities

This option prioritizes the order of bootable devices that the system to boot from. Press <Enter> on each entry from top to bottom to select devices.

- Boot Option #1
- Boot Option #2
- Boot Option #3

- Boot Option #4
- Boot Option #5
- Boot Option #6
- Boot Option #7
- Boot Option #8
- Boot Option #9
- Boot Option #10
- Boot Option #11
- Boot Option #12
- Boot Option #13
- Boot Option #14
- Boot Option #15
- Boot Option #16
- Boot Option #17

► **Delete Boot Option**

Use this feature to select a boot device to delete from the boot priority list.

► **Delete Driver Option**

Use this feature to remove an EFI driver option from the driver order.

► **UEFI Application Boot Priorities**

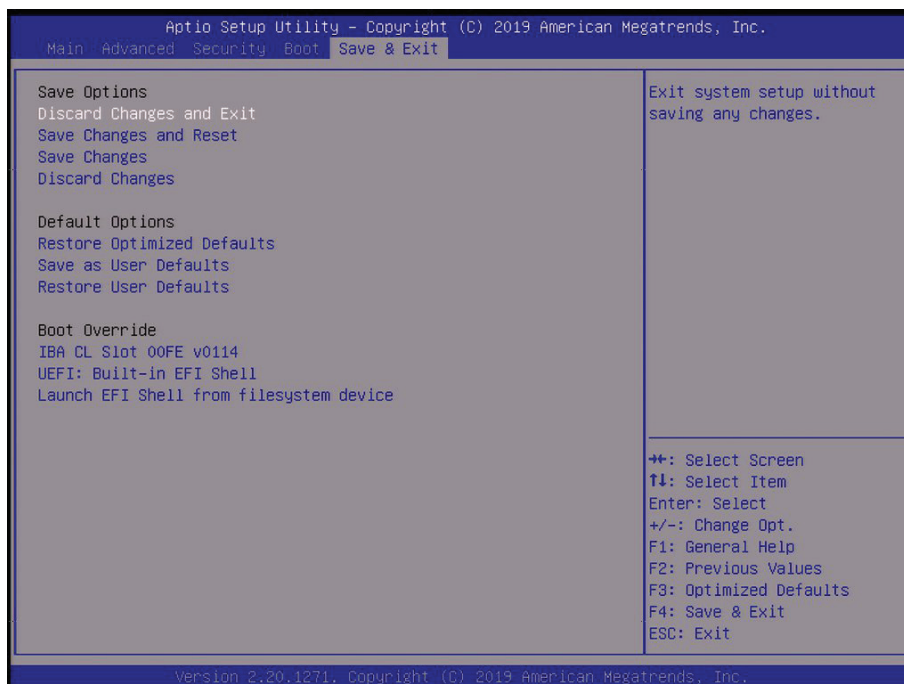
- Boot Option # - This feature sets the system boot order of detected devices. The options are **[the list of detected boot device(s)]** and Disabled.

► **NETWORK Drive BBS Priorities**

- Boot Option # - This feature sets the system boot order of detected devices. The options are **[the list of detected boot device(s)]** and Disabled.

5.6 Save & Exit

Use this menu to configure save and exit settings.



Save Options

Discard Changes and Exit

Select this feature to quit the BIOS Setup without making any permanent changes to the system configuration and reboot the computer. Select Discard Changes and Exit from the Exit menu and press <Enter>.

Save Changes and Reset

When you have completed the system configuration changes, select this option to save all changes made and reset the system.

Save Changes

When you have completed the system configuration changes, select this option to save all changes made. This will not reset (reboot) the system.

Discard Changes

Select this feature and press <Enter> to discard all the changes and return to the AMI BIOS Utility Program.

Default Options

Restore Defaults

To set this feature, select Restore Optimized Defaults and press <Enter>. These are factory settings designed for maximum system performance but not for maximum stability.

Save as User Defaults

To set this feature, select Save as User Defaults from the Exit menu and press <Enter>. This enables the user to save any changes to the BIOS setup for future use.

Restore User Defaults

To set this feature, select Restore User Defaults from the Exit menu and press <Enter>. Use this feature to retrieve user-defined settings that were saved previously.

Boot Override

Other boot options are listed in this section. The system will boot to the selected boot option.

IBA GE Slot 00FE v0114

UEFI: Built-in EFI Shell

Launch EFI Shell from filesystem device

Appendix A

BIOS Error Codes

A.1 BIOS POST Codes

The AMI BIOS supplies checkpoint codes, which are documented online at <http://www.supermicro.com/support/manuals/> ("AMI BIOS POST Codes User's Guide").

When BIOS performs the Power-On Self-Test, it writes checkpoint codes to I/O port 0080h. If the computer cannot complete the boot process, a diagnostic card can be attached to the computer to read I/O port 0080h (Supermicro p/n AOC-LPC80-20).

For information on AMI updates, please refer to <http://www.ami.com/products/>.

Appendix B

Standardized Warning Statements for AC Systems

B.1 About Standardized Warning Statements

The following statements are industry standard warnings, provided to warn the user of situations which have the potential for bodily injury. Should you have questions or experience difficulty, contact Supermicro's Technical Support department for assistance. Only certified technicians should attempt to install or configure components.

Read this appendix in its entirety before installing or configuring components in the Supermicro chassis.

These warnings may also be found on our website at http://www.supermicro.com/about/policies/safety_information.cfm.

Warning Definition



Warning! This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

警告の定義

この警告サインは危険を意味します。

人身事故につながる可能性がありますので、いずれの機器でも動作させる前に、電気回路に含まれる危険性に注意して、標準的な事故防止策に精通して下さい。

此警告符号代表危險。

您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾的声明号码找到此设备的安全性警告说明的翻译文本。

此警告符號代表危險。

您正處於可能身體可能會受損傷的工作環境中。在您使用任何設備之前，請注意觸電的危險，並且要熟悉預防事故發生的標準工作程序。請依照每一注意事項後的號碼找到相關的翻譯說明內容。

Warnung

WICHTIGE SICHERHEITSHINWEISE

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS.

תקנון הזהרות אזהרה

הזהרות הבאות הן אזהרות על פי תקני התעשייה, על מנת להזהיר את המשתמש מפני חבלה פיזית אפשרית. במידה ויש שאלות או היתקלות בבעיה כלשהי, יש ליצור קשר עם מחלקת תמיכה טכנית של סופרמיקרו. טכנאים מוסמכים בלבד רשאים להתקין או להגדיר את הרכיבים. יש לקרוא את הנספח במלואו לפני התקנת או הגדרת הרכיבים במארזי סופרמיקרו.

اَكْ ف حالة وُكِي اَي تتسبب ف اصابة جسدهُ هذا الزهرز عُ خطر! تحذُرُ .
 قبل اَي تعول على اَي هعدات، كي على علن بالوخاطز ال اُجوة عي الذوائر
 الكهزبائِة
 وكي على دراهُ بالووارسات البقائِة لو عُ وقع اَي حادث
 استخدم رقن البِ اِي الو صُص ف هَاهُ كل تحذُر للعشر تزجوتها

안전을 위한 주의사항

경고!

이 경고 기호는 위험이 있음을 알려 줍니다. 작업자의 신체에 부상을 야기 할 수 있는
 상태에 있게 됩니다. 모든 장비에 대한 작업을 수행하기 전에 전기회로와 관련된
 위험요소들을 확인하시고 사전에 사고를 방지할 수 있도록 표준 작업절차를 준수해 주시기
 바랍니다.

해당 번역문을 찾기 위해 각 경고의 마지막 부분에 제공된 경고문 번호를 참조하십시오

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

Dit waarschuwings symbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij een elektrische installatie betrokken risico's en dient u op de hoogte te zijn van de standaard procedures om ongelukken te voorkomen. Gebruik de nummers aan het eind van elke waarschuwing om deze te herleiden naar de desbetreffende locatie.

BEWAAR DEZE INSTRUCTIES

Installation Instructions



Warning! Read the installation instructions before connecting the system to the power source.

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前,请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

Vor dem Anschließen des Systems an die Stromquelle die Installationsanweisungen lesen.

¡Advertencia!

Lea las instrucciones de instalación antes de conectar el sistema a la red de alimentación.

Attention

Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

Raadpleeg de installatie-instructies voordat u het systeem op de voedingsbron aansluit.

Circuit Breaker



Warning! This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 250 V, 20 A.

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

此产品的短路(过载电流)保护由建筑物的供电系统提供,确保短路保护设备的额定电流不大于250V,20A。

警告

此產品的短路(過載電流)保護由建築物的供電系統提供,確保短路保護設備的額定電流不大於250V,20A。

Warnung

Dieses Produkt ist darauf angewiesen, dass im Gebäude ein Kurzschluss- bzw. Überstromschutz installiert ist. Stellen Sie sicher, dass der Nennwert der Schutzvorrichtung nicht mehr als: 250 V, 20 A beträgt.

¡Advertencia!

Este equipo utiliza el sistema de protección contra cortocircuitos (o sobrecorrientes) del edificio. Asegúrese de que el dispositivo de protección no sea superior a: 250 V, 20 A.

Attention

Pour ce qui est de la protection contre les courts-circuits (surtension), ce produit dépend de l'installation électrique du local. Vérifiez que le courant nominal du dispositif de protection n'est pas supérieur à :250 V, 20 A.

מוצר זה מסתמך על הגנה המותקנת במבנים למניעת קצר חשמלי. יש לוודא כי המכשיר המגן מפני הקצר החשמלי הוא לא יותר מ-250VDC, 20A

هذا المنتج يعتمد على معدات الحماية مه الدوائر القصيرة التي تم تثبيتها في المبنى
تأكد من أن تقييم الجهاز الوقائي ليس أكثر من : 20A, 250V

경고!

이 제품은 전원의 단락(과전류)방지에 대해서 전적으로 건물의 관련 설비에 의존합니다. 보호장치의 정격이 반드시 250V(볼트), 20A(암페어)를 초과하지 않도록 해야 합니다.

Waarschuwing

Dit product is afhankelijk van de kortsluitbeveiliging (overspanning) van uw elektrische installatie. Controleer of het beveiligde apparaat niet groter gedimensioneerd is dan 250V, 20A.

Power Disconnection Warning



Warning! The system must be disconnected from all sources of power and the power cord removed from the power supply module(s) before accessing the chassis interior to install or remove system components.



電源切断の警告

システムコンポーネントの取り付けまたは取り外しのために、シャーシー内部にアクセスするには、システムの電源はすべてのソースから切断され、電源コードは電源モジュールから取り外す必要があります。

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

Das System muss von allen Quellen der Energie und vom Netzanschlusskabel getrennt sein, das von den Spg.Versorgungsteilmodulen entfernt wird, bevor es auf den Chassisinnenraum zurückgreift, um Systemsbestandteile anzubringen oder zu entfernen.

¡Advertencia!

El sistema debe ser disconnected de todas las fuentes de energía y del cable eléctrico quitado de los módulos de fuente de alimentación antes de tener acceso el interior del chasis para instalar o para quitar componentes de sistema.

Attention

Le système doit être débranché de toutes les sources de puissance ainsi que de son cordon d'alimentation secteur avant d'accéder à l'intérieur du chassis pour installer ou enlever des composants de système.

אזהרה מפני ניתוק חשמלי

אזהרה!

יש לנתק את המערכת מכל מקורות החשמל ויש להסיר את כבל החשמל מהספק

לפני גישה לחלק הפנימי של המארז לצורך התקנת או הסרת רכיבים

يجب فصل انظاؤ من جميع مصادر انطاقت وإزانت سهك انكهرباء من وحدة امداد

انطاقت قيم

انصل إلى امناطق انداخهيت نههيكم نتشيج أو إزانت مكناث الجهاز

경고!

시스템에 부품들을 장착하거나 제거하기 위해서는 새시 내부에 접근하기 전에 반드시 전원 공급장치로부터 연결되어있는 모든 전원과 전기코드를 분리해주어야 합니다.

Waarschuwing

Voordat u toegang neemt tot het binnenwerk van de behuizing voor het installeren of verwijderen van systeem onderdelen, dient u alle spanningsbronnen en alle stroomkabels aangesloten op de voeding(en) van de behuizing te verwijderen

Equipment Installation



Warning! Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

機器の設置

トレーニングを受け認定された人だけがこの装置の設置、交換、またはサービスを許可されていません。

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden.

¡Advertencia!

Solamente el personal calificado debe instalar, reemplazar o utilizar este equipo.

Attention

Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés.

אזהרה!

צוות מוסמך בלבד רשאי להתקין, להחליף את הציוד או לתת שירות עבור הציוד.

والمدربيه لتزكيب واستبدال أو خدمة هذا الجهاز يجب أن يسمح فقط للموظفيه المؤهليه

경고!

훈련을 받고 공인된 기술자만이 이 장비의 설치, 교체 또는 서비스를 수행할 수 있습니다.

Waarschuwing

Deze apparatuur mag alleen worden geïnstalleerd, vervangen of hersteld door geschoold en gekwalificeerd personeel.

Restricted Area



Warning! This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security. (This warning does not apply to workstations).

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

アクセス制限区域は、特別なツール、鍵と錠前、その他のセキュリティの手段を用いてのみ出入りが可能です。

警告

此部件应安装在限制进出的场所，限制进出的场所指只能通过使用特殊工具、锁和钥匙或其它安全手段进出的场所。

警告

此裝置僅限安裝於進出管制區域，進出管制區域係指僅能以特殊工具、鎖頭及鑰匙或其他安全方式才能進入的區域。

Warnung

Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Der Zutritt zu derartigen Bereichen ist nur mit einem Spezialwerkzeug, Schloss und Schlüssel oder einer sonstigen Sicherheitsvorkehrung möglich.

¡Advertencia!

Esta unidad ha sido diseñada para instalación en áreas de acceso restringido. Sólo puede obtenerse acceso a una de estas áreas mediante la utilización de una herramienta especial, cerradura con llave u otro medio de seguridad.

Attention

Cet appareil doit être installé dans des zones d'accès réservés. L'accès à une zone d'accès réservé n'est possible qu'en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité.

אזור עם גישה מוגבלת

אזהרה!

יש להתקין את היחידה באזורים שיש בהם הגבלת גישה. הגישה ניתנת בעזרת 'כלי אבטחה בלבד' (מפתח, מנעול וכד.).

تخصيص هذه انحدرة نترك بها ف مناطق محظورة تم .
ممكن انصلل إن منطقت محظورة فقط من خلال استخداو أداة خاصت
أو أ وس هت أخرجي نلاأما ققم ومفتاح

경고!

이 장치는 접근이 제한된 구역에 설치하도록 되어있습니다. 특수도구, 잠금 장치 및 키, 또는 기타 보안 수단을 통해서만 접근 제한 구역에 들어갈 수 있습니다.

Waarschuwing

Dit apparaat is bedoeld voor installatie in gebieden met een beperkte toegang. Toegang tot dergelijke gebieden kunnen alleen verkregen worden door gebruik te maken van speciaal gereedschap, slot en sleutel of andere veiligheidsmaatregelen.

Battery Handling



Warning! There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions

電池の取り扱い

電池交換が正しく行われなかった場合、破裂の危険性があります。交換する電池はメーカーが推奨する型、または同等のものを使用下さい。使用済電池は製造元の指示に従って処分して下さい。

警告

電池更換不當會有爆炸危險。請只使用同類電池或制造商推荐的功能相当的電池更換原有電池。請按制造商的說明處理廢舊電池。

警告

電池更換不當會有爆炸危險。請使用製造商建議之相同或功能相當的電池更換原有電池。請按照製造商的說明指示處理廢棄舊電池。

Warnung

Bei Einsetzen einer falschen Batterie besteht Explosionsgefahr. Ersetzen Sie die Batterie nur durch den gleichen oder vom Hersteller empfohlenen Batterietyp. Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.

Attention

Danger d'explosion si la pile n'est pas remplacée correctement. Ne la remplacer que par une pile de type semblable ou équivalent, recommandée par le fabricant. Jeter les piles usagées conformément aux instructions du fabricant.

¡Advertencia!

Existe peligro de explosión si la batería se reemplaza de manera incorrecta. Reemplazar la batería exclusivamente con el mismo tipo o el equivalente recomendado por el fabricante. Desechar las baterías gastadas según las instrucciones del fabricante.

אזהרה!

קיימת סכנת פיצוץ של הסוללה במידה והוחלפה בדרך לא תקינה. יש להחליף את הסוללה בסוג התואם מחברת יצרן מומלצת. סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

هناك خطر من انفجار في حالة اسحبذال البطارية بطريقة غير صحيحة فعليل
 اسحبذال البطارية
 فقط بنفس النوع أو ما يعادلها مما أوصت به الشركة المصنعة
 جخلص من البطاريات المسحمة وفقا لعمليات الشركة الصانعة

경고!

배터리가 올바르게 교체되지 않으면 폭발의 위험이 있습니다. 기존 배터리와 동일하거나 제조사에서 권장하는 동등한 종류의 배터리로만 교체해야 합니다. 제조사의 안내에 따라 사용된 배터리를 처리하여 주십시오.

Waarschuwing

Er is ontplofingsgevaar indien de batterij verkeerd vervangen wordt. Vervang de batterij slechts met hetzelfde of een equivalent type die door de fabrikant aanbevolen wordt. Gebruikte batterijen dienen overeenkomstig fabrieksvoorschriften afgevoerd te worden.

Redundant Power Supplies



Warning! This unit might have more than one power supply connection. All connections must be removed to de-energize the unit.

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。

ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

Dieses Gerät kann mehr als eine Stromzufuhr haben. Um sicherzustellen, dass der Einheit kein Strom zugeführt wird, müssen alle Verbindungen entfernt werden.

¡Advertencia!

Puede que esta unidad tenga más de una conexión para fuentes de alimentación. Para cortar por completo el suministro de energía, deben desconectarse todas las conexiones.

Attention

Cette unité peut avoir plus d'une connexion d'alimentation. Pour supprimer toute tension et tout courant électrique de l'unité, toutes les connexions d'alimentation doivent être débranchées.

אם קיים יותר מספק אחד

אזהרה!

ליחידה יש יותר מחיבור אחד של ספק. יש להסיר את כל החיבורים על מנת לרוקן את היחידה.

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة .

يجب إزالة كافة الاتصالات لعسل الوحدة عن الكهرباء

경고!

이 장치에는 한 개 이상의 전원 공급 단자가 연결되어 있을 수 있습니다. 이 장치에 전원을 차단하기 위해서는 모든 연결 단자를 제거해야만 합니다.

Waarschuwing

Deze eenheid kan meer dan één stroomtoevoeraansluiting bevatten. Alle aansluitingen dienen verwijderd te worden om het apparaat stroomloos te maken.

Backplane Voltage



Warning! Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing.

バックプレーンの電圧

システムの稼働中は危険な電圧または電力が、バックプレーン上にかかっています。

修理する際には注意ください。

警告

当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

Wenn das System in Betrieb ist, treten auf der Rückwandplatine gefährliche Spannungen oder Energien auf. Vorsicht bei der Wartung.

¡Advertencia!

Cuando el sistema está en funcionamiento, el voltaje del plano trasero es peligroso. Tenga cuidado cuando lo revise.

Attention

Lorsque le système est en fonctionnement, des tensions électriques circulent sur le fond de panier. Prendre des précautions lors de la maintenance.

מתח בפנל האחורי

אזהרה!

קיימת סכנת מתח בפנל האחורי בזמן תפעול המערכת. יש להיזהר במהלך העבודה.

هناك خطر من التيار الكهربائي أو الطاقة المجددة على الساحة
عندما يمكن النظام يعمل كه حذرا عند خدمة هذا الجهاز

경고!

시스템이 동작 중일 때 후면판 (Backplane)에는 위험한 전압이나 에너지가 발생 합니다.
서비스 작업 시 주의하십시오.

Waarschuwing

Een gevaarlijke spanning of energie is aanwezig op de backplane wanneer het systeem in gebruik is. Voorzichtigheid is geboden tijdens het onderhoud.

Comply with Local and National Electrical Codes



Warning! Installation of the equipment must comply with local and national electrical codes.

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

La instalacion del equipo debe cumplir con las normas de electricidad locales y nacionales.

Attention

L'équipement doit être installé conformément aux normes électriques nationales et locales.

תיאום חוקי החשמל הארצי

אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمتثل للقوايه المحلية والبطية المتعلقة
بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

Bij installatie van de apparatuur moet worden voldaan aan de lokale en nationale elektriciteitsvoorschriften.

Product Disposal



Warning! Ultimate disposal of this product should be handled according to all national laws and regulations.

製品の廃棄

この製品を廃棄処分する場合、国の関係する全ての法律・条例に従い処理する必要があります。

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

Die Entsorgung dieses Produkts sollte gemäß allen Bestimmungen und Gesetzen des Landes erfolgen.

¡Advertencia!

Al deshacerse por completo de este producto debe seguir todas las leyes y reglamentos nacionales.

Attention

La mise au rebut ou le recyclage de ce produit sont généralement soumis à des lois et/ou directives de respect de l'environnement. Renseignez-vous auprès de l'organisme compétent.

סילוק המוצר

אזהרה!

סילוק סופי של מוצר זה חייב להיות בהתאם להנחיות וחוקי המדינה.

التخلص النهائي من هذا المنتج ينبغي التعامل معه وفقا لجميع القوانين واللوائح الوطنية عند

경고!

이 제품은 해당 국가의 관련 법규 및 규정에 따라 폐기되어야 합니다.

Waarschuwing

De uiteindelijke verwijdering van dit product dient te geschieden in overeenstemming met alle nationale wetten en reglementen.

Hot Swap Fan Warning



Warning! Hazardous moving parts. Keep away from moving fan blades. The fans might still be turning when you remove the fan assembly from the chassis. Keep fingers, screwdrivers, and other objects away from the openings in the fan assembly's housing.

ファン・ホットスワップの警告

警告!回転部品に注意。運転中は回転部(羽根)に触れないでください。シャーシから冷却ファン装置を取り外した際、ファンがまだ回転している可能性があります。ファンの開口部に、指、ドライバー、およびその他のものを近づけないで下さい。

警告!

警告! 危险的可移动性零件。请务必与转动的风扇叶片保持距离。当您从机架移除风扇装置，风扇可能仍在转动。小心不要将手指、螺丝起子和其他物品太靠近风扇

警告

危險的可移動性零件。請務必與轉動的風扇葉片保持距離。當您從機架移除風扇裝置，風扇可能仍在轉動。小心不要將手指、螺絲起子和其他物品太靠近風扇。

Warnung

Gefährlich Bewegende Teile. Von den bewegenden Lüfterblätter fern halten. Die Lüfter drehen sich u. U. noch, wenn die Lüfterbaugruppe aus dem Chassis genommen wird. Halten Sie Finger, Schraubendreher und andere Gegenstände von den Öffnungen des Lüftergehäuses entfernt.

¡Advertencia!

Riesgo de piezas móviles. Mantener alejado de las aspas del ventilador. Los ventiladores podran dar vuelta cuando usted quite el montaje del ventilador del chasis. Mantenga los dedos, los destornilladores y todos los objetos lejos de las aberturas del ventilador

Attention

Pieces mobiles dangereuses. Se tenir a l'écart des lames du ventilateur Il est possible que les ventilateurs soient toujours en rotation lorsque vous retirerez le bloc ventilateur du châssis. Prenez garde à ce que doigts, tournevis et autres objets soient éloignés du logement du bloc ventilateur.

אזהרה!

חלקים נעים מסוכנים. התרחק מלהבי המאוורר בפעולה כאשר מסירים את חלקי המאוורר מהמארז, יתכן והמאווררים עדיין עובדים. יש להרחיק למרחק בטוח את האצבעות וכלי עבודה שונים מהפתחים בתוך המאוורר

تحذير! أجزاء متحركة خطيرة. ابتعد عن شفرات المروحة المتحركة. من الممكن أن المراوح لا تزال تدور عند إزالة كتلة المروحة من الهيكل يجب إبقاء الأصابع ومفكات البراغي وغيرها من الأشياء بعيدا عن الفتحات في كتلة المروحة

경고!

움직이는 위험한 부품. 회전하는 송풍 날개에 접근하지 마세요. 새시로부터 팬 조립품을 제거할 때 팬은 여전히 회전하고 있을 수 있습니다. 팬 조립품 외관의 열려있는 부분들로부터 손가락 및 스크류드라이버, 다른 물체들이 가까이 하지 않도록 배치해 주십시오.

Waarschuwing

Gevaarlijk bewegende onderdelen. Houd voldoende afstand tot de bewegende ventilatorbladen. Het is mogelijk dat de ventilator nog draait tijdens het verwijderen van het ventilatorsamenstel uit het chassis. Houd uw vingers, schroevendraaiers en eventuele andere voorwerpen uit de buurt van de openingen in de ventilatorbehuizing.

Power Cable and AC Adapter



Warning! When installing the product, use the provided or designated connection cables, power cables and AC adapters. Using any other cables and adapters could cause a malfunction or a fire. Electrical Appliance and Material Safety Law prohibits the use of UL or CSA -certified cables (that have UL/CSA shown on the code) for any other electrical devices than products designated by Supermicro only.

電源コードとACアダプター

製品を設置する場合、提供または指定および購入された接続ケーブル、電源コードとACアダプターを、該当する地域の条例や安全基準に適合するコードサイズやプラグと共に使用下さい。他のケーブルやアダプタを使用すると故障や火災の原因になることがあります。

電気用品安全法は、ULまたはCSA認定のケーブル(UL/CSAマークがコードに表記)を Supermicro が指定する製品以外に使用することを禁止しています。

警告

安装此产品时,请使用本身提供的或指定的或采购的连接线,电源线和电源适配器。包含遵照当地法规和安全要求的合规的电源线尺寸和插头.使用其它线材或适配器可能会引起故障或火灾。除了Supermicro所指定的产品,电气用品和材料安全法律规定禁止使用未经UL或CSA认证的线材。(线材上会显示UL/CSA符号)。

警告

安裝此產品時,請使用本身提供的或指定的或採購的連接線,電源線和電源適配器。包含遵照當地法規和安全要求的合規的電源線尺寸和插頭.使用其它線材或適配器可能會引起故障或火災。除了Supermicro所指定的產品,電氣用品和材料安全法律規定禁止使用未經UL或CSA認證的線材。(線材上會顯示UL/CSA符號)。

Warnung

Nutzen Sie beim Installieren des Produkts ausschließlich die von uns zur Verfügung gestellten Verbindungskabeln, Stromkabeln und/oder Adapter, die Ihre örtlichen Sicherheitsstandards einhalten. Der Gebrauch von anderen Kabeln und Adapter können Fehlfunktionen oder Feuer verursachen. Die Richtlinien untersagen das Nutzen von UL oder CAS zertifizierten Kabeln (mit UL/CSA gekennzeichnet), an Geräten oder Produkten die nicht mit Supermicro gekennzeichnet sind.

¡Advertencia!

Cuando instale el producto, utilice la conexión provista o designada o procure cables, Cables de alimentación y adaptadores de CA que cumplan con los códigos locales y los requisitos de seguridad, incluyendo el tamaño adecuado del cable y el enchufe. El uso de otros cables y adaptadores podría causar un mal funcionamiento o un incendio. La Ley de Seguridad de Aparatos Eléctricos y de Materiales prohíbe El uso de cables certificados por UL o CSA (que tienen el certificado UL / CSA en el código) para cualquier otros dispositivos eléctricos que los productos designados únicamente por Supermicro.

Attention

Lors de l'installation du produit, utilisez les cables de connection fournis ou désigné ou achetez des cables, cables de puissance et adaptateurs respectant les normes locales et les conditions de securite y compris les tailles de cables et les prises electriques appropriées. L'utilisation d'autres cables et adaptateurs peut provoquer un dysfonctionnement ou un incendie. Appareils électroménagers et la Loi sur la Sécurité Matériel interdit l'utilisation de câbles certifiés- UL ou CSA (qui ont UL ou CSA indiqué sur le code) pour tous les autres appareils électriques sauf les produits désignés par Supermicro seulement.

AC כבלים חשמליים ומתאמי

!אזהרה

אשר נרכשו או הותאמו לצורך ההתקנה, ואשר הותאמו לדרישות AC כאשר מתקינים את המוצר, יש להשתמש בכבלים, ספקים ומתאמים הבטיחות המקומיות, כולל מידה נכונה של הכבל והתקע. שימוש בכל כבל או מתאם מסוג אחר, עלול לגרום לתקלה או קצר חשמלי. בהתאם כאשר מופיע עליהם קוד) UL-CSA או ב UL - לחוקי השימוש במכשירי החשמל וחוקי הבטיחות, קיים איסור להשתמש בכבלים המוסמכים ב Supermicro עבור כל מוצר חשמלי אחר, אלא רק במוצר אשר הותאם ע"י (UL/CSA) של

عند تركيب المنتج، قم باستخدام التوصيلات المتوفرة أو المحددة أو قم بشراء الكابلات الكهربائية ومحوّلات التيار المتردد مع الالتزام بقوانين ومتطلبات السلامة المحلية بما في ذلك حجم الموصل والقابس السليم. استخدام أي كابلات ومحوّلات أخرى قد يتسبب في عطل أو حريق. يحظر قانون السلامة للأجهزة الكهربائية والمعدات استخدام الكابلات المعتمدة Supermicro مع أي معدات أخرى غير المنتجات المعنية والمحددة من قبل (UL/CSA) والتي تحمل علامة CSA أو UL من قبل

전원 케이블 및 AC 어댑터

경고! 제품을 설치할 때 현지 코드 및 적절한 굵기의 코드와 플러그를 포함한 안전 요구 사항을 준수하여 제공되거나 지정된 연결 혹은 구매 케이블, 전원 케이블 및 AC 어댑터를 사용하십시오.

다른 케이블이나 어댑터를 사용하면 오작동이나 화재가 발생할 수 있습니다. 전기 용품 안전법은 UL 또는 CSA 인증 케이블 (코드에 UL / CSA가 표시된 케이블)을 Supermicro가 지정한 제품 이외의 전기 장치에 사용하는 것을 금지합니다.

Stroomkabel en AC-Adapter

Waarschuwing! Bij het aansluiten van het Product uitsluitend gebruik maken van de geleverde Kabels of een andere geschikte aan te schaffen Aansluitmethode, deze moet altijd voldoen aan de lokale voorschriften en veiligheidsnormen, inclusief de juiste kabeldikte en stekker. Het gebruik van niet geschikte Kabels en/of Adapters kan een storing of brand veroorzaken. Wetgeving voor Elektrische apparatuur en Materiaalveiligheid verbied het gebruik van UL of CSA -gecertificeerde Kabels (met UL/CSA in de code) voor elke andere toepassing dan de door Supermicro hiervoor beoogde Producten.

Appendix C

System Specifications

Processors

E102-9W-C supports Intel® Celeron 4305UE Processor

E102-9W-H, E102-9W-E, and E102-9W-L support Intel® Whiskey Lake-U i7-8665UE/i5-8365UE/i3-8145UE

Note: Please refer to the motherboard specifications pages on our website for updates to supported processors

BIOS

256Mb SPI MX25L25673

Memory

E102-9W-C supports up to 64GB non-ECC SO-DIMM DDR4 2400 MHz in two memory slots.

E102-9W-H, E102-9W-E, and E102-9W-L support up to 64GB of non-ECC SO-DIMM DDR4 2400 MHz in two memory slots

Input/Output

Video: 1x Dual-Mode Display port, 1x HDMI 1.4 port

USB: 4x USB 3.1 Gen 2 ports

Expansion Slots

1x M.2 B-Key 3042/2242/2280 (SATA 6Gb/s / USB3 / USB2) with Nano SIM holder

1x M.2 E-Key 2230 (PCI-E x1 / USB2 / CNVi)

1x M.2 2242/2280 M-Key (PCIe 3.0 x4, SATA Gen3 x1, NVMe support)

Networking

2x 1GbE LAN ports

Motherboard

X11SWN-H, X11SWN-E, X11SWN-L, X11SWN-C

Chassis

CSE-E102 (3.5" SBC), (WxHxD) 7.48" x 4.72" x 1.72" (195 x 44 x 151 mm)

Cooling

1x 40x40x10mm

Power Supply

Lockable 60W Power Adapter for 12V DC

Operating Environment

Operating Temperature: 0°C to 50°C (32°F to 122°F)

Non-operating Temperature: -40°C to 70°C (-40°F to 158°F)

Operating Relative Humidity: 8% to 90% (non-condensing)

Non-operating Relative Humidity: 5% to 95% (non-condensing)

Regulatory Compliance

FCC, ICES, CE, VCCI, RCM, NRTL, CB

Applied Directives, Standards

EMC/EMI: 2014/30/EU (EMC Directive)

FCC Part 15

ICE-003

VCCI 32-1

AS/NZS CISPR 32

EN55032

EN55035

CISPR 24

CISPR 32: 2015

EN 61000-3-2

EN 61000-3-3

EN 61000-4-2

EN 61000-4-3

EN 61000-4-4

EN 61000-4-5

EN 61000-4-6

EN 61000-4-8

EN 61000-4-11

Green Environment:

2011/65/EU (RoHS Directive)

EC 1907/2006 (REACH)

2012/19/EU (WEEE Directive)

Product Safety: 2014/35/EU (LVD Directive)

UL/CSA 62368-1 (USA and Canada)

IEC/EN 62368-1

Perchlorate Warning

California Best Management Practices Regulations for Perchlorate Materials: This Perchlorate warning applies only to products containing CR (Manganese Dioxide) Lithium coin cells. "Perchlorate Material-special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate"