

EAX-C236P

Intel® Core™ Processors with Intel® C236 ATX Motherboard

User's Manual



2nd Ed –17 August 2017

FCC Statement



THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

- (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.
- (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

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

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

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

Notice

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

Copyright Notice

Copyright © 2017 Avalue Technology Inc., ALL RIGHTS RESERVED.

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

Trademark Acknowledgement

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

Disclaimer

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

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

Life Support Policy

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

As used herein:

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

A Message to the Customer

Avalue Customer Services

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

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

Technical Support

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

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

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

Product Warranty

Avalue warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Avalue, or which have been subject to misuse, abuse, accident or improper installation. Avalue assumes no liability under the terms of this warranty as a consequence of such events. Because of Avalue's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If any of Avalue's products is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time, and freight. Please consult your dealer for more details. If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU type and speed, Avalue's products model name, hardware & BIOS revision number, other hardware and software used, etc.) Note anything abnormal and list any on-screen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information available.
3. If your product is diagnosed as defective, obtain an RMA (return material authorization) number from your dealer. This allows us to process your good return more quickly.
4. Carefully pack the defective product, a complete Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Content

1. Getting Started	8
1.1 Safety Precautions	8
1.2 Packing List	8
1.3 Document Amendment History	9
1.4 Manual Objectives	10
1.5 System Specifications	11
1.6 Architecture Overview—Block Diagram	15
2. Hardware Configuration	16
2.1 Product Overview	17
2.2 Jumper and Connector List	18
2.3 Setting Jumpers & Connectors	20
2.3.1 Serial port 1 pin9 signal select (JRI1)	20
2.3.2 Serial port 2 pin9 signal select (JRI2)	20
2.3.3 AT/ATX Power Mode Select (JATATX1)	21
2.3.4 Clear CMOS (JCMOS1)	21
2.3.5 Serial port 2 connector (JCOM2A)	22
2.3.6 COM2 RS485/422 connector (JCOM2B)	22
2.3.7 Serial port 3/4/5/6 connector (JCOM3/4/5/6)	23
2.3.8 General purpose I/O connector (JDIO1)	23
2.3.9 SGPIO connector (JSGPIO1)	24
2.3.10 ATX Power connector (ATXPWR1)	24
2.3.11 Power connector (ATX12V1)	25
2.3.12 SMBus connector (JSMB1)	25
2.3.13 USB connector 1 (JUSB1)	26
2.3.14 USB connector 2 (JUSB2)	26
2.3.15 USB connector 4 (JUSB4)	27
2.3.16 Battery connector (JBAT1)	27
2.3.17 Audio connector (JAUDIO1)	28
2.3.17.1 Signal Description –Audio connector (JAUDIO1)	28
2.3.18 LPC connector (JLPC1)	28
2.3.19 SPI connector (JSPI1)	29
2.3.20 Speaker connector (JSPK1)	29
2.3.21 Miscellaneous setting connector (JFP1)	30
2.3.22 CPU fan connector (CPUFAN1)	30
2.3.23 System fan connector 1 (SYSFAN1)	31
2.3.24 System fan connector 2 (SYSFAN3)	31

EAX-C236P User's Manual

2.3.25	PS/2 keyboard & mouse connector (JKBMS1).....	32
2.3.26	S/PDIF connector (JSPDIF1).....	32
2.3.27	External Speaker connector (JBZ1).....	33
2.3.28	LPT connector (LPT1).....	33
2.3.29	Auxiliary Panel connector (JAUXP1)	34
3.BIOS Setup		35
3.1	Introduction	36
3.2	Starting Setup	36
3.3	Using Setup	37
3.4	Getting Help	38
3.5	In Case of Problems.....	38
3.6	BIOS setup.....	39
3.6.1	Main Menu.....	39
3.6.1.1	System Language.....	39
3.6.1.2	System Date	40
3.6.1.3	System Time.....	40
3.6.2	Advanced Menu	40
3.6.2.1	Trusted Computing	41
3.6.2.2	APCI Settings	41
3.6.2.3	AMT Configuration.....	42
3.6.2.4	PCH-FW Configuration	43
3.6.2.4.1	Firmware Update Configuration.....	43
3.6.2.5	Super IO Configuration	44
3.6.2.5.1	Serial Port 1 Configuration	45
3.6.2.5.2	Serial Port 2 Configuration	45
3.6.2.5.3	Serial Port 3 Configuration	46
3.6.2.5.4	Serial Port 4 Configuration	46
3.6.2.5.5	Serial Port 5 Configuration	47
3.6.2.5.6	Serial Port 6 Configuration	48
3.6.2.5.7	Parallel Port Configuration.....	48
3.6.2.6	NCT6106D H/W Monitor.....	49
3.6.2.6.1	Smart Fan Configuration	50
3.6.2.7	S5 RTC Wake Settings.....	50
3.6.2.8	Serial Port Console Redirection	51
3.6.2.8.1	Legacy Console Redirection Settings	52
3.6.2.9	CPU Configuration.....	52
3.6.2.10	Intel TXT Configuration.....	54
3.6.2.11	SATA Configuration.....	54
3.6.2.11.1	Software Feature Mask Configuration	56
3.6.2.12	Network Stack Configuration	56

3.6.2.13	CSM Configuration	57
3.6.2.14	USB Configuration	57
3.6.3	Chipset.....	58
3.6.3.1	System Agent (SA) Configuration.....	59
3.6.3.1.1	Graphics Configuration	59
3.6.3.1.2	DMI/OPI Configuration	60
3.6.3.1.3	PEG Port Configuration	60
3.6.3.1.4	Memory Configuration	61
3.6.3.2	PCH-IO Configuration.....	62
3.6.3.2.1	PCI Express Configuration	62
3.6.3.2.2	HD Audio Configuration	69
3.6.4	Boot	70
3.6.5	Save and exit.....	71
3.6.5.1	Save Changes and Reset.....	72
3.6.5.2	Discard Changes and Reset.....	72
3.6.5.3	Restore Defaults	72
3.6.5.4	Launch EFI Shell from filesystem device	72
3.6.6	Event Logs.....	72
3.6.6.1	Change Settings	73
3.6.6.2	View Smbios EventLog.....	74
4.	Drivers Installation.....	75
4.1	Install Chipset Driver	76
4.2	Install VGA Driver.....	77
4.3	Install ME Driver.....	78
4.4	Install Audio Driver (For Realtek ALC892 HD Audio)	79
4.5	Install LAN Driver	80
4.6	Install RST Driver	81
5.	Mechanical Drawing	83

1. Getting Started

1.1 Safety Precautions

Warning!



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

Caution!



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

1.2 Packing List

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

- 1 x EAX-C236P motherboard
- 2 x SATA cable
- 1 x I/O Shield



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

1.3 Document Amendment History

Revision	Date	By	Comment
1 st	June 2016	Avalue	Initial Release
2 nd	August 2017	Avalue	Update System Specifications

1.4 Manual Objectives

This manual describes in details Avalue Technology EAX-C236P Single Board.

We have tried to include as much information as possible but we have not duplicated information that is provided in the standard IBM Technical References, unless it proved to be necessary to aid in the understanding of this board.

We strongly recommend that you study this manual carefully before attempting to set up EAX-C236P or change the standard configurations. Whilst all the necessary information is available in this manual we would recommend that unless you are confident, you contact your supplier for guidance.

Please be aware that it is possible to create configurations within the CMOS RAM that make booting impossible. If this should happen, clear the CMOS settings, (see the description of the Jumper Settings for details).

If you have any suggestions or find any errors regarding this manual and want to inform us of these, please contact our Customer Service department with the relevant details.

1.5 System Specifications

System	
CPU	Intel® LGA1151 Socket Supports 6th Generation Core™ / Intel® Xeon®Process E3-1200 v5 Family (Workstation) / Intel® Pentium® / Celeron ®Processors (Max. TDP at 95W) Intel® C236 Express Chipset Intel® C236 Express Chipset
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
System Chipset	Intel® C236 Express Chipset
I/O Chip	Nuvoton® NCT6106D
System Memory	Four 288-pin DDR4 2133MHz DIMM socket, supports up to 64GB Max (ECC memory supported by CPU)
Watchdog Timer	H/W Reset, 5 ~ 255 seconds/5 ~ 255 minutes
H/W Status Monitor	CPU temperature monitoring Voltages monitoring CPU fan speed control
Expansion	1 x PCI-e x 16 1 x PCI-e x 4 1 x PCI-e x 1 4 x PCI 1 x M.2 2230 KeyA Slot support WiFi module 1 x SIM card slot 1 x Full Size Mini-PCle with mSATA Support (SATA III)
S3/S4	Yes (S0/S3/S4/S5)
Display	
Chipset	Intel® C236 Express chipset
Resolution	VGA: 2048 x 1536 @ 50 Hz HDMI: 4096 x 2160 @ 24 Hz, 2560 x 1600 @ 60 Hz DP: 4096 x 2304 @ 60Hz
Multiple Display	Triple Display
Audio	
Audio Codec	Realtek ALC892 HD Audio Decoding Controller with 6W Amplifier
Ethernet	
LAN Chip	1 x Intel® I219LM Gigabit Ethernet PHY 1 x Intel® I211AT PCI-e Gigabit Ethernet
Internal I/O Connectors	
Internal I/O Connector	Storage: - 1 x SATA III or 1 x full size Mini PCI-e support mSATA by auto switch IC

EAX-C236P User's Manual

	<ul style="list-style-type: none">- 5 x SATA III1 x M.2 2230 Slot support WiFi module1 x PCI-e Slot with SIM card slotOnboard Infineon SLB9665 support TPM 2.0(co-lay TPM 1.2)COM:COM 1 Pin9 power selection:<ul style="list-style-type: none">- 1 x 1 x 3 pin, pitch 2.0mm connector for COM1 & COM2 support RS232 with Pin 9, +5V&+12V/RICOM 2~6:<ul style="list-style-type: none">- 1 x 2 x 5 pin, pitch 2.54mm BOX connector for COM2 support RS232 with Pin 9, +5V&+12V/RI- 1 x 1 x 3 pin, pitch 2.0mm connector for COM1 & COM2 support RS232 with Pin 9, +5V&+12V/RI- 1 x 2 x 3 pin, pitch 2.00mm connector for COM2: support RS422/485 connector, Pin 5 with +5VBy BIOS setting RS232/422/485 Selection.COM3~6:<ul style="list-style-type: none">- 4 x 2 x 5 pin, pitch 2.54mm BOX connector for COM3~6: support RS-232 connector, Pin 9 with RI Supported3 x USB 2.0 by pin header, 1 x USB 2.0 By Vertical type A connector1 x 2 x 10 pin, pitch 2.0mm connector for USB 3.0USB Wake up by BIOS Setting1 x 1 x 4 pin, pitch 2.54mm CPU fan connector with smart fan function supported1 x 1 x 4 pin, pitch 2.54mm System fan connector with smart fan function supported1 x 1 x 3 pin, pitch 2.54mm System fan connector1 x 2 x 5 pin, pitch 2.54mm connector for front panel1 x 2 x 10 pin, pitch 2.54mm connector for Auxiliary panel1 x 4 pin, pitch 2.54mm connector for Speaker Buzzer1 x 2 x 5 pin, pitch 2.54mm connector for front Audio1 x 4 pin, pitch wafer 2.00mm connector for 6W x 2 Speaker1 x 1 x 4 pin, pitch 2.54mm connector for S/PDIF1 x 1 x 3pin, pitch 2.54mm connector for COMS Clear1 x Vertical type battery connectorCo-lay 1 x 2 Pin Pitch 1.25mm horizontal type battery connector1 x 2 x 6 pin, pitch 2.00mm connector for 8 bits GPIO1 x 6 pin, pitch 2.00mm connector for SGPIO1 x 5 pin, pitch 2.54mm connector for SMBus1 x 2 x 4 pin, pitch 2.00mm connector for BIOS SPI1 x 2 x 5 pin, pitch 2.0mm connector for LPCOnboard buzzer
--	---

	1 x 2 x 13 pin, pitch 2.54mm wafer connector for LPT 1 x 1 x 6 pin, pitch 2.5mm wafer connector for KB / Mouse 1 x 1 x 3 pin pitch 2.00mm connector for AT/ATX jumper 1 x 2 x 12 pin ATX power connector 1 x 2 x 4 pin ATX 12V power connector
Rear I/O Connectors	
Rear Side External I/O Connector	2 x RJ-45 with Dual deck USB 3.0 connector 1 x VGA 1 x DP 1 x HDMI COM1 support RS-232 DB9 connector, Pin 9 with /+5V/+12V/RI Supported 1 x Line-out, 1 x Mic-In, 1 x Line-in PS/2 KB/MS + USB2.0 connector
Mechanical & Environmental	
Power Requirement	+12V/+5V/5VSB/+3.3V/-12V
ACPI	Single power ATX Support S0, S3, S4, S5
Power on Type	AT / ATX mode
Operating Temp.	0 ~ 60°C (32~140°F)
Storage Temp.	-40 ~ 75°C
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Size (L x W)	12" x 9.6" (304.8mm x 243.84mm)
Weight	0.60 kg



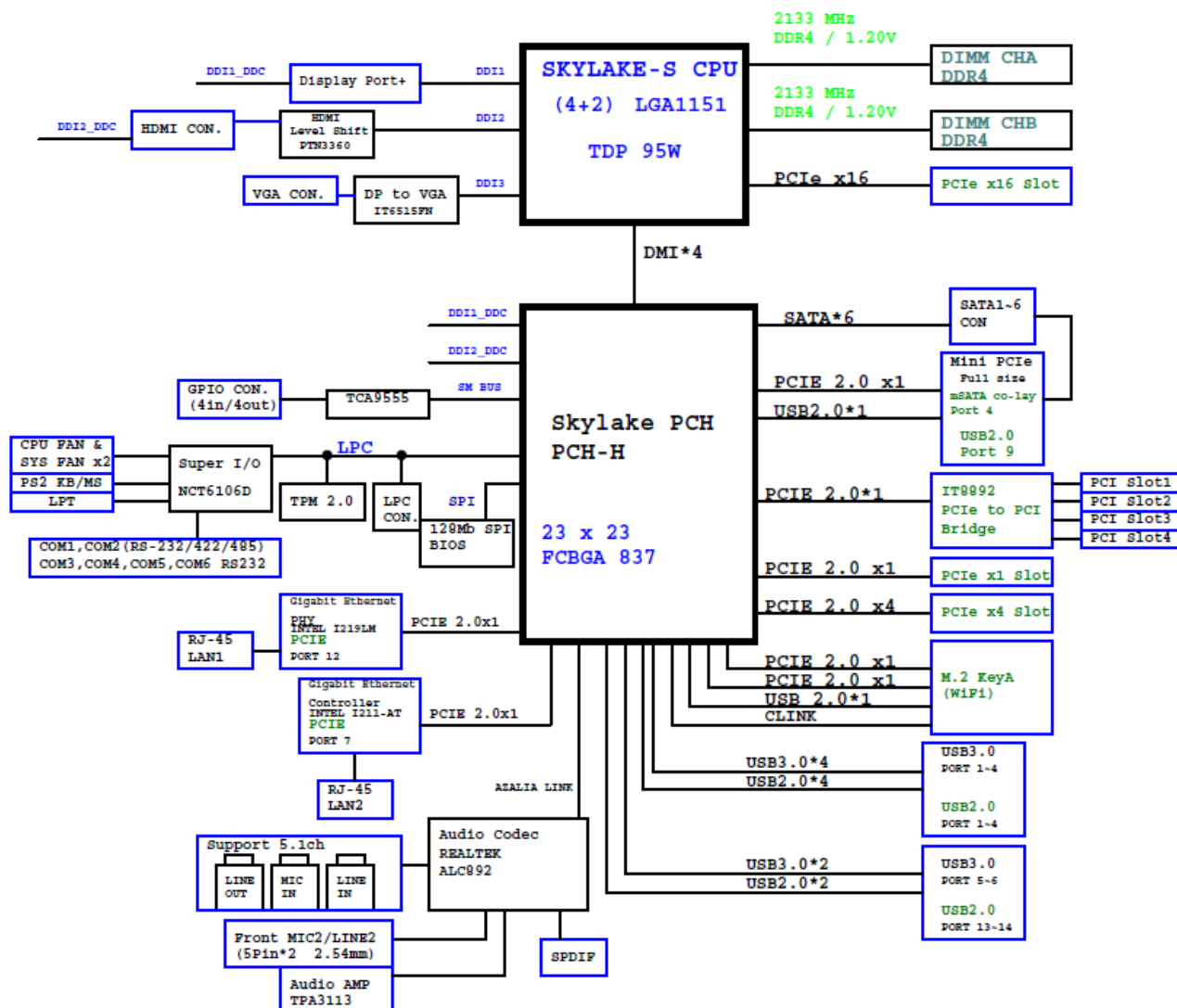
Note: Specifications are subject to change without notice.

EAX-C236P User's Manual

Intel C236 Express Chipset (with ECC DRAM support)	
Intel Xeon Processor E3 Family (Workstation) - 14nm or Skylake Platform	
E3-1275 v5	V
E3-1225 v5	V
E3-1268 v5	V
6th Generation Intel Core Processor - 14nm or Skylake Platform	
i7-6700	
i7-6700TE	
i5-6500	
i5-6500TE	
i3-6100	V
i3-6100TE	V
G4400	V
G4400TE	V
G3900	V
G3900TE	V

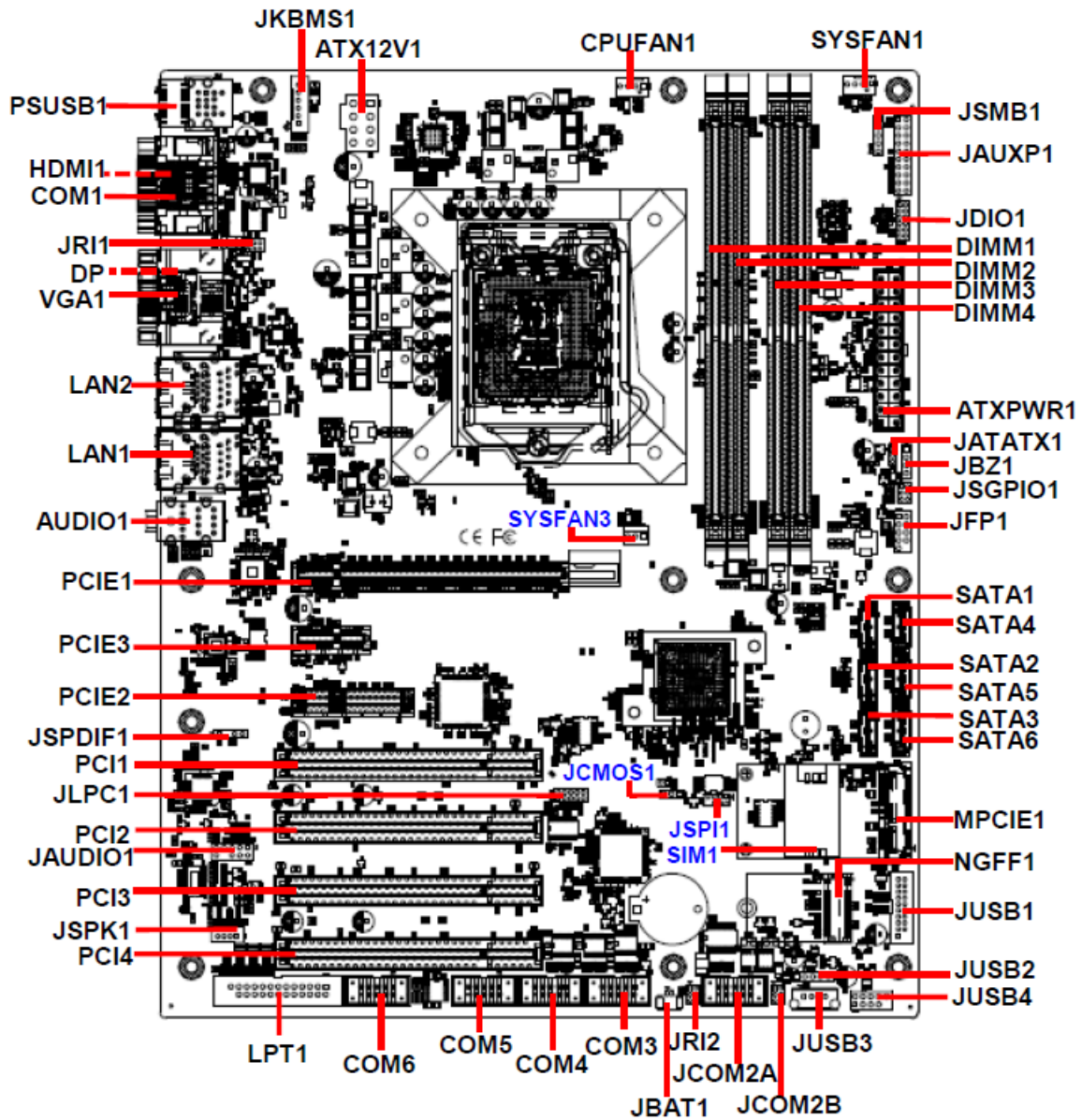
1.6 Architecture Overview—Block Diagram

The following block diagram shows the architecture and main components of EAX-C236P.



2. Hardware Configuration

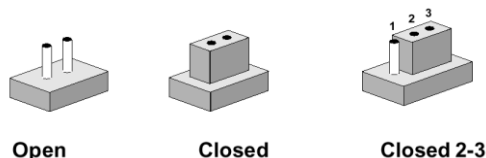
2.1 Product Overview



2.2 Jumper and Connector List

You can configure your board to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch.

It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip. To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either two pins.



The jumper settings are schematically depicted in this manual as follows:



A pair of needle-nose pliers may be helpful when working with jumpers.

Connectors on the board are linked to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

The following tables list the function of each of the board's jumpers and connectors.

Jumpers

Label	Function	Note
JRI1/2	Serial port 1/2 pin9 signal select	3 x 2 header, pitch 2.00mm
JATATX1	AT/ATX Power Mode Select	3 x 1 header, pitch 2.00mm
JCMOS1	Clear CMOS	3 x 1 header, pitch 2.54mm

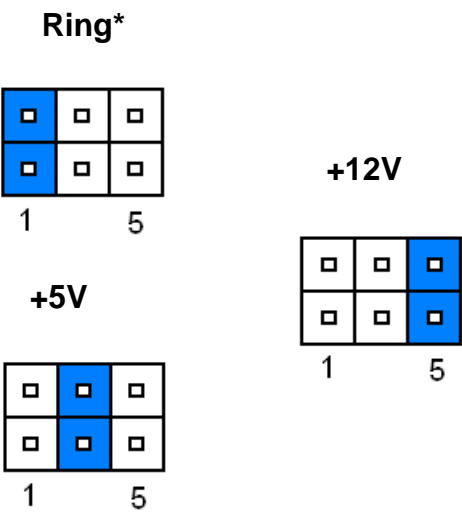
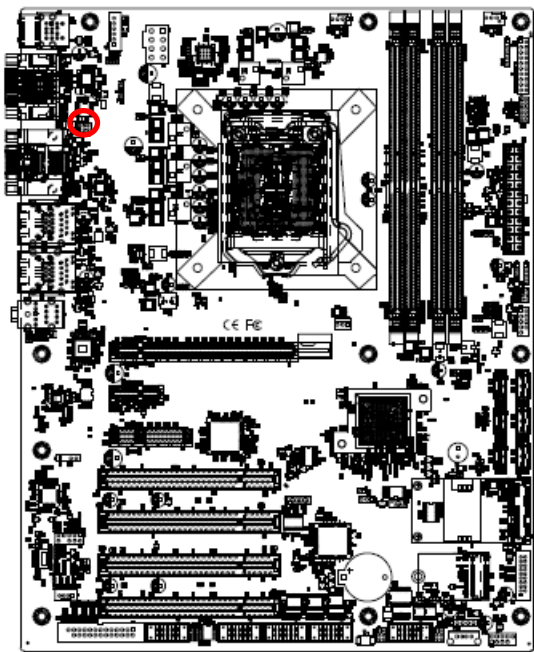
Connectors

Label	Function	Note
CPUFAN1	CPU fan connector	4 x 1 wafer, pitch 2.54mm
SYSFAN1	System fan connector 1 (with smart fan function supported)	4 x 1 wafer, pitch 2.54mm
SYSFAN3	System fan connector 2	3 x 1 wafer, pitch 2.54mm
JFP1	Miscellaneous setting connector	5 x 2 header, pitch 2.54 mm
DIMM1/2/3/4	288-pin DDR4 DIMM socket	
AUDIO1	Audio connector	

JAUDIO1	Audio connector 2	5 x 2 header, pitch 2.54 mm
JAUXP1	Auxiliary Panel connector	10 x 2 header, pitch 2.54 mm
JSPI1	SPI connector	4 x 2 header, pitch 2.00mm
COM1	Serial Port 1 connector	D-sub 9 pin, male
JCOM2A	Serial Port 2 connector	5 x 2 wafer, pitch 2.54mm
JCOM2B	COM2 RS485/422 connector	3 x 2 header, pitch 2.00 mm
JCOM3/4/5/6	Serial Port 3/4/5/6 connector	5 x 2 wafer, pitch 2.54mm
JBZ1	External Speaker connector	4 x 1 header, pitch 2.54 mm
JDIO1	General purpose I/O connector	6 x 2 header, pitch 2.00mm
JSGPIO1	SGPIO connector	3 x 2 header, pitch 2.00 mm
JSPK1	Speaker connector	1 x 4 wafer, pitch 2.00 mm
PSUSB1	PS/2 keyboard & mouse connector 2 x USB 2.0 connector	
JKBMS1	PS/2 keyboard & mouse connector	6 x 1 wafer, pitch 2.50 mm
LAN1/2	2 x RJ-45 with Dual deck USB 3.0 connector	
JUSB1	USB connector 1	10 x 2 wafer, pitch 2.00mm
JUSB2	USB connector 2	5 x 1 header, pitch 2.54mm
JUSB3	USB connector 3	
JUSB4	USB connector 4	5 x 2 header, pitch 2.54mm
JLPC1	LPC connector	5 x 2 header, pitch 2.00mm
PCIE1/2/3	PCIe slot 1/2/3	
PCI1/2/3/4	PCI slot 1/2/3/4	
JBAT1	Battery connector	2 x 1 wafer, pitch 1.25mm
MPCIE1	Mini-PCI connector	
ATXPWR1	ATX Power connector	12 x 2 wafer, pitch 4.20mm
ATX12V1	Power connector	2 x 4 wafer, pitch 4.20mm
SATA1~6	Serial ATA connector 1~6	
HDMI1	HDMI connector	
DP1	DP connector	
VGA1	VGA connector	
NGFF1	M.2 2230 KeyA Slot support WiFi module	
LPT1	LPT connector	13 x 2 header, pitch 2.54mm
JSIM1	SIM card slot	
JSPDIF1	S/PDIF connector	
JSMB1	SMBus connector	5 x 1 header, pitch 2.54mm

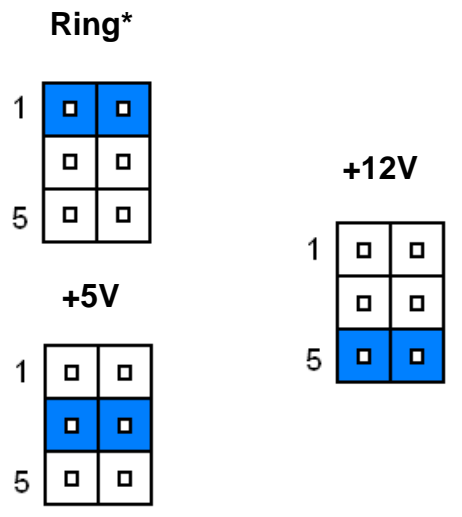
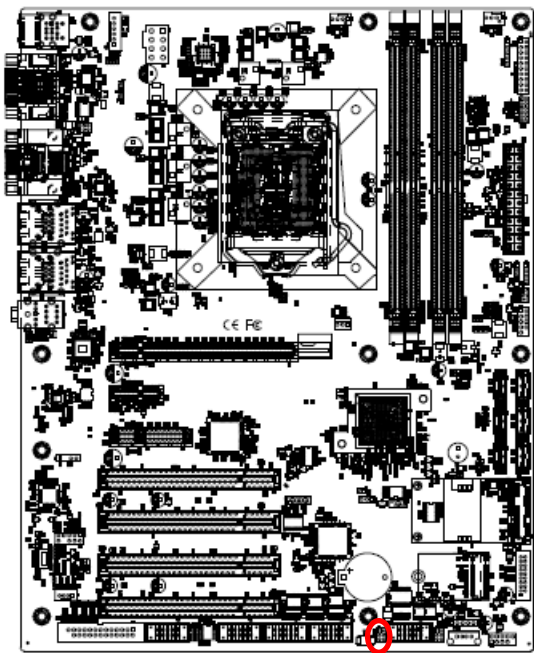
2.3 Setting Jumpers & Connectors

2.3.1 Serial port 1 pin9 signal select (JRI1)



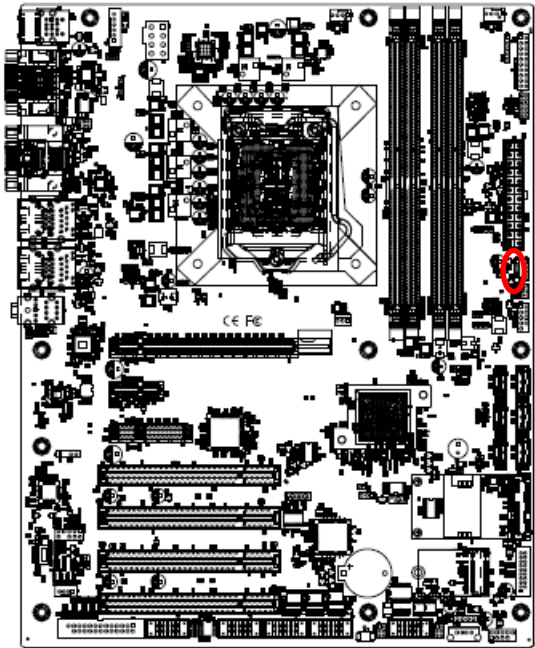
* Default

2.3.2 Serial port 2 pin9 signal select (JRI2)

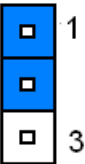


* Default

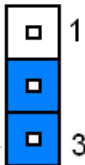
2.3.3 AT/ATX Power Mode Select (JATATX1)



AT*

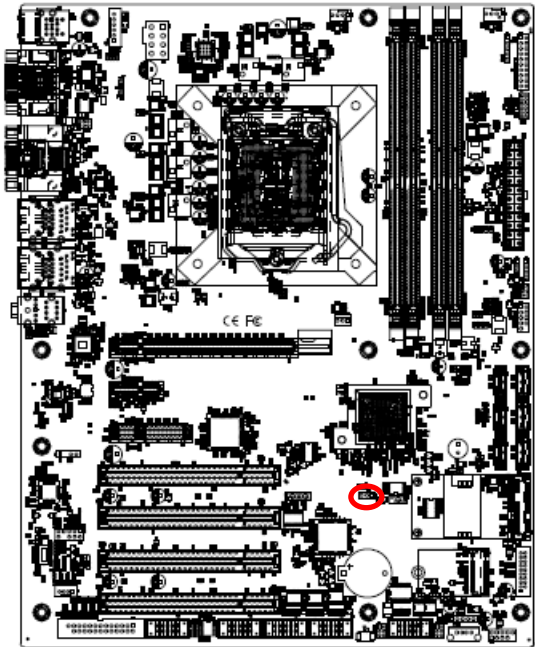


ATX



* Default

2.3.4 Clear CMOS (JCMOS1)



Protect*

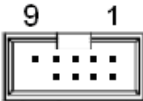
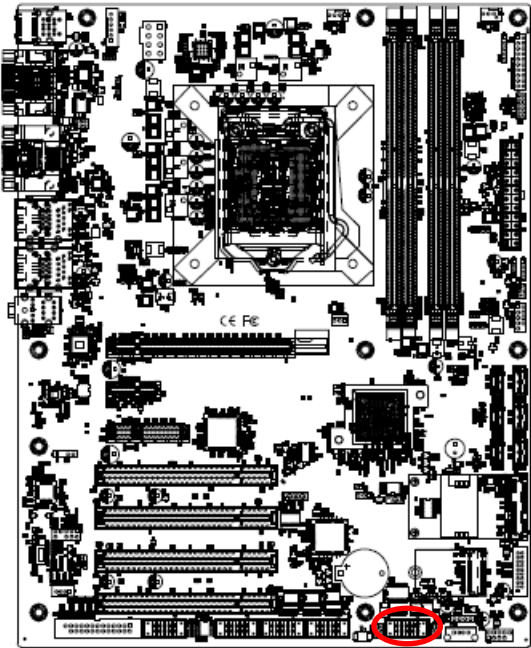


Clear CMOS



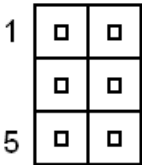
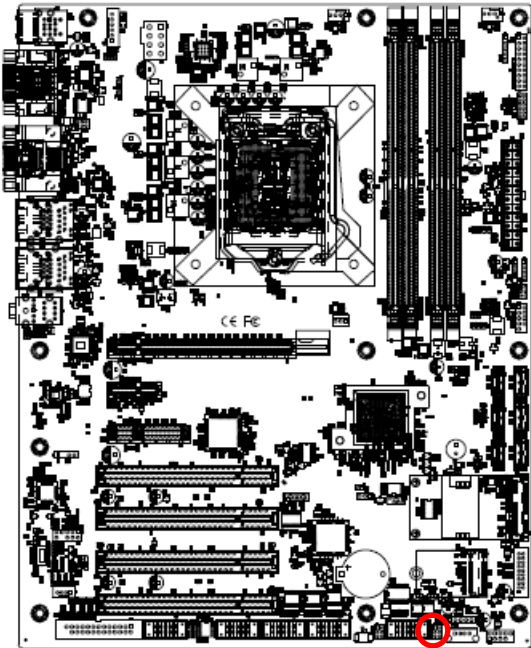
* Default

2.3.5 Serial port 2 connector (JCOM2A)



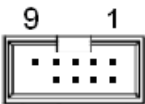
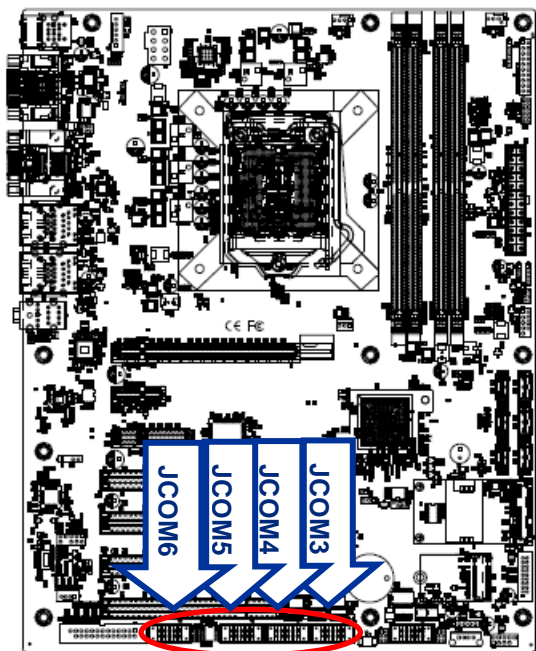
Signal	PIN	PIN	Signal
NRXD	2	1	NDCD#
NDTR#	4	3	NTXD
NDSR#	6	5	GND
NCTS#	8	7	NRTS#
		9	JNRI#

2.3.6 COM2 RS485/422 connector (JCOM2B)



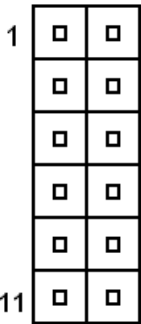
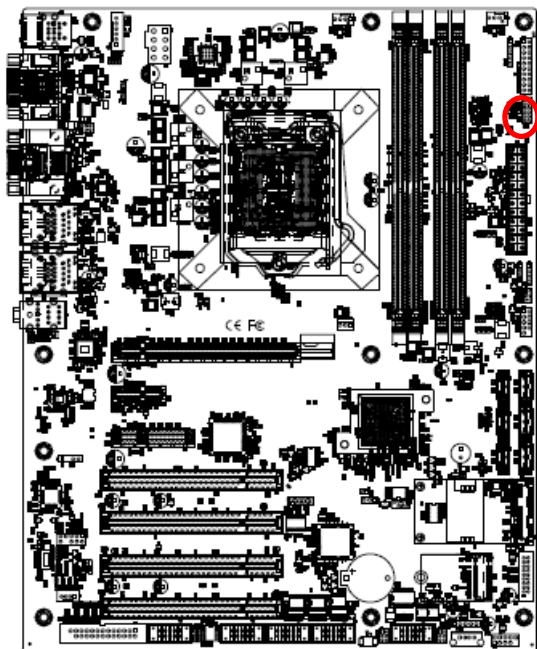
Signal	PIN	PIN	Signal
485TX-	1	2	422RX-
485TX+	3	4	422RX+
+5V	5	6	GND

2.3.7 Serial port 3/4/5/6 connector (JCOM3/4/5/6)



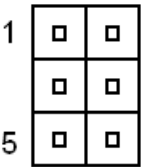
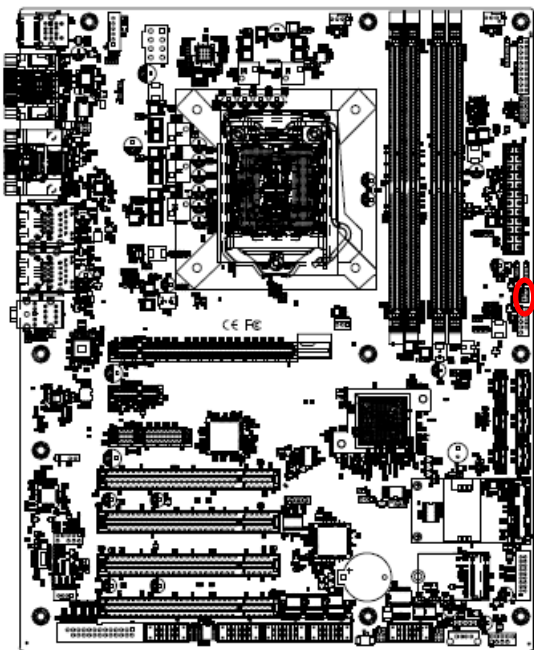
Signal	PIN	PIN	Signal
NRXD	2	1	NDCD#
NDTR#	4	3	NTXD
NDSR#	6	5	GND
NCTS#	8	7	NRTS#
NC	10	9	NRI#

2.3.8 General purpose I/O connector (JDIO1)



Signal	PIN	PIN	Signal
DI0	1	2	DO0
DI1	3	4	DO1
DI2	5	6	DO2
DI3	7	8	DO3
SMB_CLK_9555	9	10	SMB_DATA_9555
GND	11	12	+5V

2.3.9 SGPIO connector (JSGPIO1)

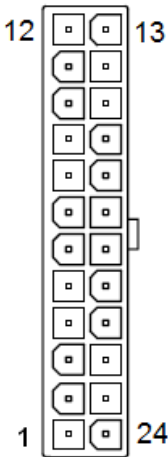
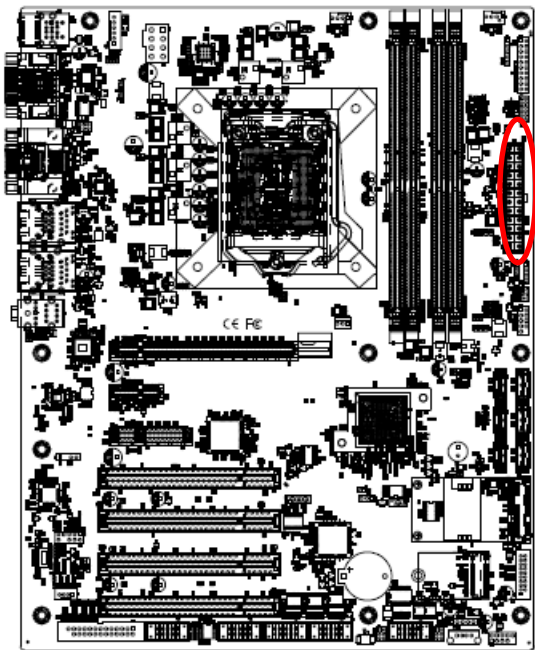


Signal	PIN	PIN	Signal
GND	1	2	GND
SGIO_LOAD	3	4	SGIO_DATOUT0
SGIO_CLK	5	6	SGIO_DATOUT1

Note:

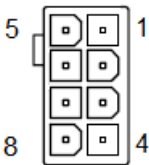
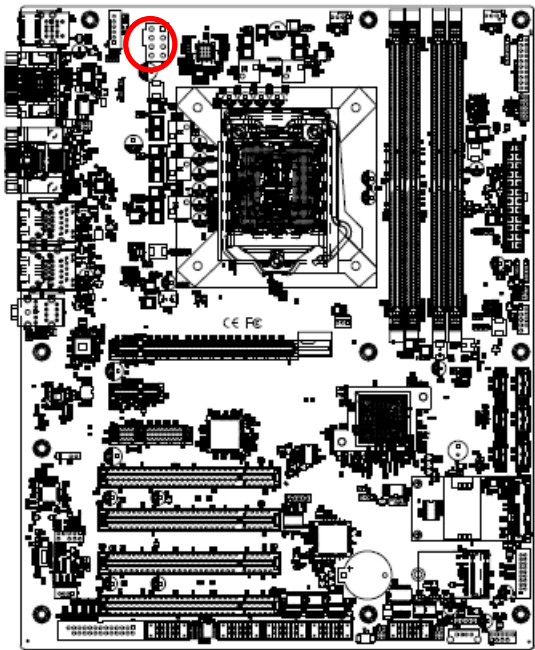
Need to install Intel(R) Rapid Storage Technology Enterprise (RSTe) Driver.

2.3.10 ATX Power connector (ATXPWR1)



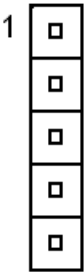
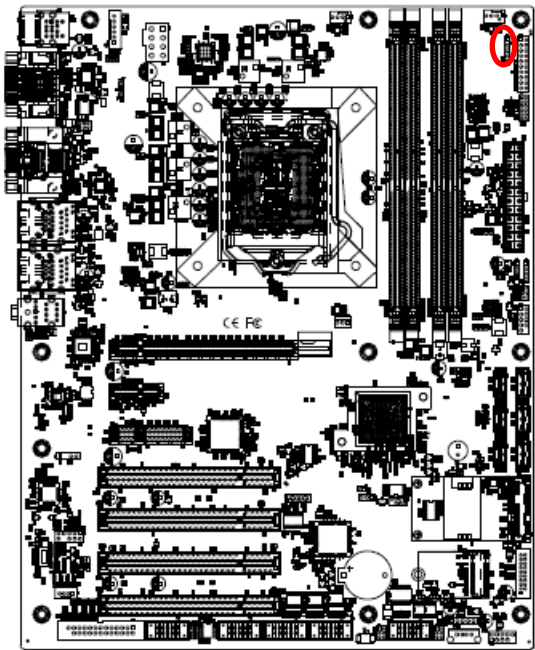
Signal	PIN	PIN	Signal
+3.3V	12	24	GND
+12V	11	23	+5V
+12V	10	22	+5V
+V5SB	9	21	+5V
ATX_PWRGD	8	20	-5V
GND	7	19	GND
+5V	6	18	GND
GND	5	17	GND
+5V	4	16	ATX_PSON#
GND	3	15	GND
+3.3V	2	14	-12V
+3.3V	1	13	+3.3V

2.3.11 Power connector (ATX12V1)



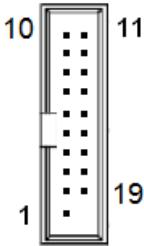
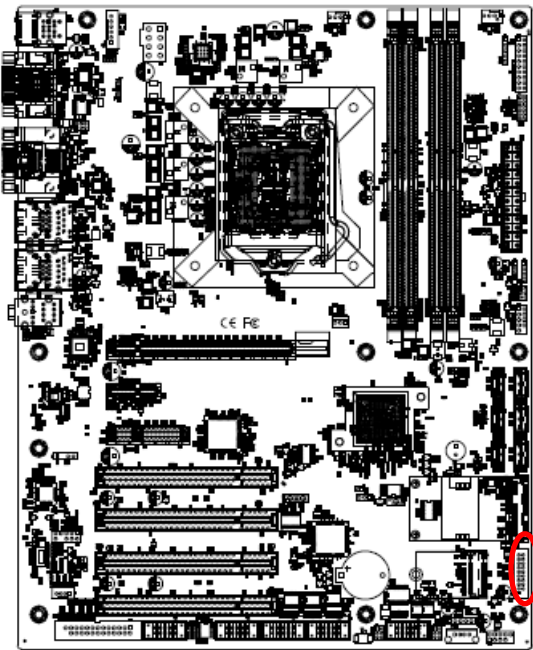
Signal	PIN	PIN	Signal
+12V	5	1	GND
+12V	6	2	GND
+12V	7	3	GND
+12V	8	4	GND

2.3.12 SMBus connector (JSMB1)



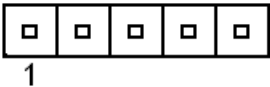
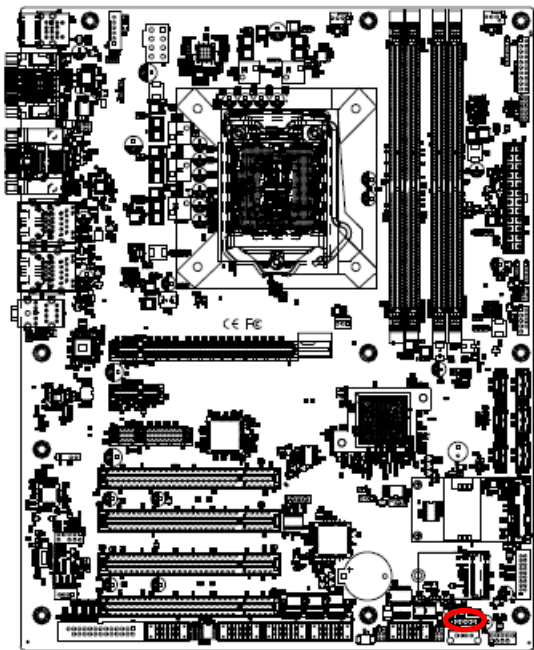
Signal	PIN
SMB_CLK_MAIN	1
SMB_DATA_MAIN	2
SMB_ALERT#_MAIN	3
GND	4
+3.3V	5

2.3.13 USB connector 1 (JUSB1)



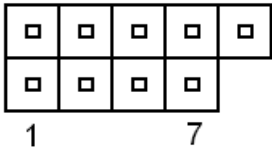
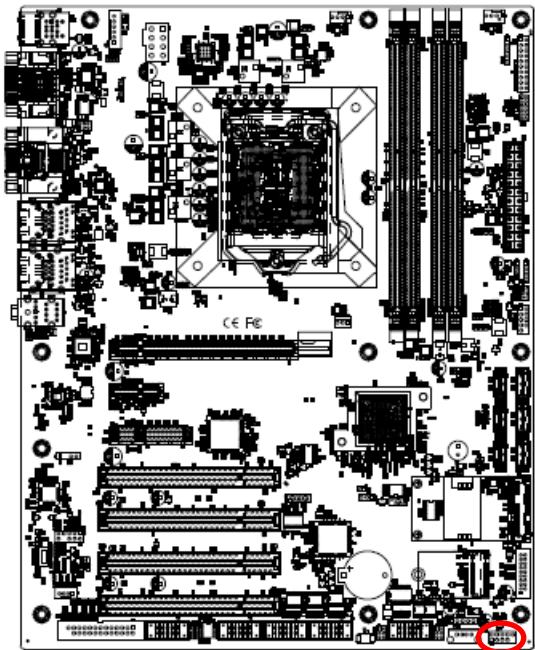
Signal	PIN	PIN	Signal
NC	10	11	USB_R_DP14
USB_R_DP13	9	12	USB_R_DN14
USB_R_DN13	8	13	GND
GND	7	14	SS_USB_TXP_C_6
SS_USB_TXP_C_5	6	15	SS_USB_TXN_C_6
SS_USB_TXN_C_5	5	16	GND
GND	4	17	SS_USB_RXP_C_6
SS_USB_RXP_C_5	3	18	SS_USB_RXN_C_6
SS_USB_RXN_C_5	2	19	USBVCC_DE
USBVCC_DE	1		

2.3.14 USB connector 2 (JUSB2)



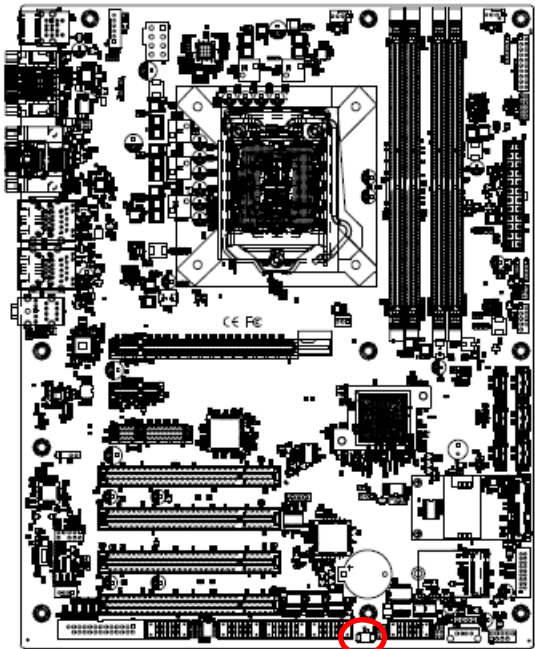
Signal	PIN
USBVCC56	1
USB_R_DN5	2
USB_R_DP5	3
GND	4
GND	5

2.3.15 USB connector 4 (JUSB4)



Signal	PIN	PIN	Signal
USBVCC_BC	1	2	USBVCC_BC
USB_R_DN12	3	4	USB_R_DN11
USB_R_DP12	5	6	USB_R_DP11
GND	7	8	GND
		10	NC

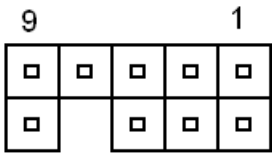
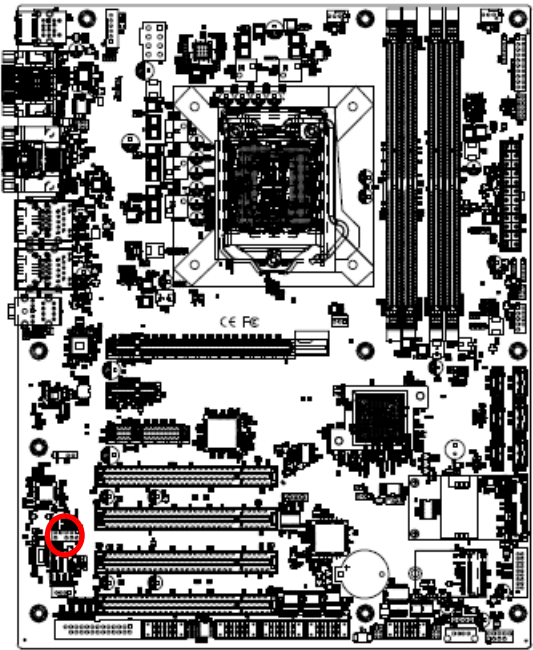
2.3.16 Battery connector (JBAT1)



Signal	PIN
RTC_VBAT_1	1
GND	2

EAX-C236P User’s Manual

2.3.17 Audio connector (JAUDIO1)

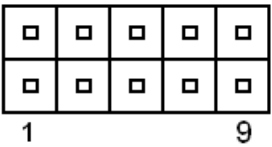
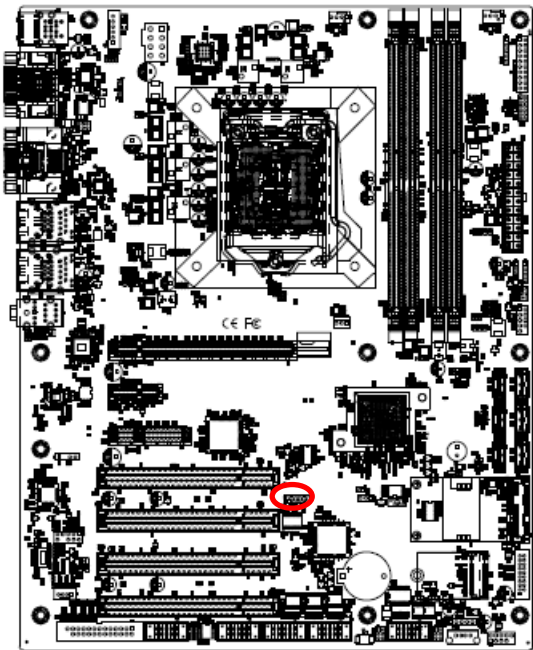


Signal	PIN	PIN	Signal
MIC2_L	1	2	GND
MIC2_R	3	4	ACZ_DET#_R
LNE2_RIN	5	6	MIC2_JD
GND	7		
LINE2_LIN	9	10	LINE2_JD

2.3.17.1 Signal Description –Audio connector (JAUDIO1)

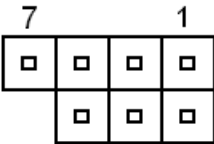
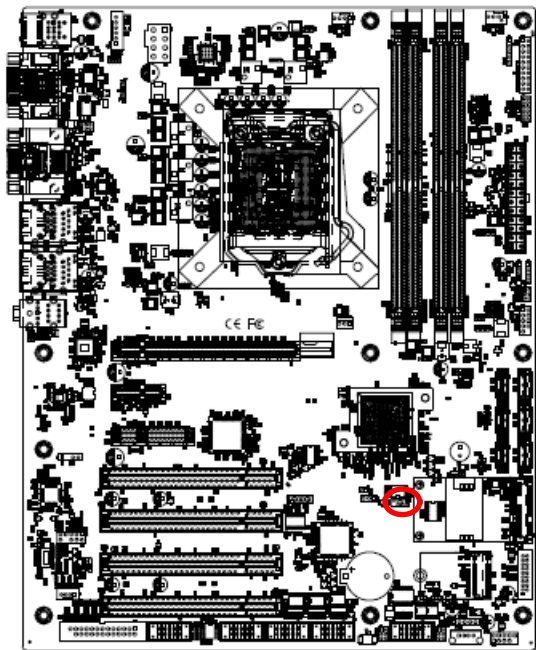
Signal	Signal Description
LINE2_JD	AUDIO IN (LINE_RIN/LIN)sense pin
MIC2_JD	MIC IN (MIC_RIN/LIN) sense pin

2.3.18 LPC connector (JLPC1)



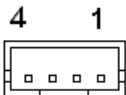
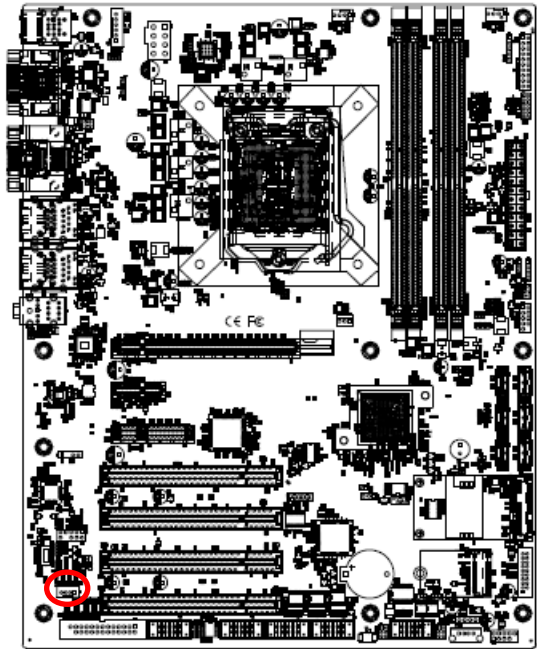
Signal	PIN	PIN	Signal
LPC_AD0_R	1	2	+3.3V
LPC_AD1_R	3	4	BUF_PLT_RST#
LPC_AD2_R	5	6	LPC_FRAME#_R
LPC_AD3_R	7	8	LPC_CLK
LPC_SERIRQ_R	9	10	GND

2.3.19 SPI connector (JSPI1)



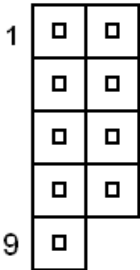
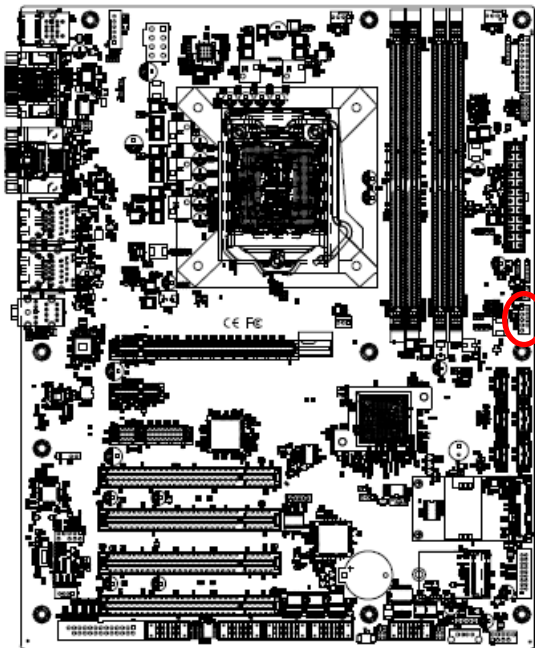
Signal	PIN	PIN	Signal
+3.3V	1	2	GND
SSPI_CS0#_R	3	4	SSPI_SCLK_R
SSPI_SO_R	5	6	SSPI_SI_R
SSPI_HOLD#0	7		

2.3.20 Speaker connector (JSPK1)



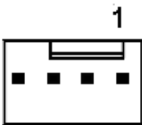
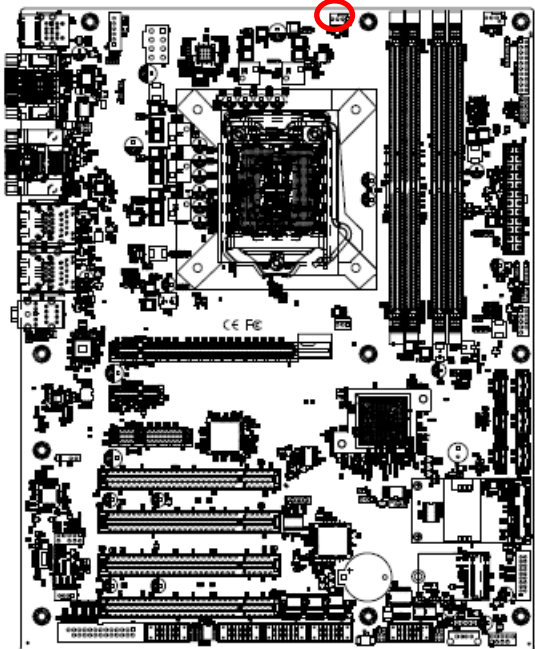
Signal	PIN
SPK_L+	1
SPK_L-	2
SPK_R+	3
SPK_R-	4

2.3.21 Miscellaneous setting connector (JFP1)



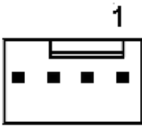
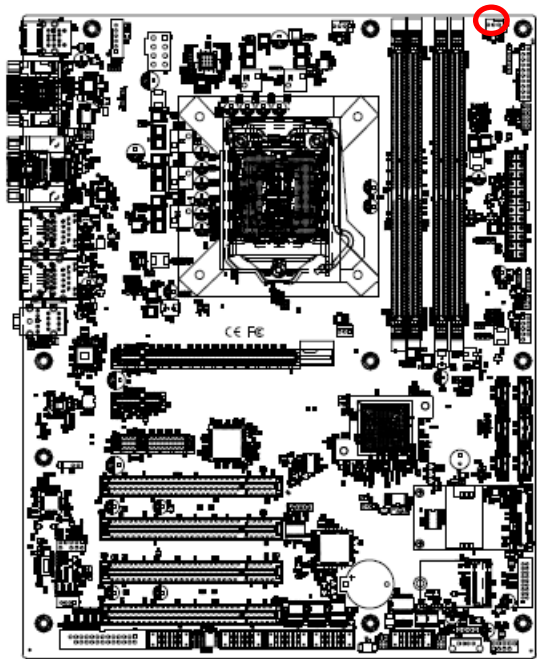
Signal	PIN	PIN	Signal
HDD_LED+	1	2	PWR_LED+
HDD_LED-	3	4	PWE_LED-
RSET_BTN#	5	6	PWRBTN#
GND	7	8	GND
NC	9		

2.3.22 CPU fan connector (CPUFAN1)



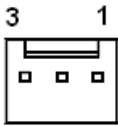
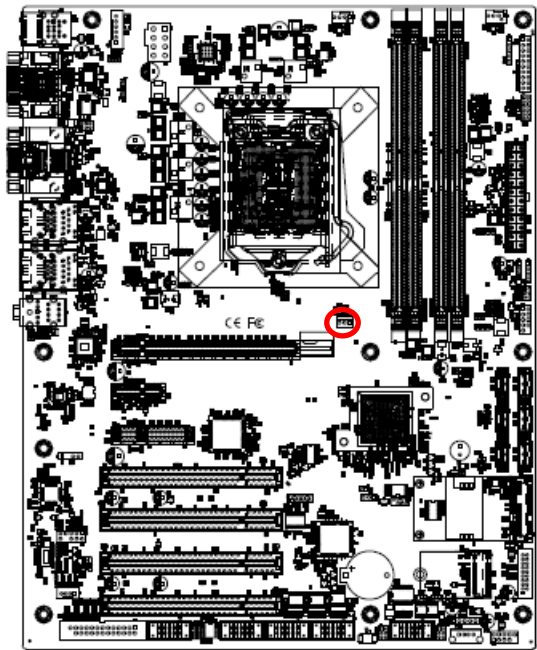
Signal	PIN
GND	1
+12V	2
CPUFANIN	3
CPUFANOUT	4

2.3.23 System fan connector 1 (SYSFAN1)



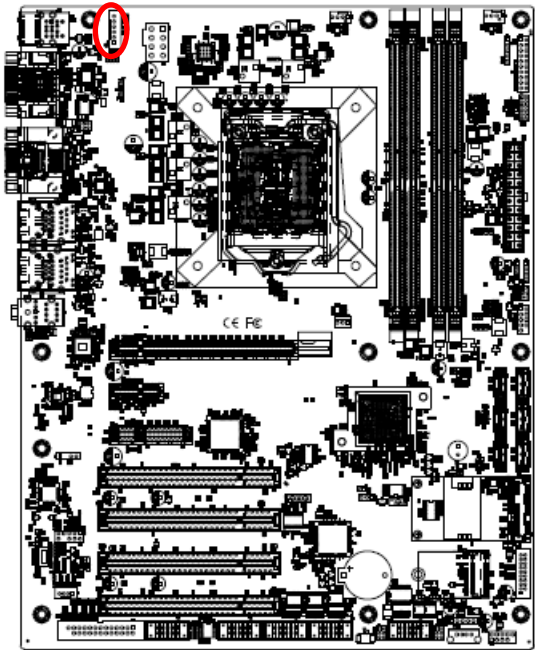
Signal	PIN
GND	1
+12V	2
SYSFANIN1	3
SYSFANOUT1	4

2.3.24 System fan connector 2 (SYSFAN3)



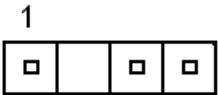
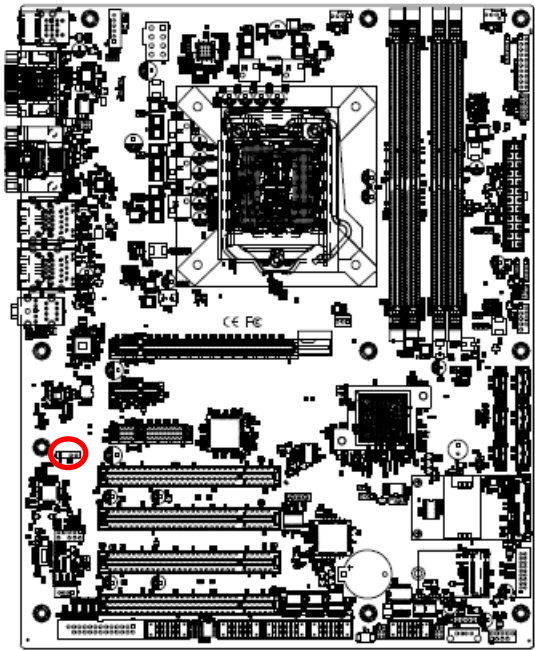
Signal	PIN
GND	1
+12V	2
SYS_FAN_IN_2	3

2.3.25 PS/2 keyboard & mouse connector (JKBMS1)



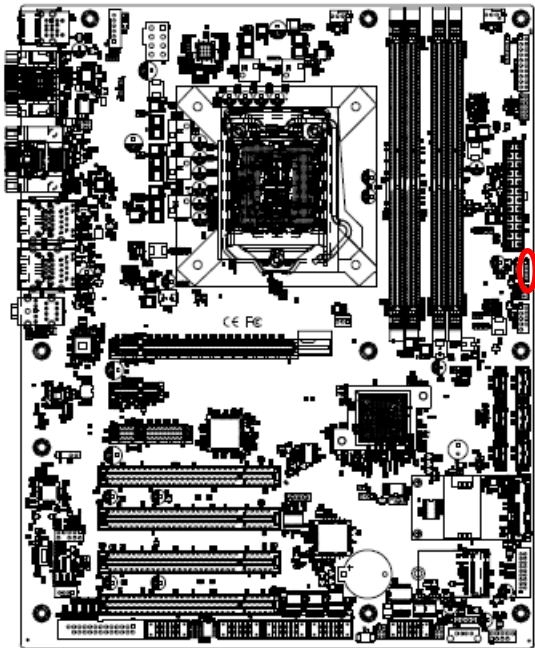
Signal	PIN
MSCK	6
+5V	5
GND	4
MSDT	3
KBDT	2
KBCK	1

2.3.26 S/PDIF connector (JSPDIF1)



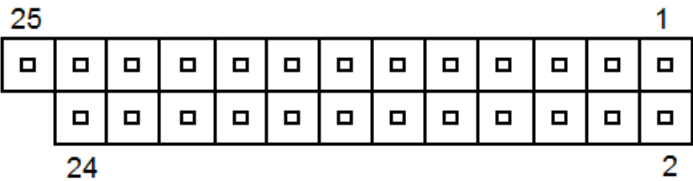
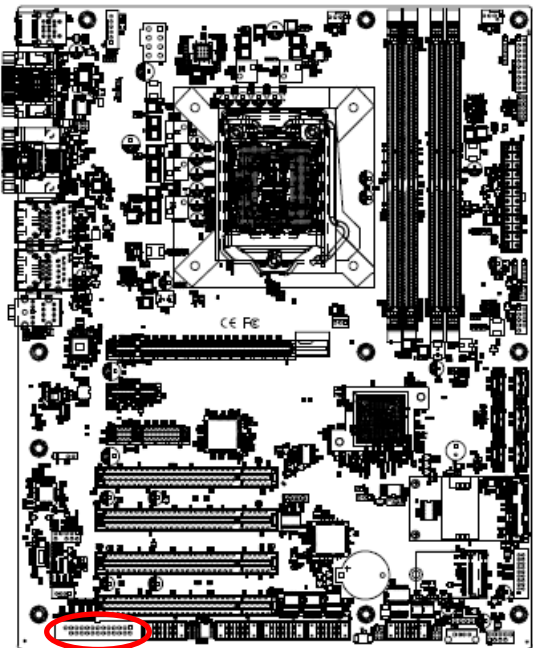
Signal	PIN
+5V	1
SPDIF_O	3
GND	4

2.3.27 External Speaker connector (JBZ1)



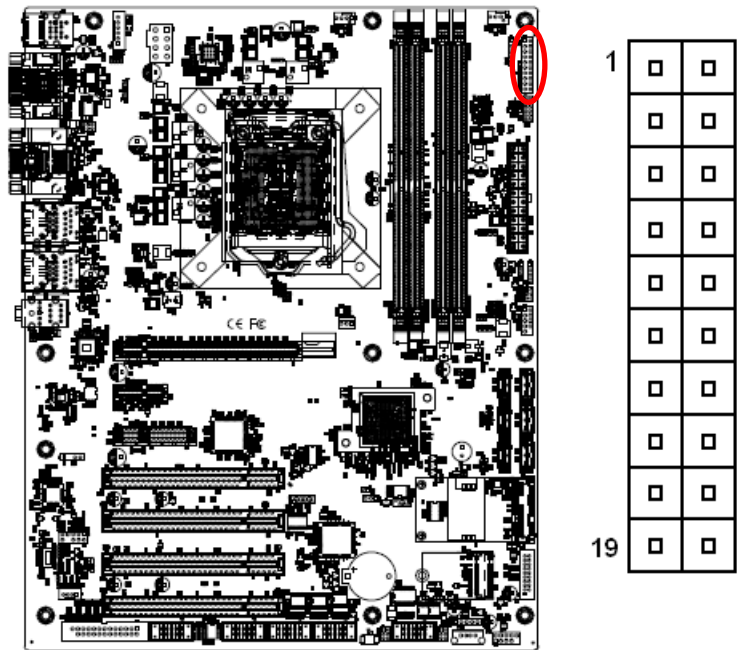
Signal	PIN
+5V	1
NC	2
NC	3
BEEP#	4

2.3.28 LPT connector (LPT1)



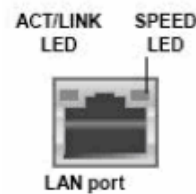
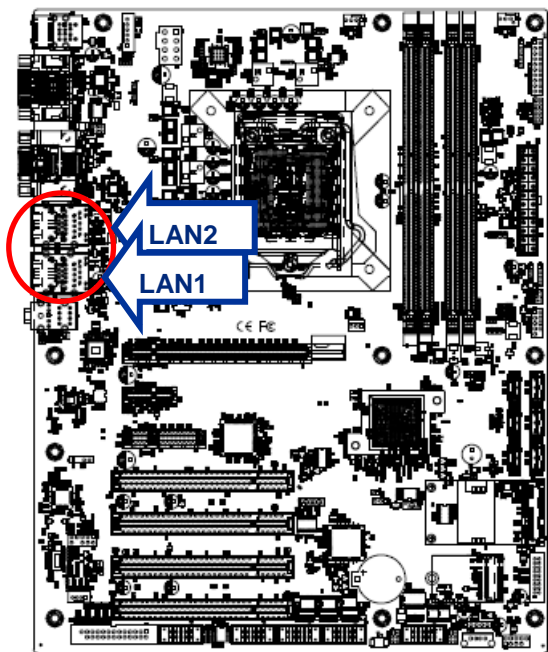
Signal	PIN	PIN	Signal
PT-STB-	1	2	PT_AFD#
PTD0	3	4	ERR#
PTD1	5	6	PT_PAR_INIT#
PTD2	7	8	PT_SLIN#
PTD3	9	10	GND
PTD4	11	12	GND
PTD5	13	14	GND
PTD6	15	16	GND
PTD7	17	18	GND
ACK#	19	20	GND
BUSY	21	22	GND
PE	23	24	GND
SLCT	25		

2.3.29 Auxiliary Panel connector (JAUXP1)



Signal	PIN	PIN	Signal
+5V	1	2	NC
NC	3	4	SMB_CLK_MAIN
CASEOPEN#	5	6	NC
GND	7	8	GND
ERROR_LED	9	10	SMB_DATA_MAIN
ERROR_LED#	11	12	+5V
FRONT_LAN1_ACT	13	14	FRONT_LAN1_LINK100#
GND	15	16	FRONT_LAN1_LINK1000#
FRONT_LAN2_ACT	17	18	FRONT_LAN2_LINK100#
GND	19	20	FRONT_LAN2_LINK1000#

2.3.30 Gigabit LAN (RJ-45) connector (LAN1/2)



ACT/LINK LED		SPEED LED	
Status	Description	Status	Description
OFF	No Light	OFF	10Mbps connection
Orange	Linked	Green	100Mbps connection
Blinking	Data activity	Orange	1Gbps connection

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

3.BIOS Setup

3.1 Introduction

The BIOS setup program allows users to modify the basic system configuration. In this following chapter will describe how to access the BIOS setup program and the configuration options that may be changed.

3.2 Starting Setup

The AMI BIOS™ is immediately activated when you first power on the computer. The BIOS reads the system information contained in the NVRAM and begins the process of checking out the system and configuring it. When it finishes, the BIOS will seek an operating system on one of the disks and then launch and turn control over to the operating system.

While the BIOS is in control, the Setup program can be activated in one of two ways:

By pressing or <F2> immediately after switching the system on, or

By pressing the or <F2> key when the following message appears briefly at the left-top of the screen during the POST (Power On Self Test).

Press or <F2> to enter SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to.

Press F1 to Continue, DEL to enter SETUP

3.3 Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the PageUp and PageDown keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program using the keyboard.

Button	Description
↑	Move to previous item
↓	Move to next item
←	Move to the item in the left hand
→	Move to the item in the right hand
Esc key	Main Menu -- Quit and not save changes into NVRAM Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
+ key	Increase the numeric value or make changes
- key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
F2 key	Previous Values.
F3 key	Optimized defaults
F4 key	Save & Exit Setup

- **Navigating Through The Menu Bar**

Use the left and right arrow keys to choose the menu you want to be in.



Note: Some of the navigation keys differ from one screen to another.

- **To Display a Sub Menu**

Use the arrow keys to move the cursor to the sub menu you want. Then press <Enter>. A “➤” pointer marks all sub menus.

3.4 Getting Help

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc> or the F1 key again.

3.5 In Case of Problems

If, after making and saving system changes with Setup, you discover that your computer no longer is able to boot, the AMI BIOS supports an override to the NVRAM settings which resets your system to its defaults.

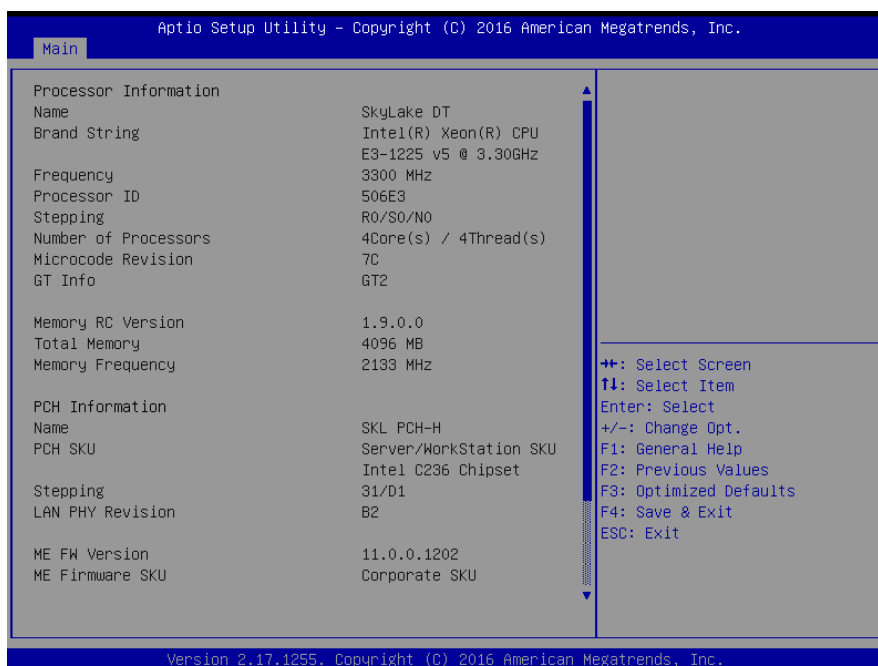
The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both BIOS Vendor and your systems manufacturer to provide the absolute maximum performance and reliability. Even a seemingly small change to the chipset setup has the potential for causing you to use the override.

3.6 BIOS setup

Once you enter the Aptio Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

3.6.1 Main Menu

This section allows you to record some basic hardware configurations in your computer and set the system clock.



3.6.1.1 System Language

This option allows choosing the system default language.

3.6.1.2 System Date

Use the system date option to set the system date. Manually enter the day, month and year.

3.6.1.3 System Time

Use the system time option to set the system time. Manually enter the hours, minutes and seconds.

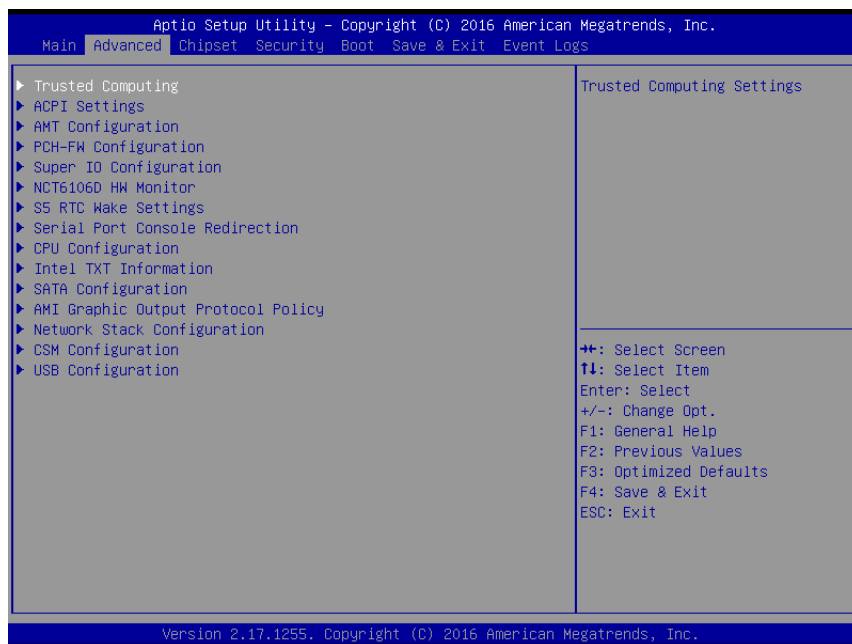


Note: The BIOS setup screens shown in this chapter are for reference purposes only, and may not exactly match what you see on your screen.

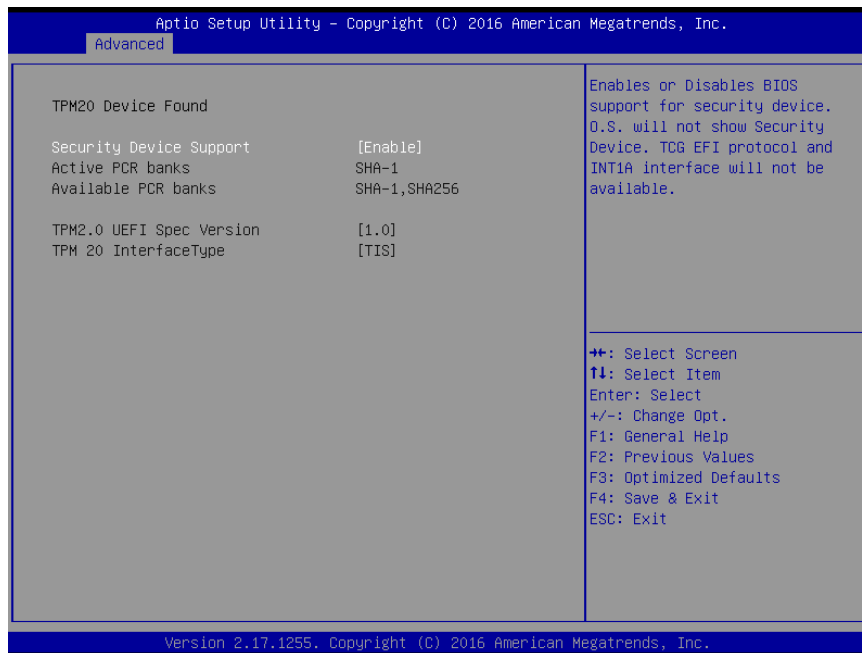
Visit the Avalue website (www.avalue.com.tw) to download the latest product and BIOS information.

3.6.2 Advanced Menu

This section allows you to configure your CPU and other system devices for basic operation through the following sub-menus.



3.6.2.1 Trusted Computing



Item	Options	Description
Security Device Support	Disable, Enable[Default]	Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1Ainterface will not be available.

3.6.2.2 APCI Settings



Item	Options	Description
Enable ACPI Auto Configuration	Disabled[Default], Enabled	Enables or Disables BIOS ACPI Auto Configuration.

EAX-C236P User's Manual

Enable Hibernation	Disabled Enabled[Default],	Enables or Disables System ability to Hibernates (OS/S4 Sleep State). This option may be not effective with some OS.
ACPI Sleep State	Suspend Disabled, S3 (Suspend to RAM)[Default]	Select the highest ACPI sleep state the system will enter when the SUSPEDN button is pressed.
ErP Function	Disabled[Default], Enabled	ErP Function (Deep S5).
Pwr-On After PWR-Fail	Always Off[Default] Always On Keep Last state	Specify what state to go to when power is re-applied after a power failure (G3 state).
Watch Dog Timer	Disabled[Default], 30 sec 40 sec 50 sec 1 min 2 min 10 min 30 min	Select Watch Dog Timer (WDT) Mode.
Wake Up by Ring	Disabled Enabled[Default],	Enable/Disable system waked up by Ring signal from standby states (S3~S5).
USB Power state in S3-S5	Disabled Enabled[Default],	Enable/Disable USB Power delivery in S3 (Sleep), S4 (Hibernate) and S5 (Soft Off) States.

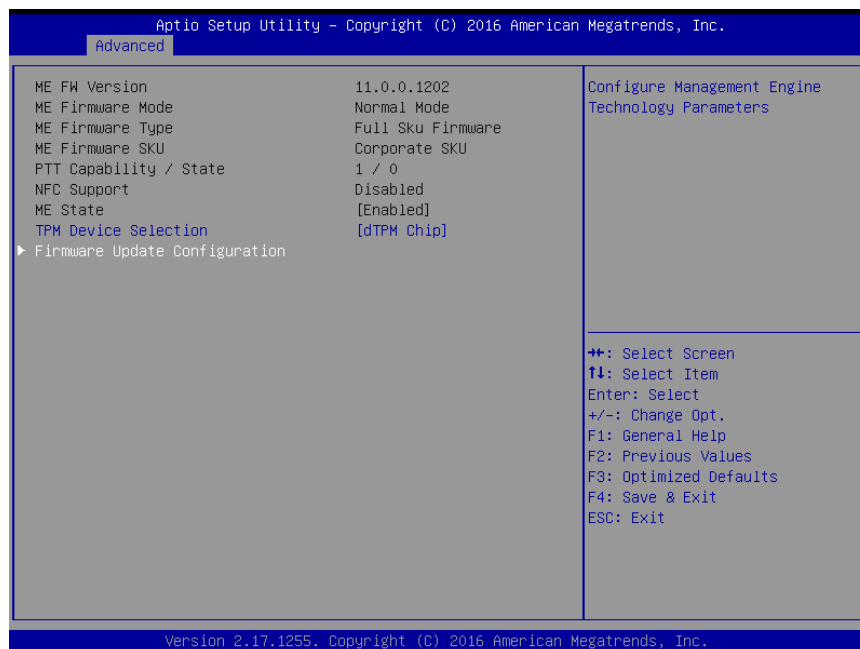
3.6.2.3 AMT Configuration



Item	Options	Description
Intel AMT	Disabled Enabled[Default],	Enable/Disable Intel® Active Management Technology BIOS Extension. Note: iAMT H/W is always enabled. This option just

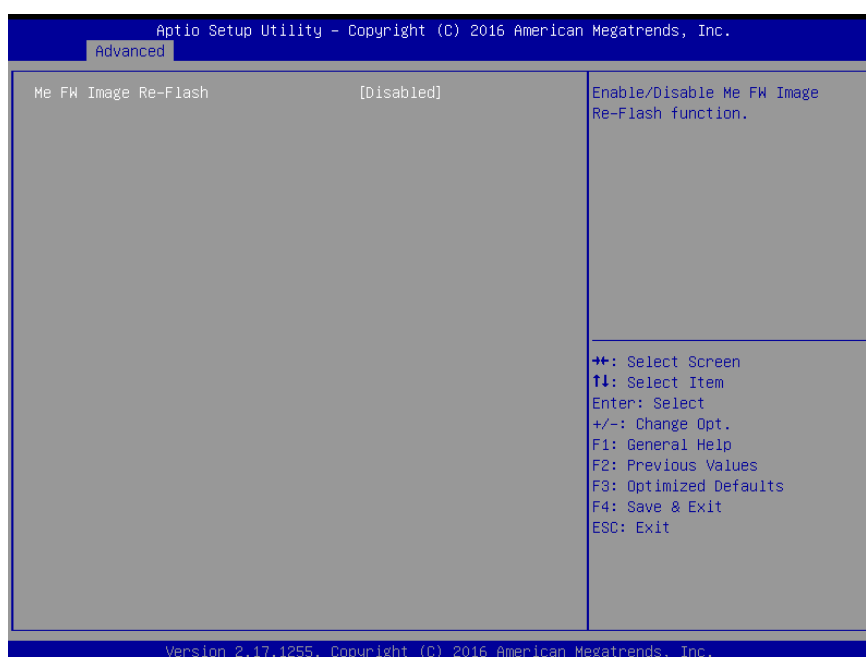
		controls the BIOS extension execution. If enabled, this requires additional firmware in the SPI device.
Un-Configure ME	Disabled[Default], Enabled	OEMFlag Bit 15: Un-Configure ME without password.

3.6.2.4 PCH-FW Configuration



Item	Options	Description
TPM Device Selection	dTPM Chip[Default], PTT	Selects TPM device: dTPM – The discrete TPM chip. PTT – Intel Platform Trust Technology. Warning! If PTT/dTPM was disabled, All data saved on it will be lost.

3.6.2.4.1 Firmware Update Configuration

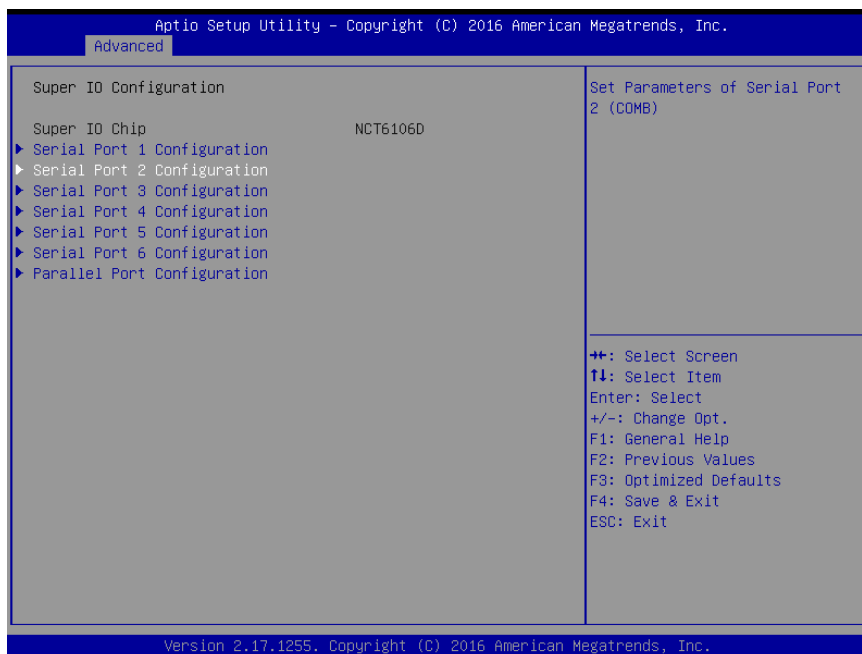


EAX-C236P User's Manual

Item	Option	Description
ME FW Image Re-Flash	Disabled[Default], Enabled	Enable/Disable Me FW Image Re-Flash function.

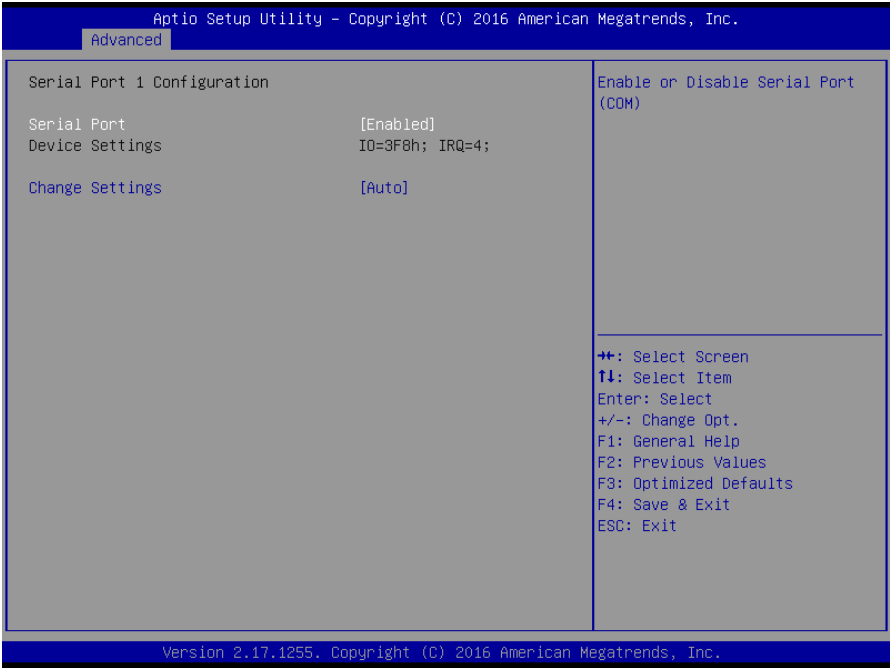
3.6.2.5 Super IO Configuration

You can use this item to set up or change the Super IO configuration for serial ports. Please refer to 3.6.2.5.1~ 3.6.2.5.7 for more information.



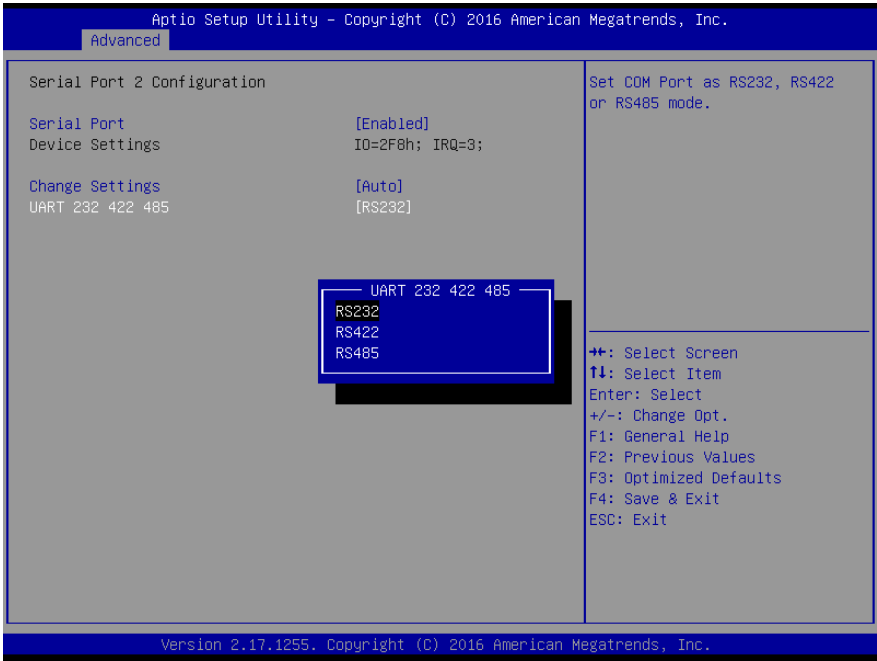
Item	Description
Serial Port 1 Configuration	Set Parameters of Serial Port 1 (COMA).
Serial Port 2 Configuration	Set Parameters of Serial Port 2 (COMB).
Serial Port 3 Configuration	Set Parameters of Serial Port 3 (COMC).
Serial Port 4 Configuration	Set Parameters of Serial Port 4 (COMD).
Serial Port 5 Configuration	Set Parameters of Serial Port 5 (COME).
Serial Port 6 Configuration	Set Parameters of Serial Port 6 (COMF).
Parallel Port Configuration	Set Parameters of Parallel Port (LPT/LPTE).

3.6.2.5.1 Serial Port 1 Configuration



Item	Option	Description
Serial Port	Enabled[Default], Disabled	Enable or Disable Serial Port (COM).
Change Settings	Auto[Default]	Select an optimal setting for Super IO Device.

3.6.2.5.2 Serial Port 2 Configuration

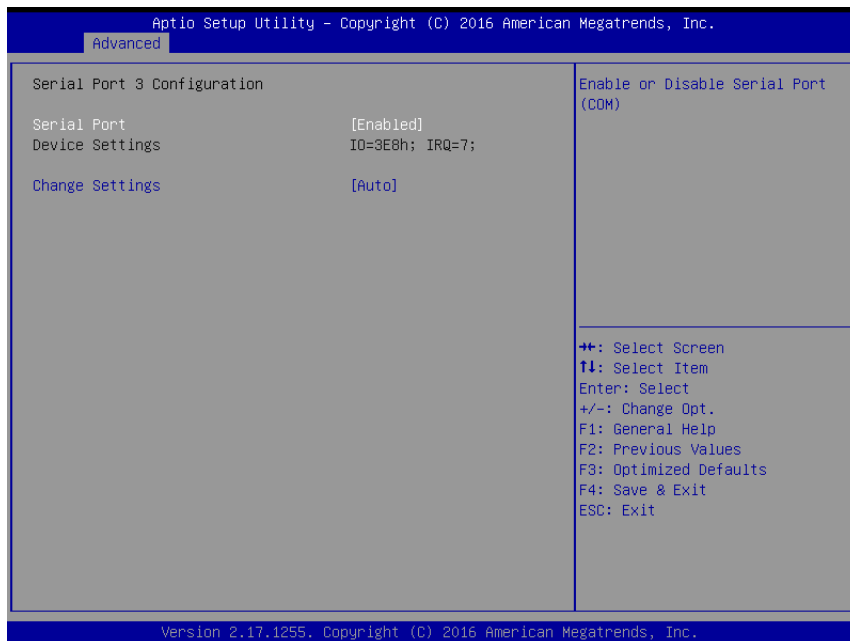


Item	Option	Description
Serial Port	Enabled[Default], Disabled	Enable or Disable Serial Port (COM).

EAX-C236P User's Manual

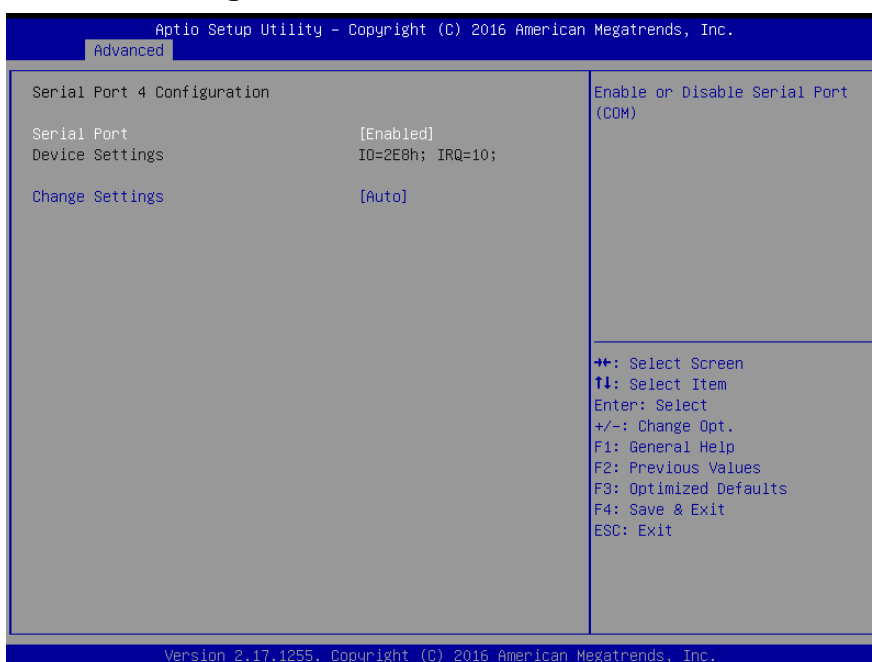
Change Settings	Auto[Default]	Select an optimal setting for super IO Device.
UART 232 422 485	RS232[Default] RS422 RS485	Set COM Port as RS232, RS422 or RS485 mode.

3.6.2.5.3 Serial Port 3 Configuration



Item	Option	Description
Serial Port	Enabled[Default], Disabled	Enable or Disable Serial Port (COM).
Change Settings	Auto[Default]	Select an optimal setting for Super IO Device.

3.6.2.5.4 Serial Port 4 Configuration



Item	Option	Description
Serial Port	Enabled[Default], Disabled	Enable or Disable Serial Port (COM).
Change Settings	Auto[Default]	Select an optimal setting for super IO Device.

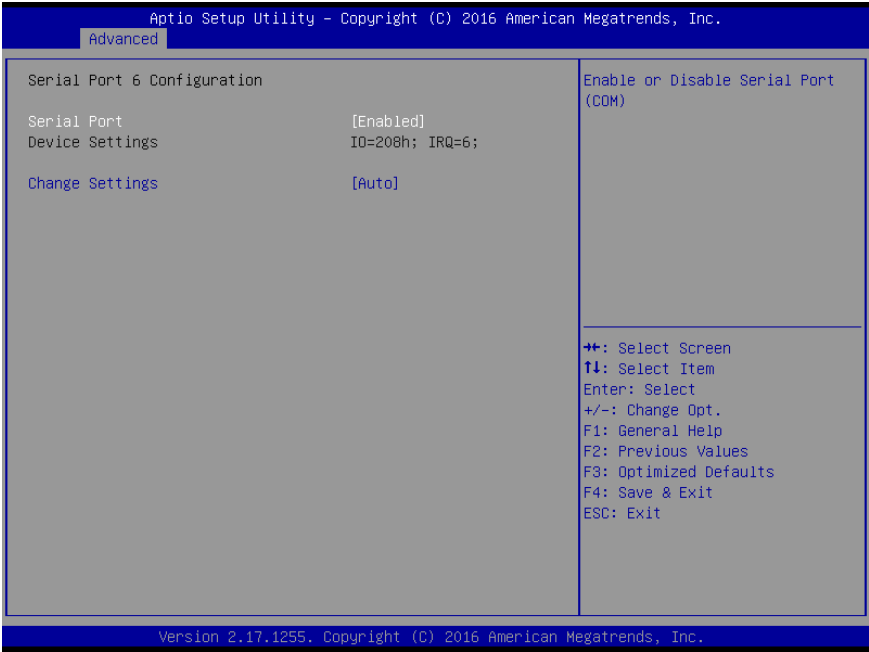
3.6.2.5.5 Serial Port 5 Configuration



Item	Option	Description
Serial Port	Enabled[Default], Disabled	Enable or Disable Serial Port (COM).
Change Settings	Auto[Default]	Select an optimal setting for super IO Device.

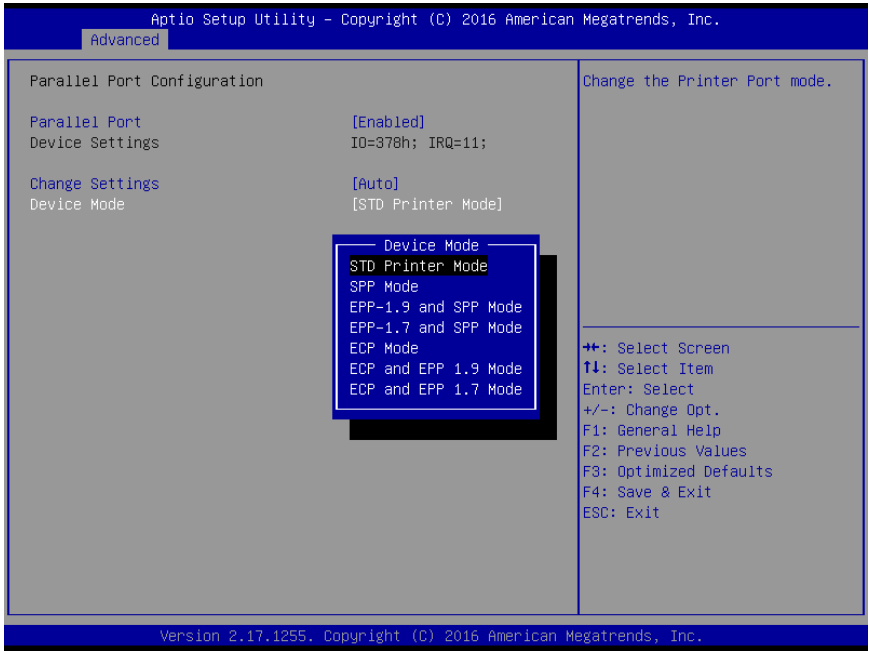
EAX-C236P User’s Manual

3.6.2.5.6 Serial Port 6 Configuration



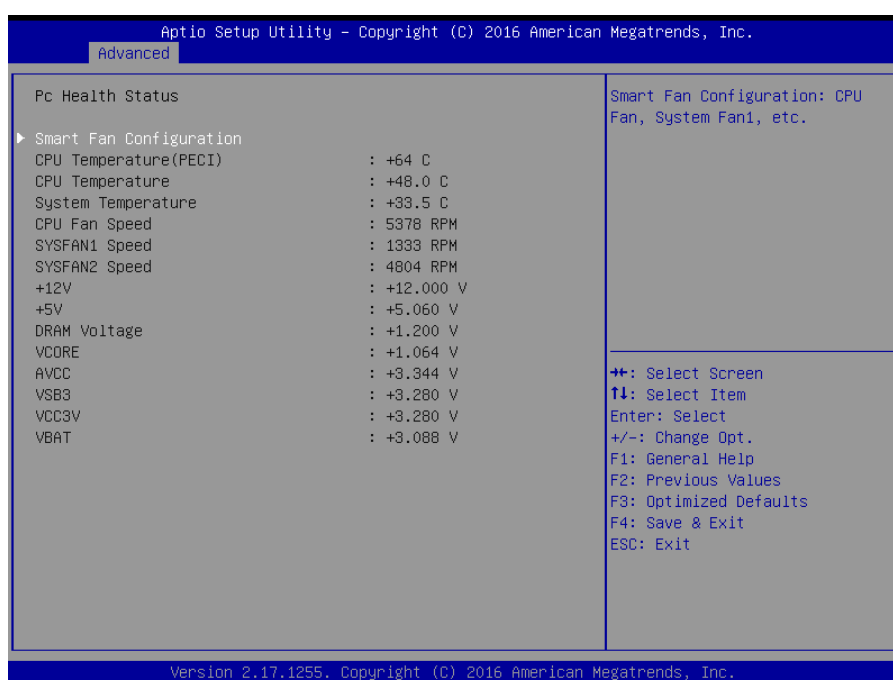
Item	Option	Description
Serial Port	Enabled[Default], Disabled	Enable or Disable Serial Port (COM).
Change Settings	Auto[Default]	Select an optimal setting for super IO Device.

3.6.2.5.7 Parallel Port Configuration



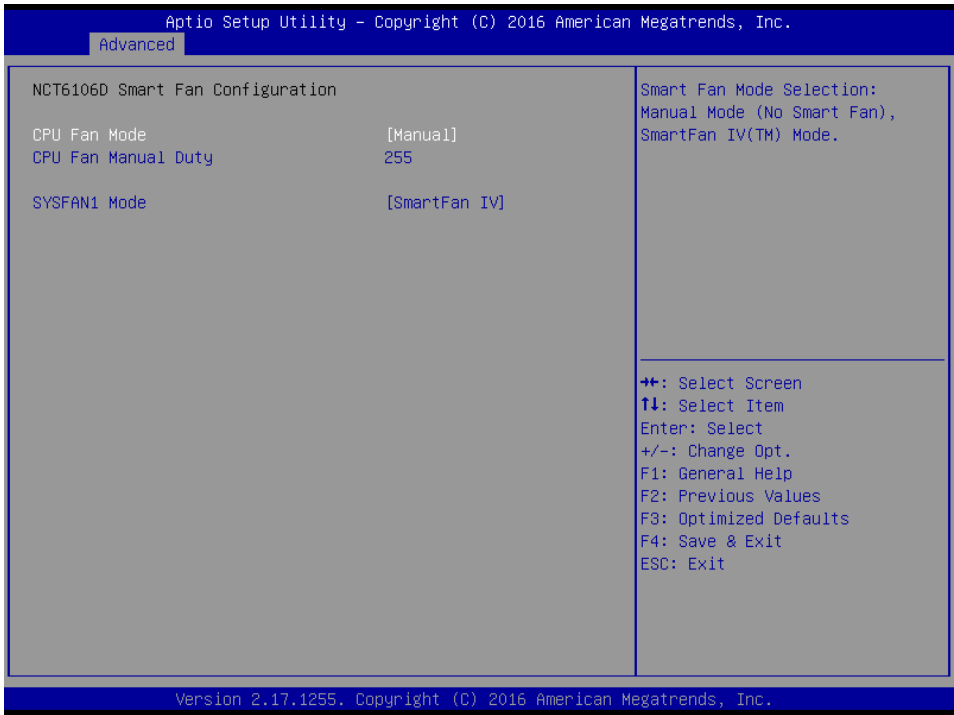
Item	Option	Description
Parallel Port	Enabled[Default], Disabled	Enable or Disable Parallel Port (LPT/LPTE).
Change Settings	Auto[Default]	Select an optimal setting for Super IO Device.
Device Mode	STD Printer Mode[Default] SPP Mode EPP-1.9 and SPP Mode EPP-1.7 and SPP Mode ECP Mode ECP and EPP 1.9 Mode ECP and EPP 1.7 Mode	Change the Printer Port mode.

3.6.2.6 NCT6106D H/W Monitor



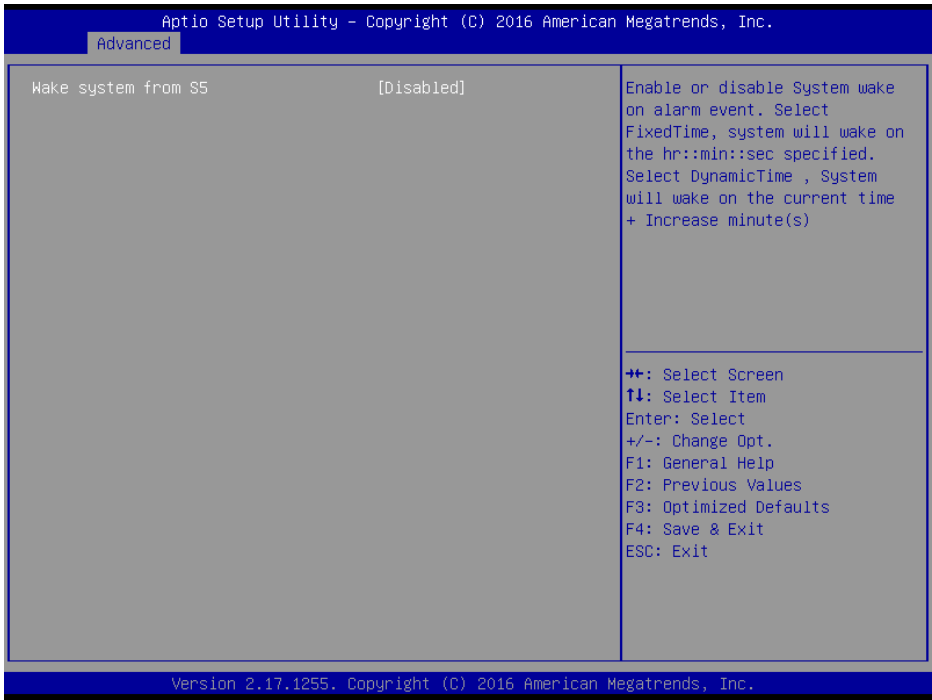
EAX-C236P User’s Manual

3.6.2.6.1 Smart Fan Configuration



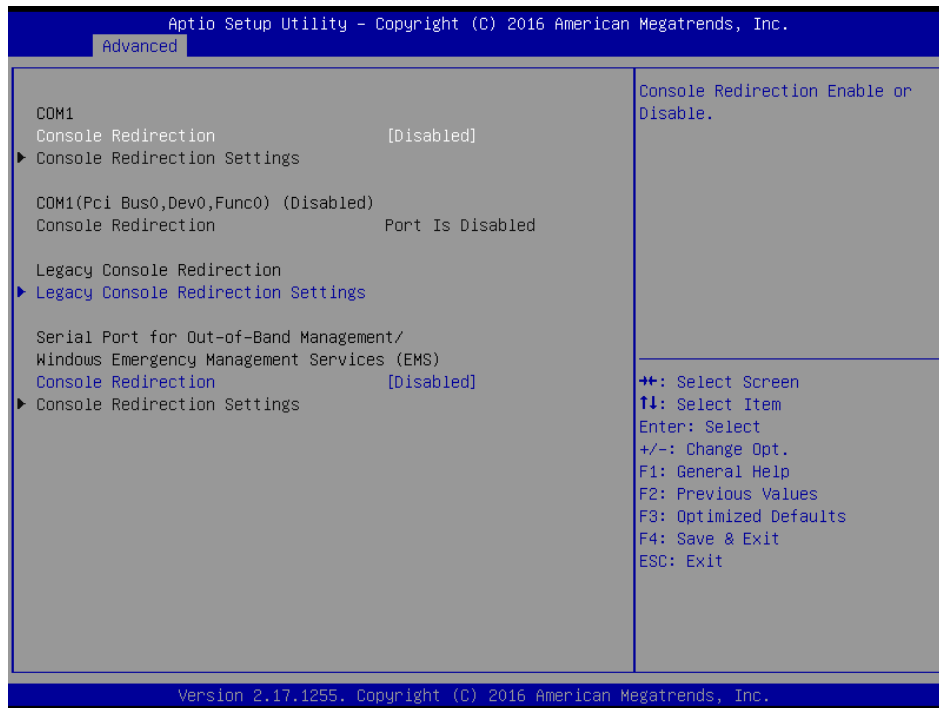
Item	Option	Description
CPU Fan Mode	Manual [Default] , SmartFan IV	Smart Fan Mode Selection: Manual Mode (No Smart Fan), SmartFan IV™ Mode.
CPU Fan Manual Duty	0-255	CPU Fan manual output duty: 0 to 255.
SYSFAN1 Mode	Manual SmartFan IV [Default] ,	Smart Fan Mode Selection: Manual Mode (No Smart Fan), SmartFan IV™ Mode.

3.6.2.7 S5 RTC Wake Settings



Item	Options	Description
Wake system from S5	Disabled[Default], Fixed Time Dynamic Time	Enable or disable System wake on alarm event. Select Fixed Time, system will wake on the hr::min::sec specified. Select Dynamic Time, System will wake on the current time + Increase minute(s).

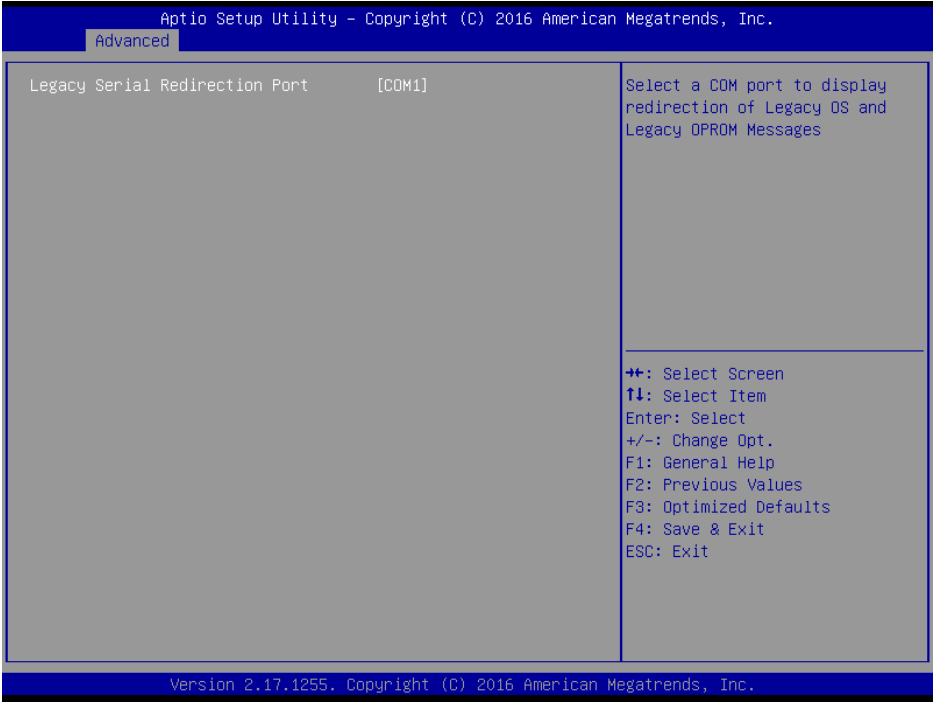
3.6.2.8 Serial Port Console Redirection



Item	Options	Description
Console Redirection	Disabled[Default], Enabled	Console Redirection Enable or Disable.

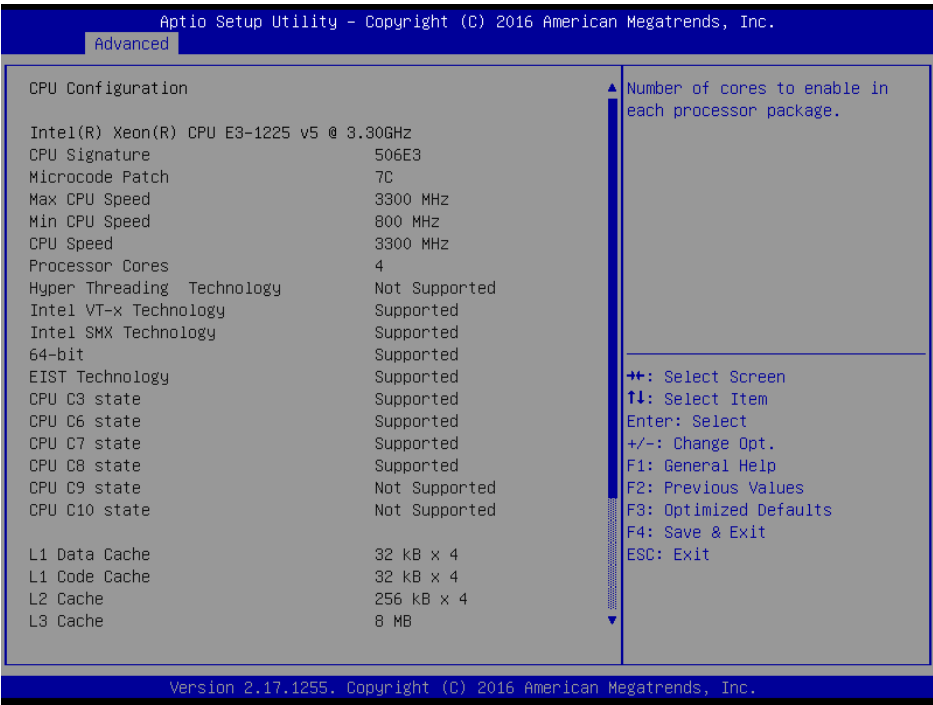
EAX-C236P User’s Manual

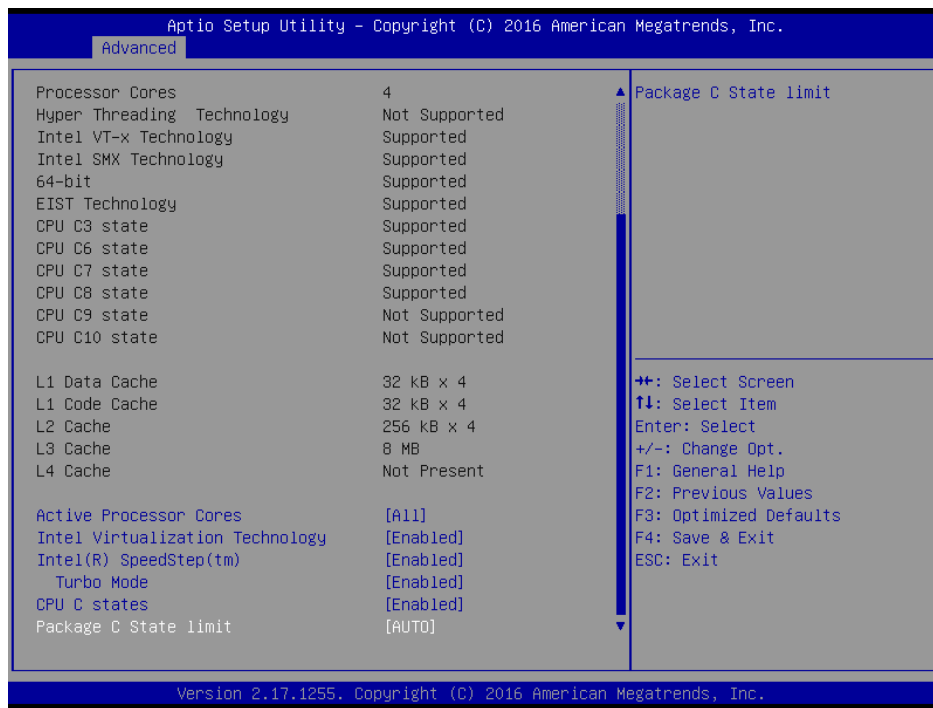
3.6.2.8.1 Legacy Console Redirection Settings



Item	Option	Description
Legacy Serial Redirection Port	COM1[Default]	Select a COM port to display redirection of Legacy OS and Legacy OPROM Messages.

3.6.2.9 CPU Configuration

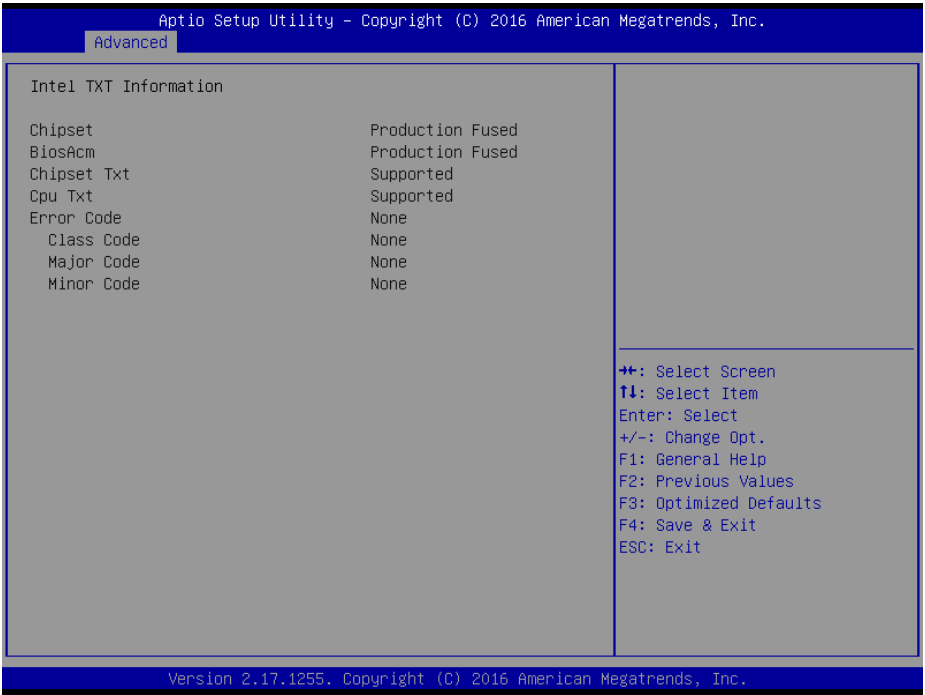




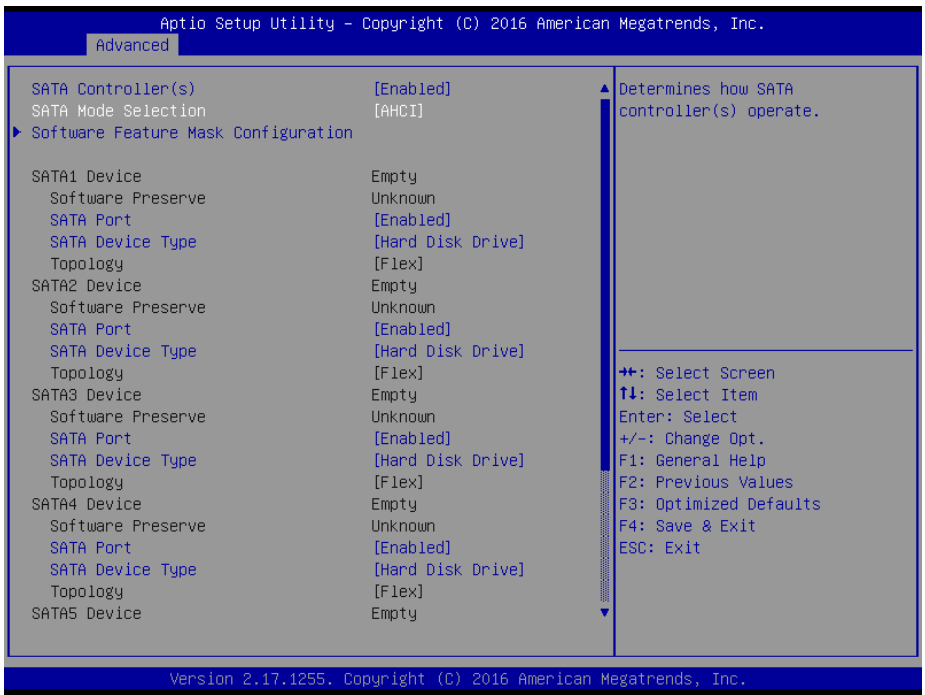
Item	Options	Description
Active Processor Cores	All[Default], 1 2 3	Number of cores to enable in each processor package.
Intel Virtualization Technology	Disabled Enabled[Default],	When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.
Intel® SpeedStep™	Disabled Enabled[Default],	Allows more than two frequency ranges to be supported.
Turbo Mode	Disabled Enabled[Default],	Turbo Mode.
CPU C states	Disabled Enabled[Default],	Enable or disable CPU states.
Package C State limit	C0/C1 C2 C3 C6 C7 C7s AUTO[Default]	Package C State limit.

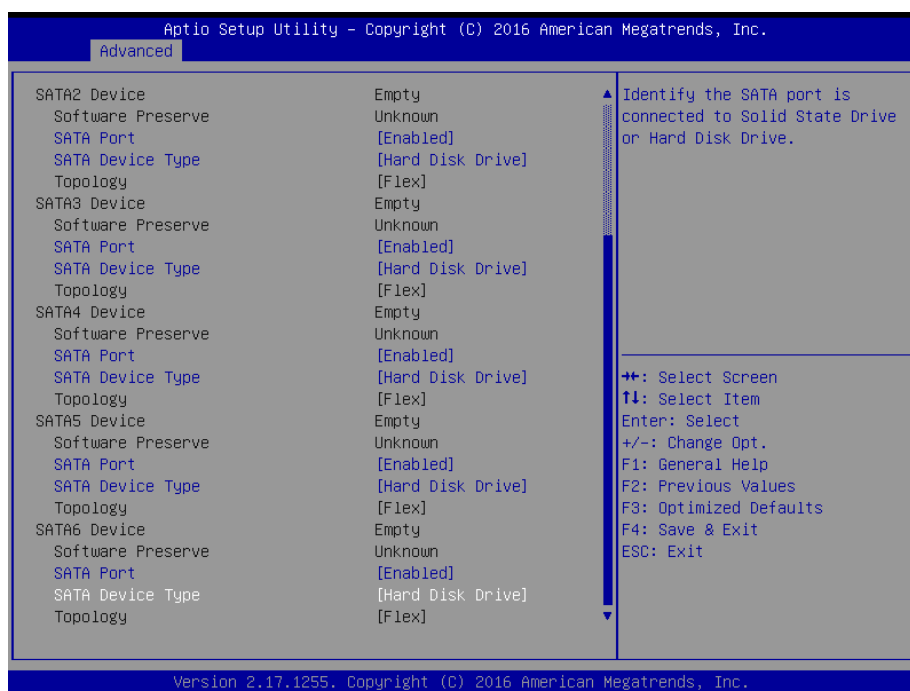
EAX-C236P User’s Manual

3.6.2.10 Intel TXT Configuration



3.6.2.11 SATA Configuration





Item	Options	Description
SATA Controller(s)	Disabled, Enabled[Default]	Enable or disable SATA Device.
SATA Mode Selection	AHCI[Default] RAID	Determines how SATA controller(s) operate.
SATA Port	Disabled, Enabled[Default]	Enable or Disable SATA Port.
SATA Device Type	Hard Disk Drive[Default] Solid State Drive	Identify the SATA port is connected to Solid State Drive or Hard Disk Drive.

EAX-C236P User's Manual

3.6.2.11.1 Software Feature Mask Configuration



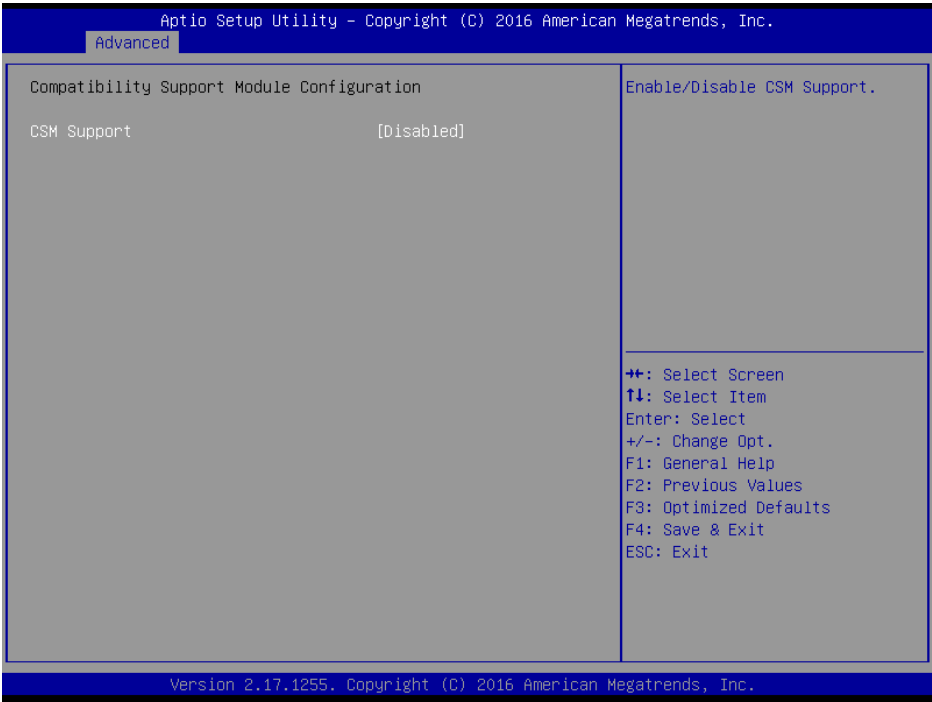
Item	Option	Description
HDD Unlock	Disabled Enabled [Default] ,	If enabled, indicates that the HDD password unlock in the OS is enabled.
LED Locate	Disabled Enabled [Default] ,	If enabled, indicates that the LED/SGPIO hardware is attached and ping to locate feature is enabled on the OS.

3.6.2.12 Network Stack Configuration



Item	Options	Description
Network Stack	Enabled Disabled [Default]	Enable/Disable UEFI Network Stack.

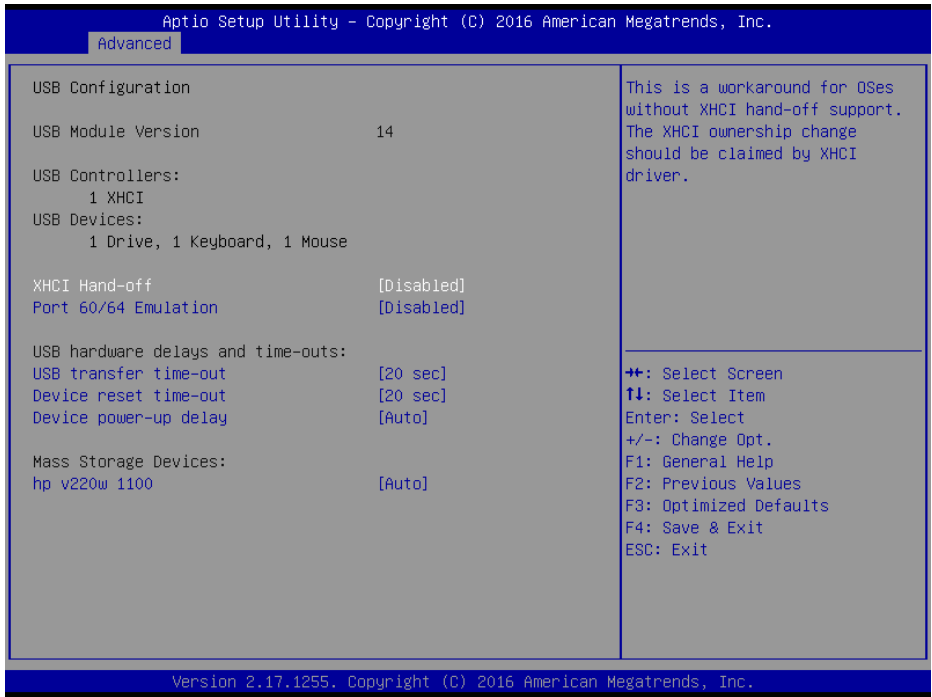
3.6.2.13 CSM Configuration



Item	Options	Description
CSM Support	Enabled Disabled[Default]	Enable/Disable CSM Support.

3.6.2.14 USB Configuration

The USB Configuration menu helps read USB information and configures USB settings.



Item	Options	Description
XHCI Hand-off	Enabled Disabled [Default]	This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
Port 60/64 Emulation	Enabled Disabled [Default]	Enables I/O port 60h/64h emulation support. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSes.
USB transfer time-out	1 sec 5 sec 10 sec 20 sec [Default]	The time-out value for Control, Bulk, and Interrupt transfers.
Device reset time-out	10 sec 20 sec [Default] 30 sec 40 sec	USB mass storage device Start Unit command time-out.
Device power-up delay	Auto [Default] Manual	Maximum time the device will take before it properly reports itself to the Host Controller. 'Auto' uses default value: for a Root port it is 100ms, for a Hub port the delay is taken from Hub descriptor.
Mass Storage Devices	Auto [Default] Floppy Forced FDD Hard Disk CD-ROM	Mass storage device emulation type. 'AUTO' enumerates devices according to their media format. Optical drives are emulated as 'CDROM', drives with no media will be emulated according to a drive type.

3.6.3 Chipset

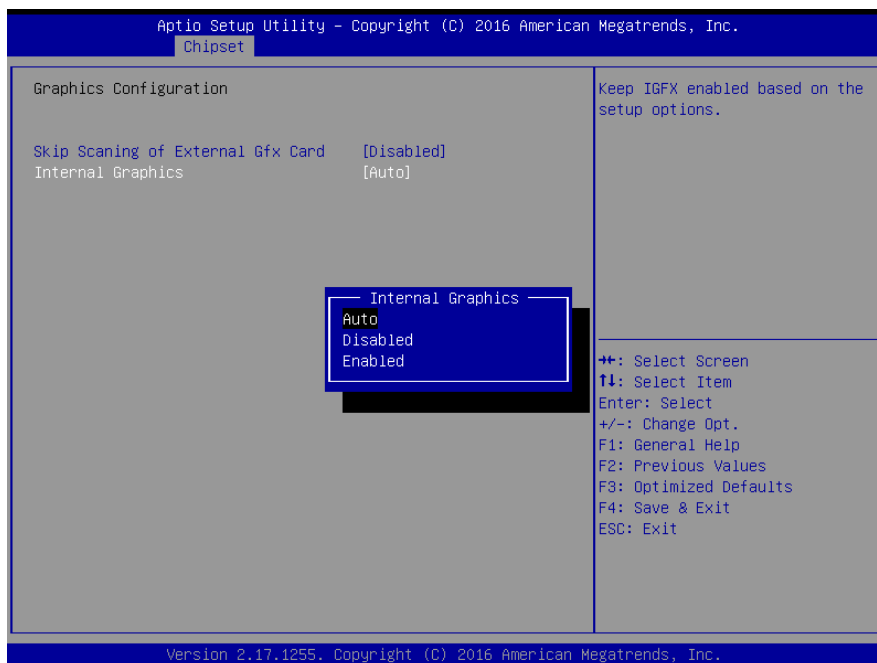


3.6.3.1 System Agent (SA) Configuration



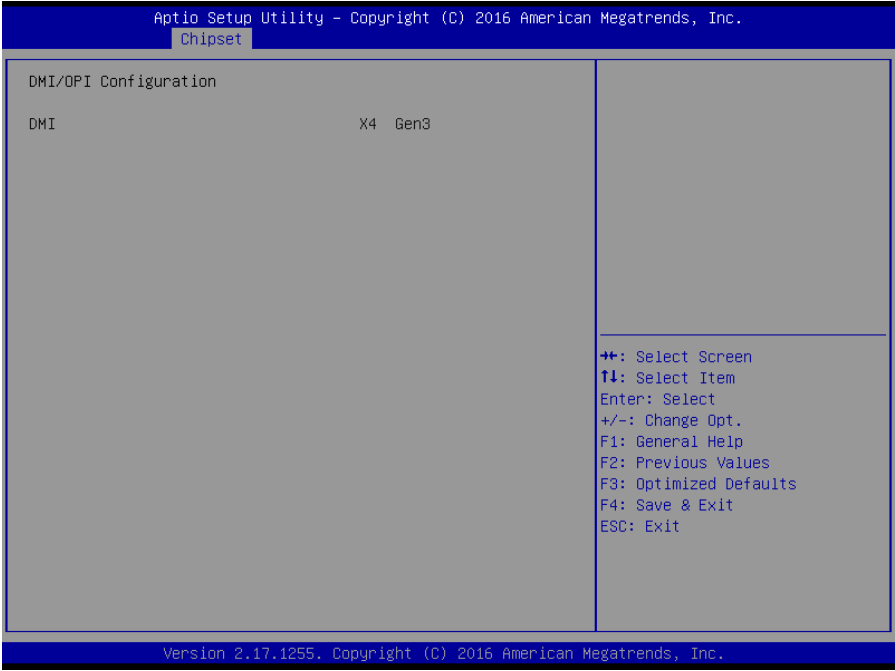
Item	Option	Description
VT-d	Enabled[Default] Disabled	VT-d capability.

3.6.3.1.1 Graphics Configuration

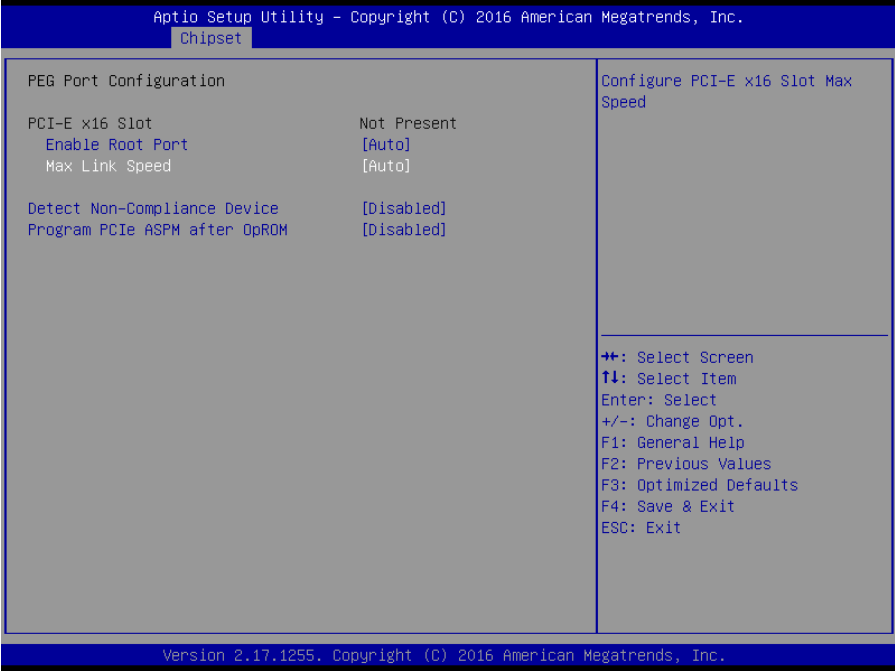


Item	Option	Description
Skip Scanning of External Gfx Card	Enabled Disabled[Default]	If Enable, it will not scan for External Gfx Card on PEG and PCH PCIE Ports.
Internal Graphics	Auto [Default] Disabled Enabled	Keep IGFX enabled based on the setup options.

3.6.3.1.2 DMI/OPI Configuration



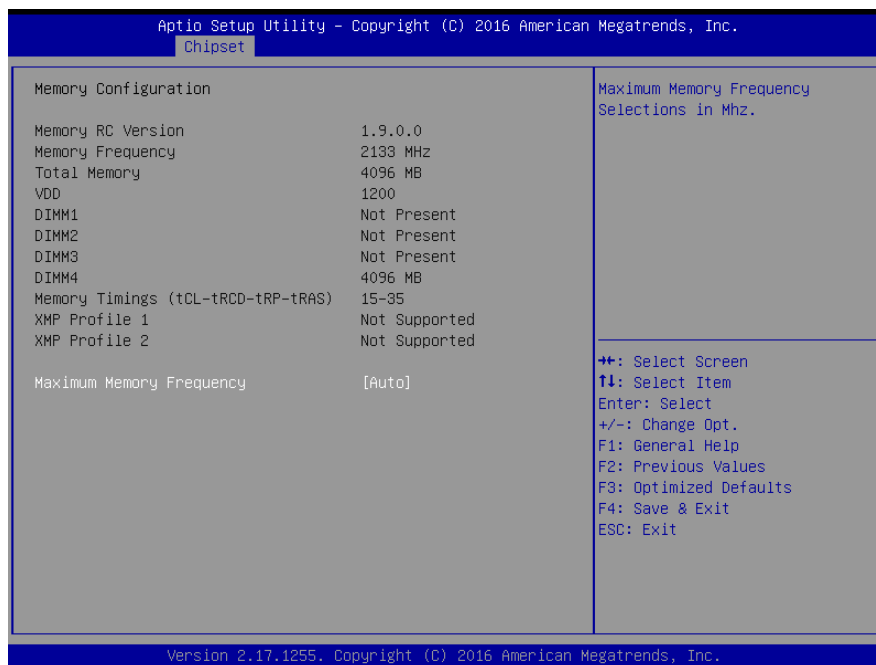
3.6.3.1.3 PEG Port Configuration



Item	Option	Description
Enable Root Port	Disabled Enabled Auto[Default]	Enable or Disable the Root Port.
Max Link Speed	Auto[Default] Gen1 Gen2 Gen3	Configure PCI-E x16 Slot Max Speed.

Detect Non-Compliance Device	Disabled[Default] Enabled	Detect Non-Compliance PCI Express Device in PEG.
Program PCIe ASPM after OpROM	Disabled[Default] Enabled	Enabled: PCIe ASPM will be programmed after OpROM. Disabled: PCIe ASPM will be programmed before OpROM.

3.6.3.1.4 Memory Configuration



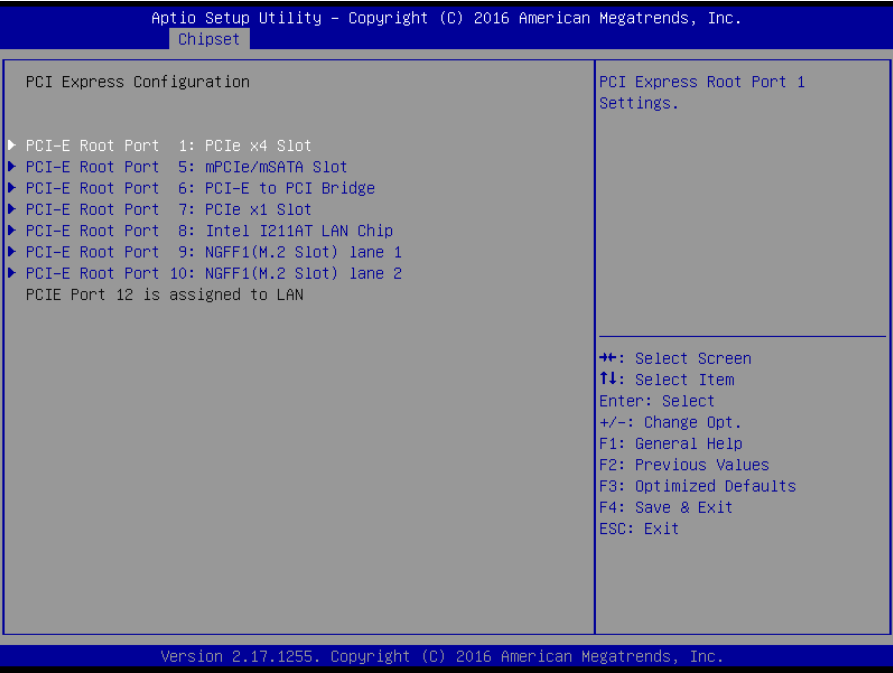
Item	Option	Description
Maximum Memory Frequency	Auto[Default] 1067/1200/1333/1400/1600 /1800/1867/2000/2133/2200 /2400/2600/2667/2800/2933 /3000/3200	Maximum Memory Frequency Selections in Mhz.

3.6.3.2 PCH-IO Configuration

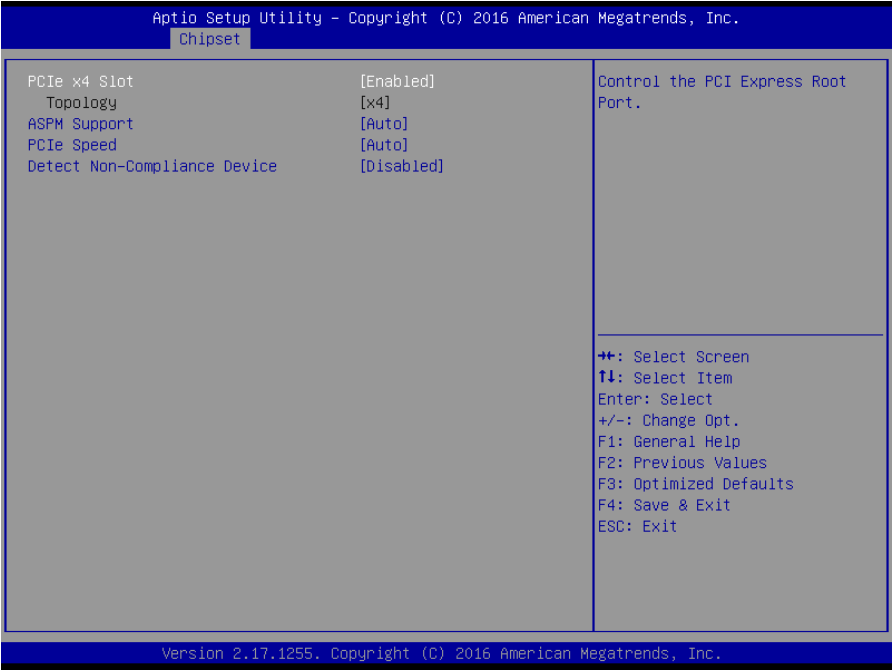


Item	Option	Description
LAN PHY Controller	Disabled Enabled[Default]	Enable or disable OnBoard PCH LAN PHY Controller.
Serial IRQ Mode	Quiet Continuous[Default]	Configure Serial IRQ Mode.

3.6.3.2.1 PCI Express Configuration

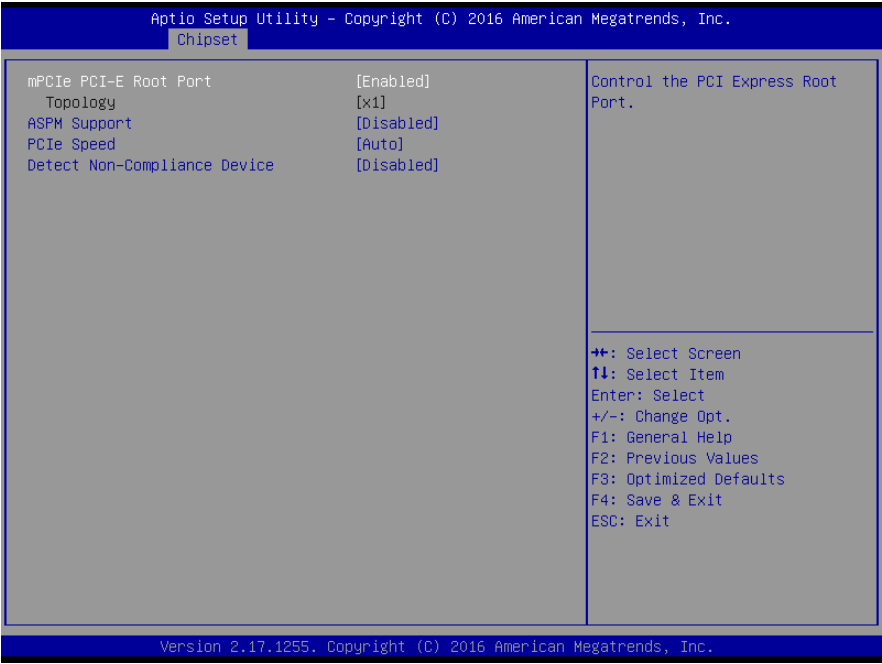


3.6.3.2.1.1 PCI-E Root Port 1: PCIe x4 Slot



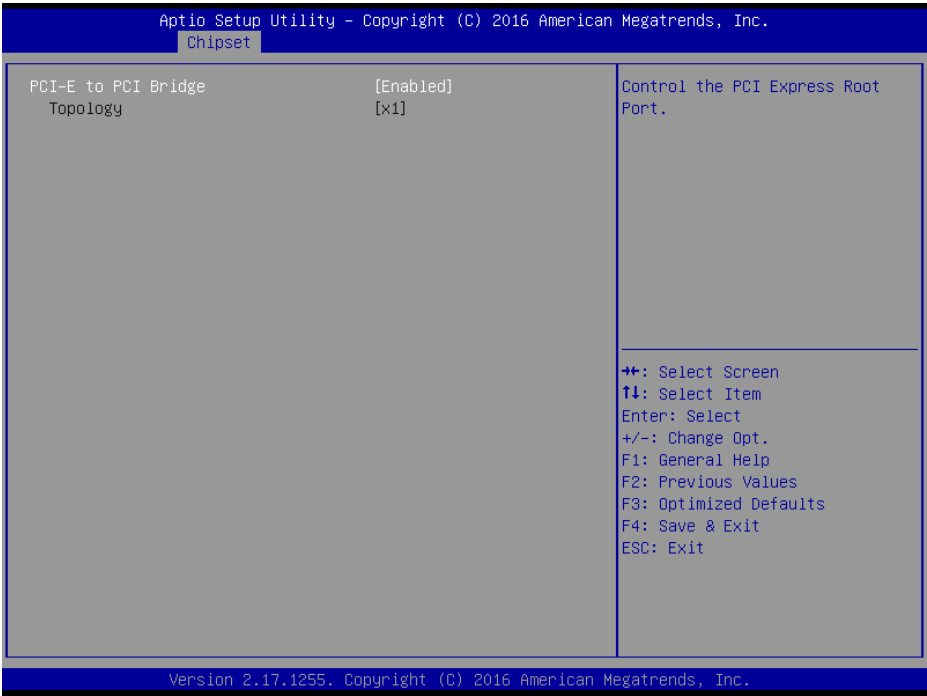
Item	Option	Description
PCIe x4 Slot	Enabled[Default], Disabled	Control the PCI Express Root Port.
ASPM Support	Disabled L0s L1 L0sL1 Auto[Default]	Set the ASPM Level: Force L0s – Force all links to L0s State AUTO – BIOS auto configure DISABLE – Disables ASPM.
PCIe Speed	Auto[Default] Gen1 Gen2 Gen3	Select PCI Express port speed.
Detect Non-Compliance Device	Disabled[Default], Enabled	Detect Non-Compliance PCI Express Device. If enable, it will take more time at POST time.

3.6.3.2.1.2 PCI-E Root Port 5: mPCIe/mSATA Slot



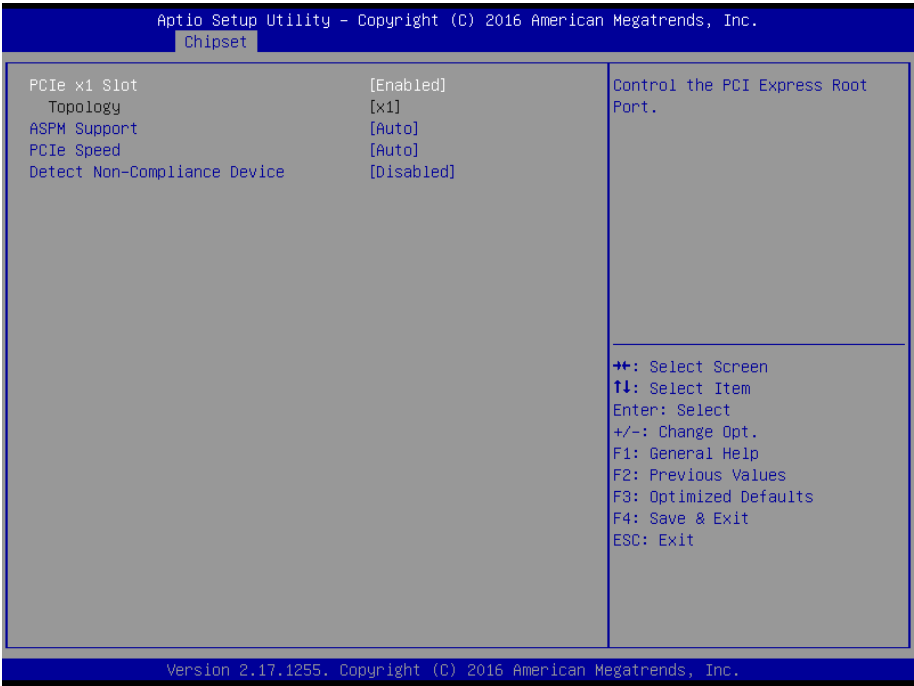
Item	Option	Description
mPCIe PCI-E Root Port	Enabled[Default], Disabled	Control the PCI Express Root Port.
ASPM Support	Disabled[Default] L0s L1 L0sL1 Auto	Set the ASPM Level: Force L0s – Force all links to L0s State AUTO – BIOS auto configure DISABLE – Disables ASPM.
PCIe Speed	Auto[Default] Gen1 Gen2 Gen3	Select PCI Express port speed.
Detect Non-Compliance Device	Disabled[Default], Enabled	Detect Non-Compliance PCI Express Device. If enable, it will take more time at POST time.

3.6.3.2.1.3 PCI-E Root Port 6: PCI-E to PCI Bridge



Item	Option	Description
PCI-E to PCI Bridge	Enabled[Default], Disabled	Control the PCI Express Root Port.

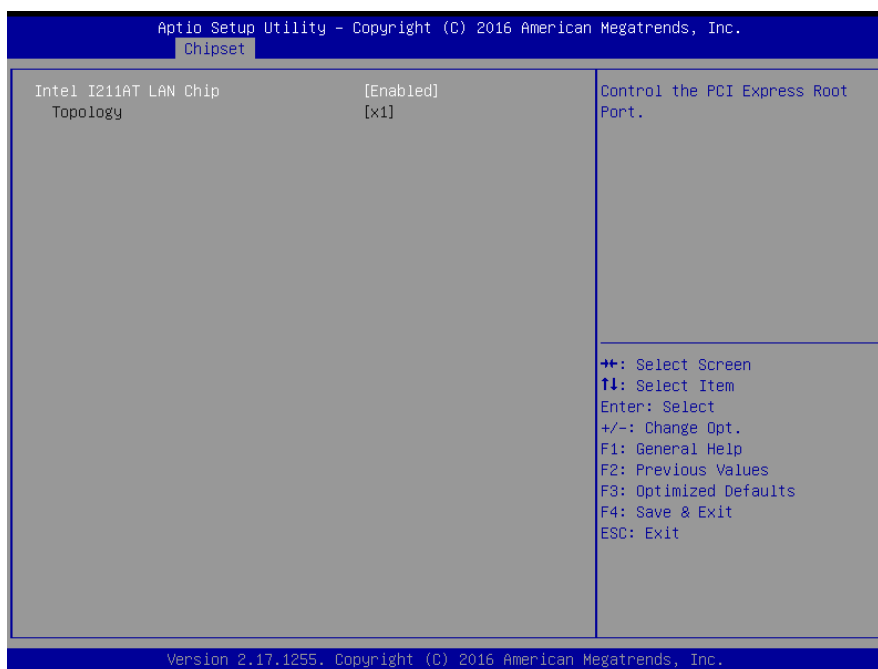
3.6.3.2.1.4 PCI-E Root Port 7: PCIe x1 Slot



EAX-C236P User's Manual

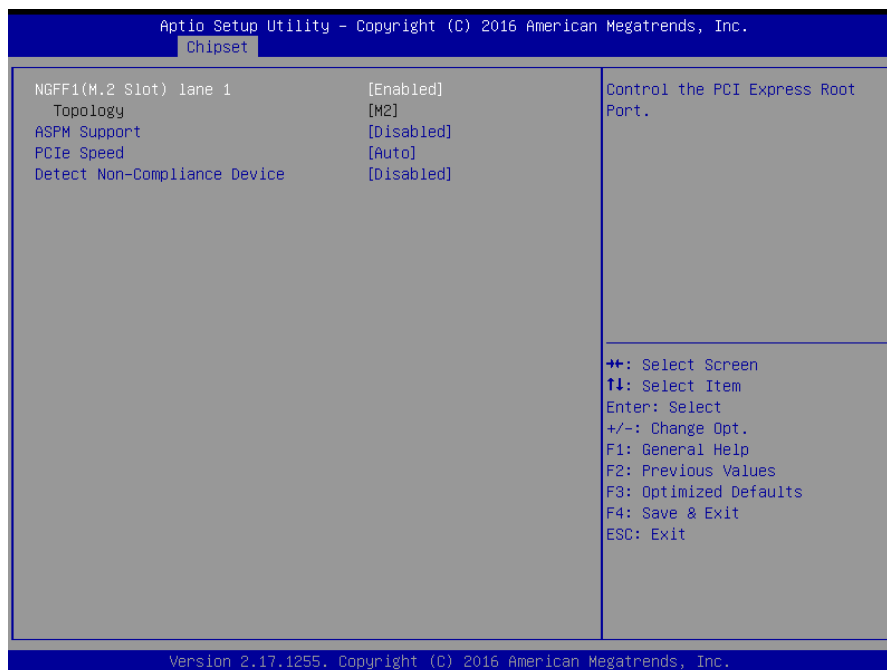
Item	Option	Description
PCIe x1 Slot	Enabled[Default], Disabled	Control the PCI Express Root Port.
ASPM Support	Disabled L0s L1 L0sL1 Auto[Default]	Set the ASPM Level: Force L0s – Force all links to L0s State AUTO – BIOS auto configure DISABLE – Disables ASPM.
PCIe Speed	Auto[Default] Gen1 Gen2 Gen3	Select PCI Express port speed.
Detect Non-Compliance Device	Disabled[Default], Enabled	Detect Non-Compliance PCI Express Device. If enable, it will take more time at POST time.

3.6.3.2.1.5 PCI-E Root Port 8: Intel I211AT LAN Chip



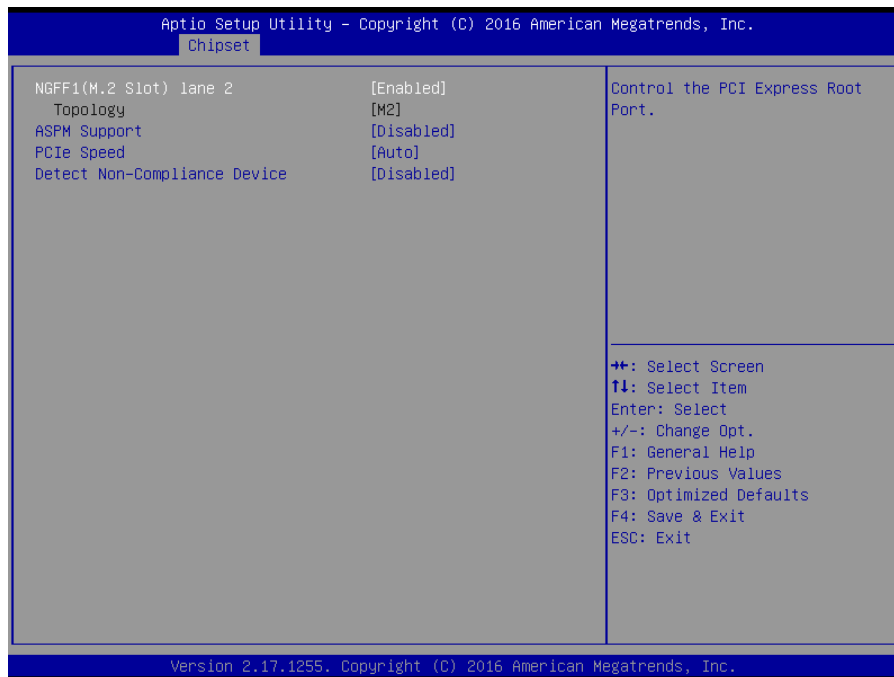
Item	Option	Description
Intel I211AT LAN Chip	Enabled[Default], Disabled	Control the PCI Express Root Port.

3.6.3.2.1.6 PCI-E Root Port 9: NGFF1(M.2 Slot) lane 1



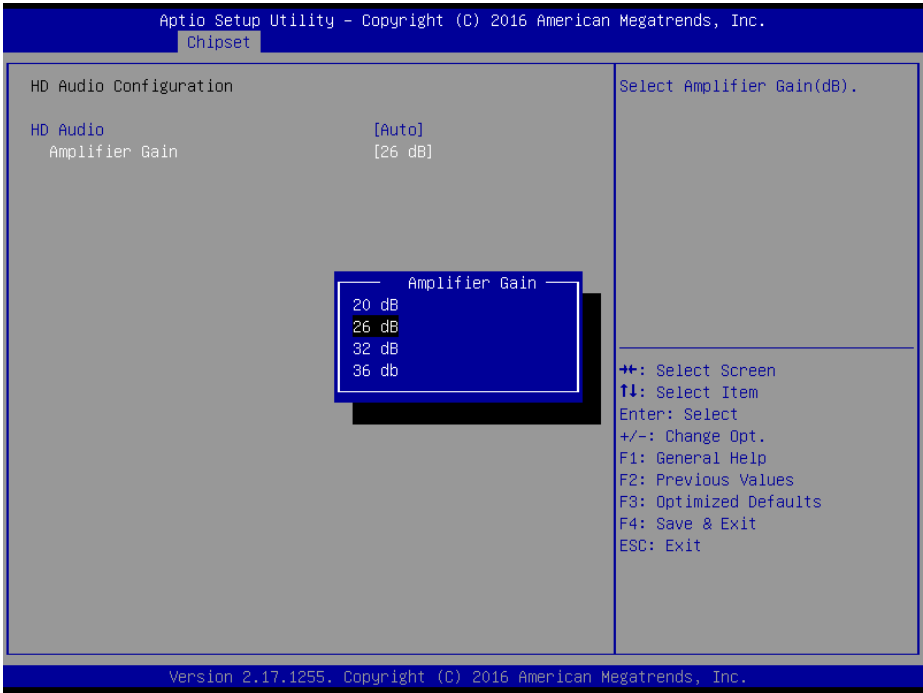
Item	Option	Description
NGFF1 (M.2 Slot) lane 1	Enabled[Default], Disabled	Control the PCI Express Root Port.
ASPM Support	Disabled[Default] L0s L1 L0sL1 Auto	Set the ASPM Level: Force L0s – Force all links to L0s State AUTO – BIOS auto configure DISABLE – Disables ASPM.
PCIe Speed	Auto[Default] Gen1 Gen2 Gen3	Select PCI Express port speed.
Detect Non-Compliance Device	Disabled[Default], Enabled	Detect Non-Compliance PCI Express Device. If enable, it will take more time at POST time.

3.6.3.2.1.7 PCI-E Root Port 10: NGFF1(M.2 Slot) lane 2



Item	Option	Description
NGFF1 (M.2 Slot) lane 2	Enabled[Default], Disabled	Control the PCI Express Root Port.
ASPM Support	Disabled[Default] L0s L1 L0sL1 Auto	Set the ASPM Level: Force L0s – Force all links to L0s State AUTO – BIOS auto configure DISABLE – Disables ASPM.
PCIe Speed	Auto[Default] Gen1 Gen2 Gen3	Select PCI Express port speed.
Detect Non-Compliance Device	Disabled[Default], Enabled	Detect Non-Compliance PCI Express Device. If enable, it will take more time at POST time.

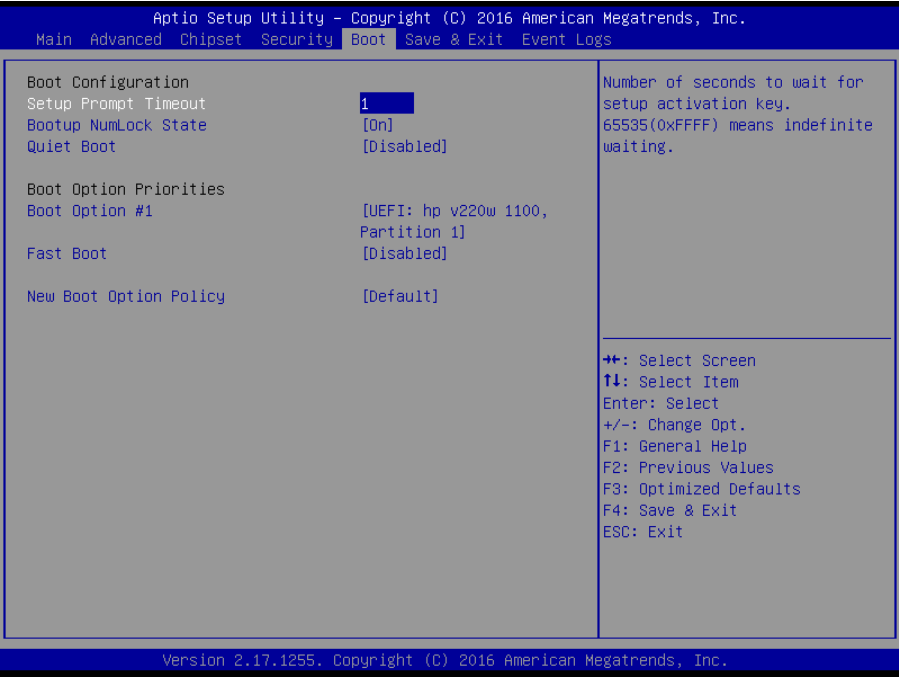
3.6.3.2.2 HD Audio Configuration



Item	Option	Description
HD Audio	Disabled Enabled Auto[Default],	Control Detection of the HD-Audio device. Disabled = HAD will be unconditionally disabled Enabled = HAD will be unconditionally enabled Auto = HAD will be enabled if present, disabled otherwise.
Amplifier Gain	20 dB 26 dB[Default] 32 dB 36 dB	Select Amplifier Gain(dB).

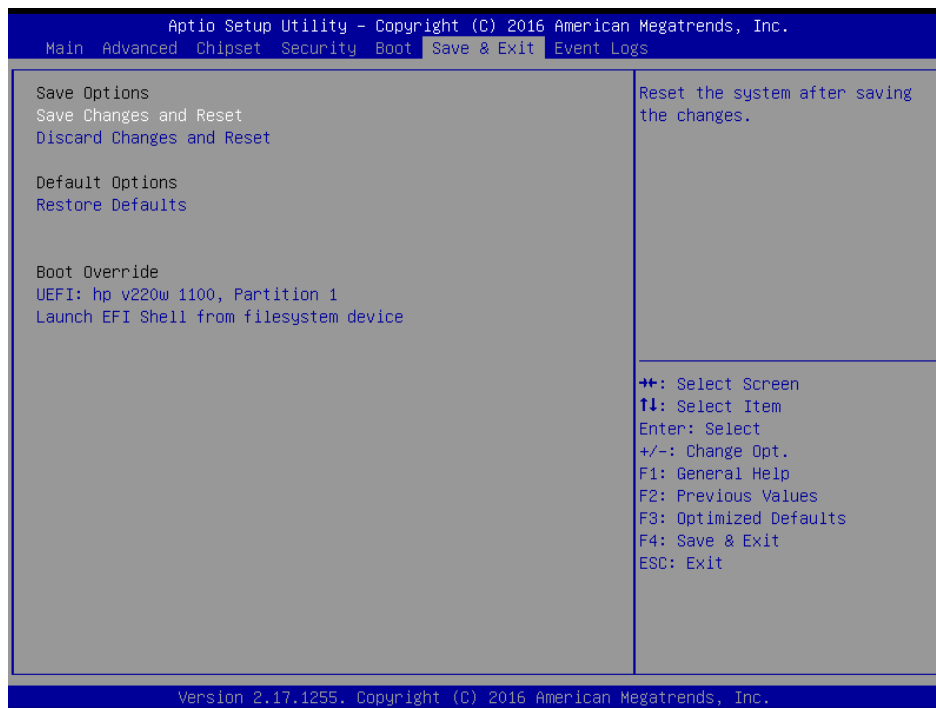
EAX-C236P User’s Manual

3.6.4 Boot



Item	Option	Description
Setup Prompt Timeout	1	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
Bootup NumLock State	On[Default] Off	Select the keyboard NumLock state.
Quiet Boot	Disabled[Default] Enabled	Enable or disable Quiet Boot option.
Fast Boot	Disabled[Default] Enabled	Enable/ Disable boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.
Boot Option #1	Sets the system boot order	

3.6.5 Save and exit



Change SMBIOS Event Log Settings

This allows you to configure the SMBIOS Event Log Settings.

When entering the item, you will see the followings:

SMBIOS Event Log

Use this item to enable or disable all features of the SMBIOS Event Logging during system boot.

Erase Event Log

The options include [No], [Yes, Next reset] and [Yes, Every reset]. If Yes is selected, all logged events will be erased.

When Log is Full

Use this item to choose options for reactions to a full SMBIOS Event Log. The options include [Do Nothing] and [Erase Immediately].

MECI (Multiple Event Count Increment)

Use this item to enter the increment value for the multiple event counter. The valid range is from 1 to 255.

METW (Multiple Event Time Window)

Use this item to specify the number of minutes which must pass between duplicate log entries which utilize a multiple-event counter. The value ranges from 0 to 99 minutes.

View SMBIOS Event Log

This allows you to configure the SMBIOS Event Log Settings.



All values changed here do not take effect until computer is restarted.

3.6.5.1 *Save Changes and Reset*

Reset the system after saving the changes.

3.6.5.2 *Discard Changes and Reset*

Any changes made to BIOS settings during this session of the BIOS setup program are discarded. The setup program then exits and reboots the controller.

3.6.5.3 *Restore Defaults*

This option restores all BIOS settings to the factory default. This option is useful if the controller exhibits unpredictable behavior due to an incorrect or inappropriate BIOS setting.

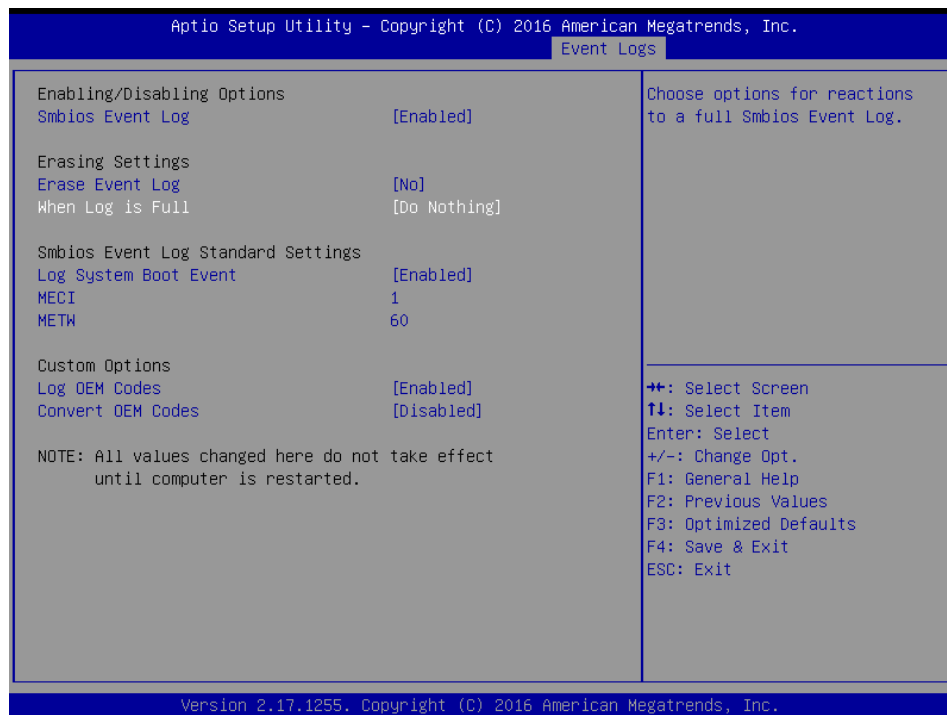
3.6.5.4 *Launch EFI Shell from filesystem device*

Attempts to Launch EFI Shell application (Shellx64.efi) from one of the available filesystem devices.

3.6.6 Event Logs



3.6.6.1 Change Settings



Item	Option	Description
Smbios Event Log	Disabled Enabled[Default]	Change this to enable or disable all features of Smbios Event Logging during boot.
Erase Event Log	No[Default] Yes, Next reset Yes, Every reset	Choose options for erasing Smbios Event Log. Erasing is done prior to any logging activation during reset.
When Log is Full	Do Nothing[Default] Erase Immediately	Choose options for reactions to a full Smbios Event Log.
Log System Boot Event	Disabled Enabled[Default]	Choose option to enable/disable logging of System boot event.
MECI	1-255	Multiple Event Count Increment: The number of occurrences of a duplicate event that must pass before the multiple-event counter of log entry is updated. The value ranges from 1 to 255.
METW	0-99	Multiple Event Time Window: The number of minutes which pass between duplicate log entries which utilize a multiple-event counter. The value ranges from 0 to 99 minutes.
Log OEM Codes	Disabled Enabled[Default]	Enable or disable the logging of EFI Status Codes as OEM Codes (if not already converted to legacy).
Convert OEM Codes	Disabled[Default] Enabled	Enable or disable the converting of EFI Status Codes to Standard Smbios Types (Not all may be translated).

3.6.6.2 View Smbios EventLog

Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.				
				Event Logs
DATE	TIME	ERROR CODE	SEVERITY	DESCRIPTION
06/27/16	14:17:13	Smbios 0x16	N/A	Log Area Reset
06/27/16	14:17:13	Smbios 0x17	N/A	
06/27/16	14:17:24	Smbios 0x17	N/A	
06/27/16	14:18:45	Smbios 0x17	N/A	
				++: Select Screen
				↑↓: Select Item
				Enter: Select
				+/-: Change Opt.
				F1: General Help
				F2: Previous Values
				F3: Optimized Defaults
				F4: Save & Exit
				ESC: Exit
Version 2.17.1255. Copyright (C) 2016 American Megatrends, Inc.				

4. Drivers Installation



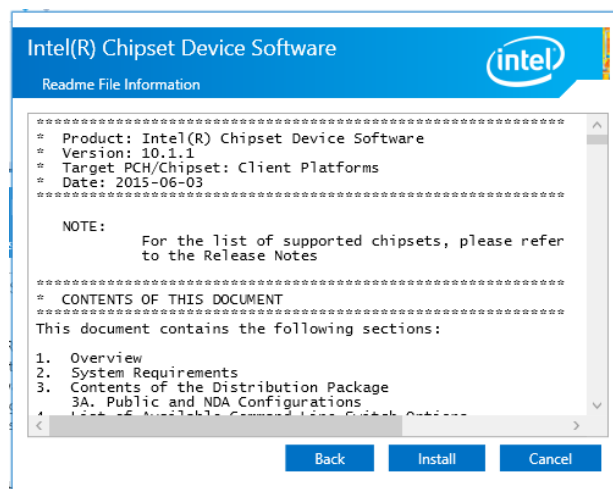
Note: Installation procedures and screen shots in this section are for your reference and may not be exactly the same as shown on your screen.

4.1 Install Chipset Driver

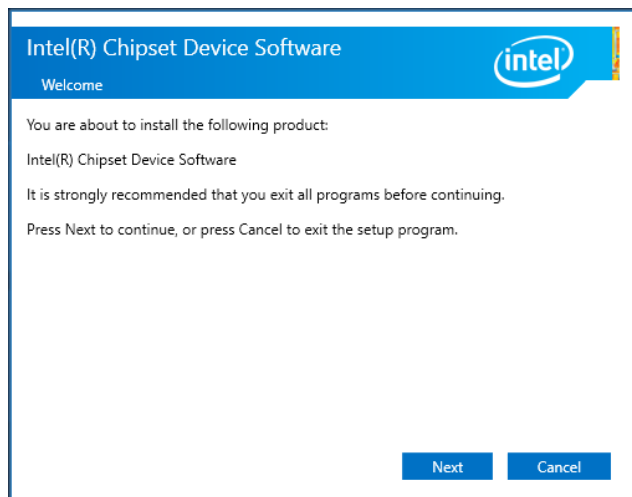
Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left.



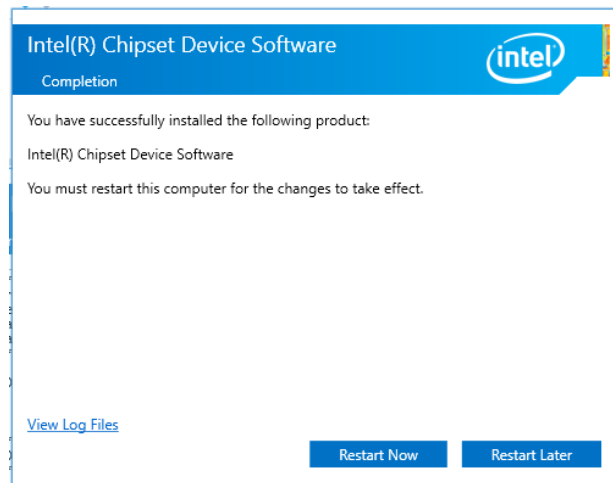
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.



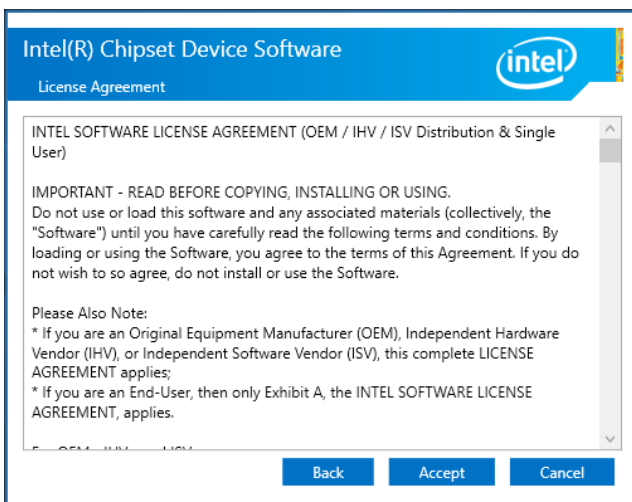
Step 3. Click Install.



Step1. Click Next.



Step 4. Complete setup.



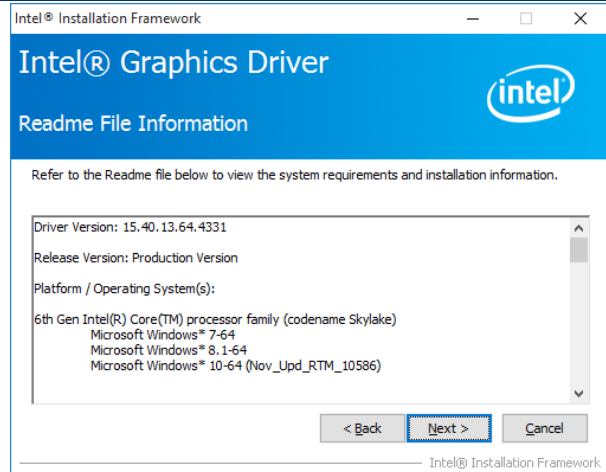
Step 2. Click Accept.

4.2 Install VGA Driver

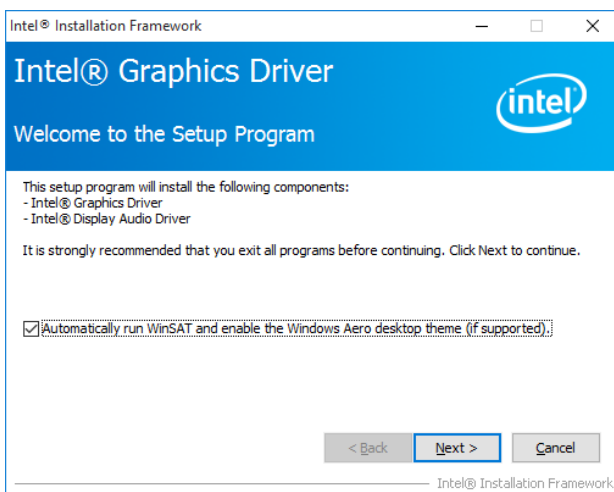
Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left.



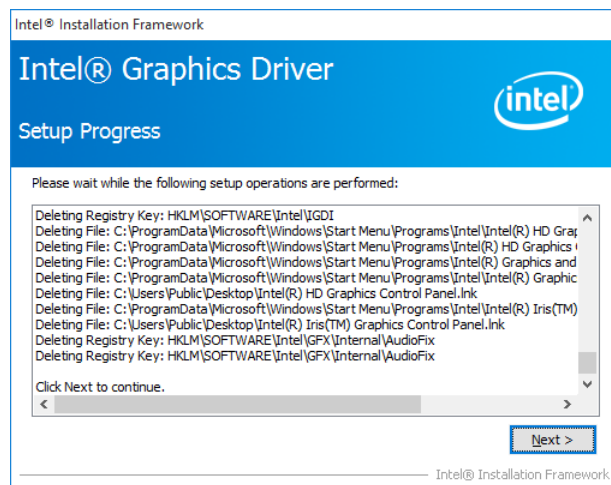
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system.



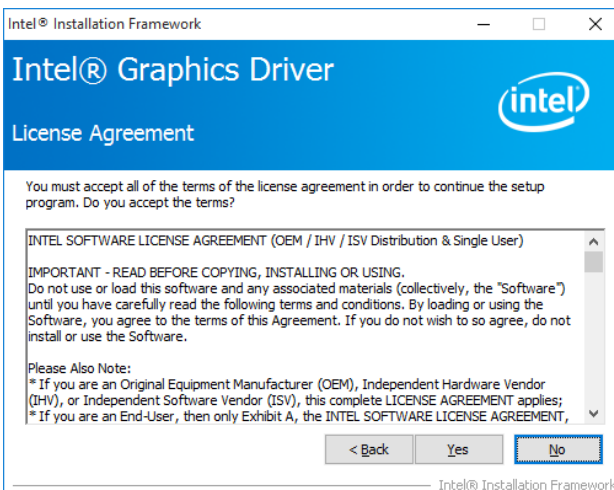
Step 3. Click Next.



Step 1. Click Next to continue installation.



Step 4. Click Next.

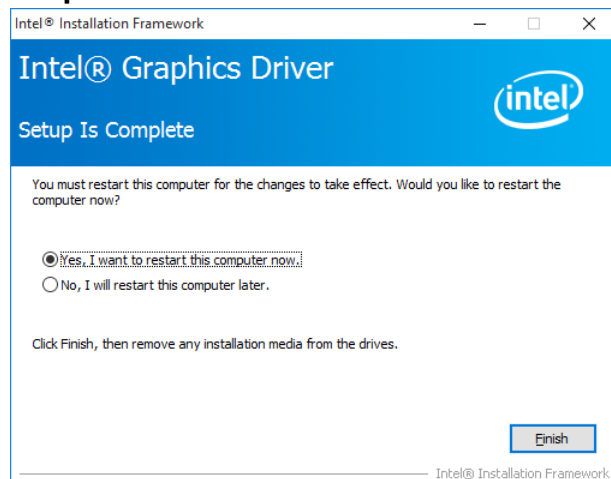


Step 2. Click Yes.

SUPPORTED PRODUCTS:

The Intel® Graphics Driver contains support for the following Intel Chipsets/Processors with the following graphic support: Intel®, Iris® Pro and Intel® HD graphics:

- 6th Gen Intel® Core™ processor family (codename Skylake) (Workstation-Xeon)



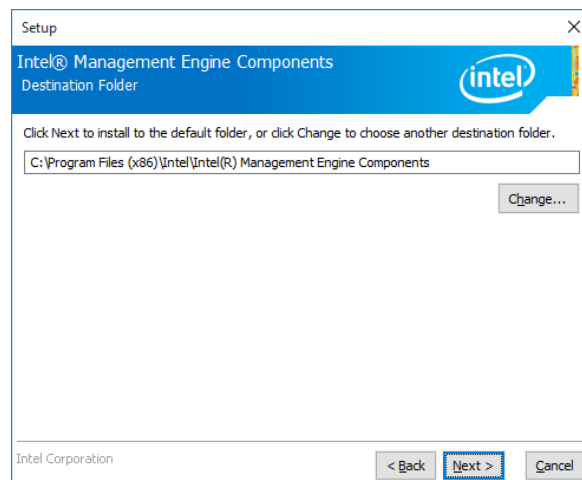
Step 5. Click Finish to complete setup.

4.3 Install ME Driver

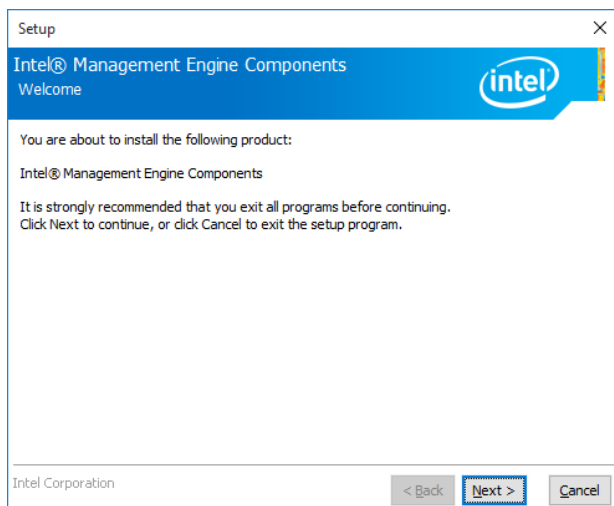
Insert the Supporting CD-ROM to CD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left.



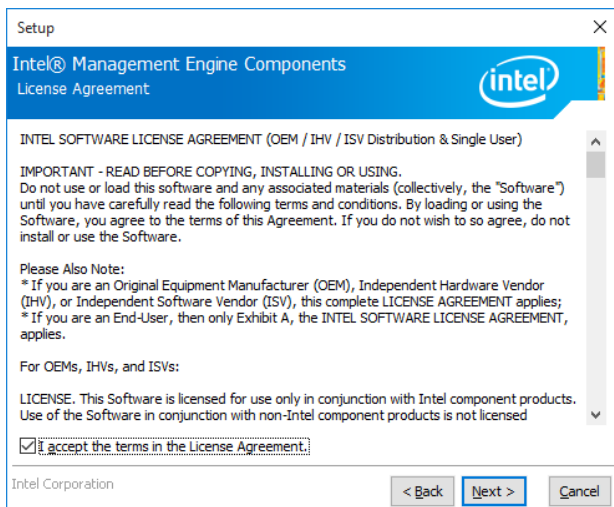
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system.



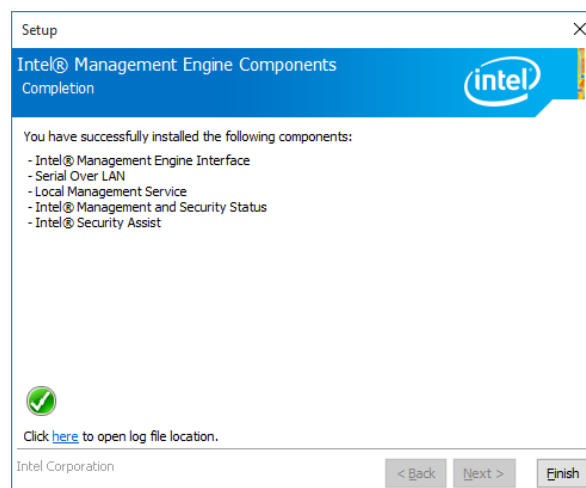
Step 3. Click Next



Step 1. Click Next to continue setup.



Step 2. Click Next.



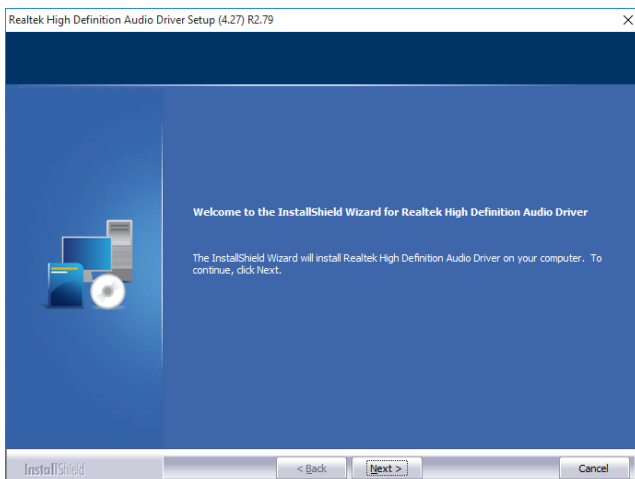
Step 4. Click Finish to complete the setup

4.4 Install Audio Driver (For Realtek ALC892 HD Audio)

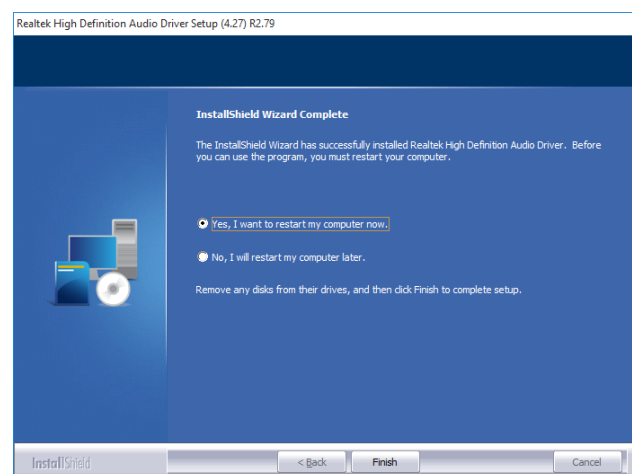
Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left.



Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.



Step1. Click **Next** to Install.



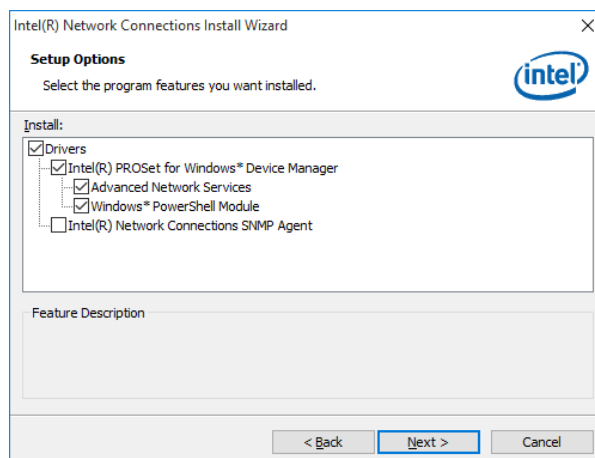
Step 2. Select **Finish** to complete Installation.

4.5 Install LAN Driver

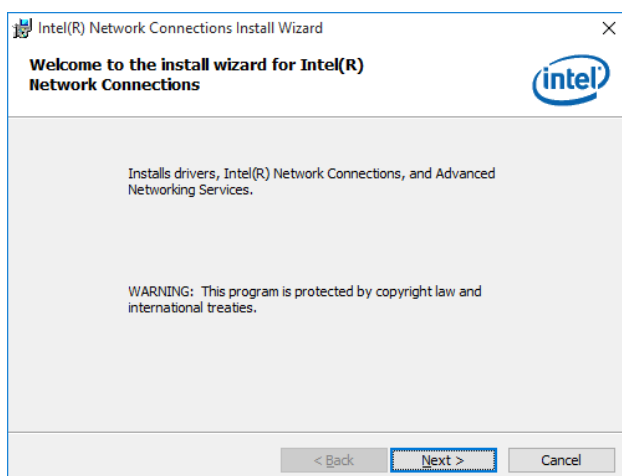
Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left.



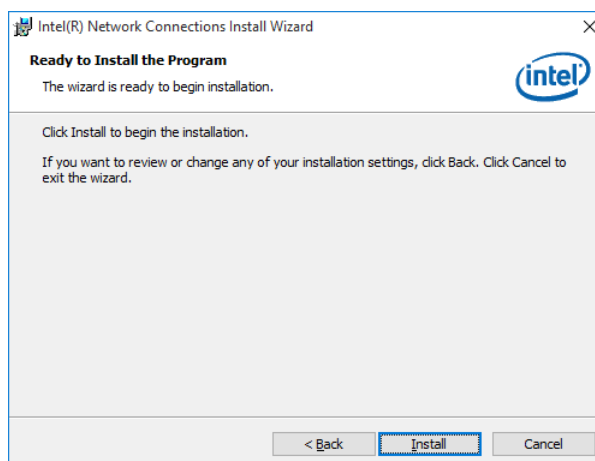
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system.



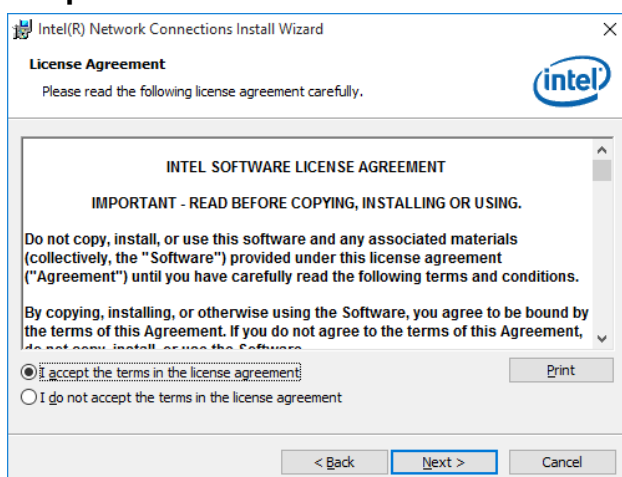
Step 3. Click Next.



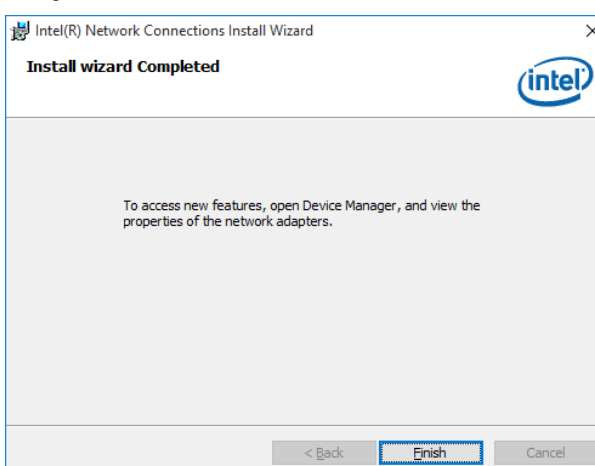
Step 1. Click Next to continue installation.



Step 4. Click Install.



Step 2. Click Next.



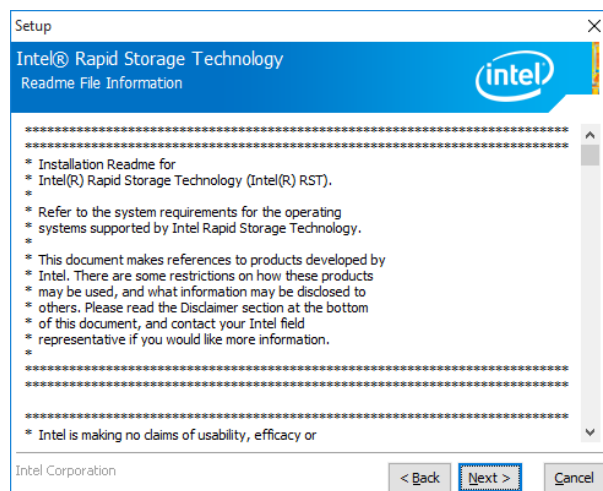
Step 5. Click Finish to complete setup.

4.6 Install RST Driver

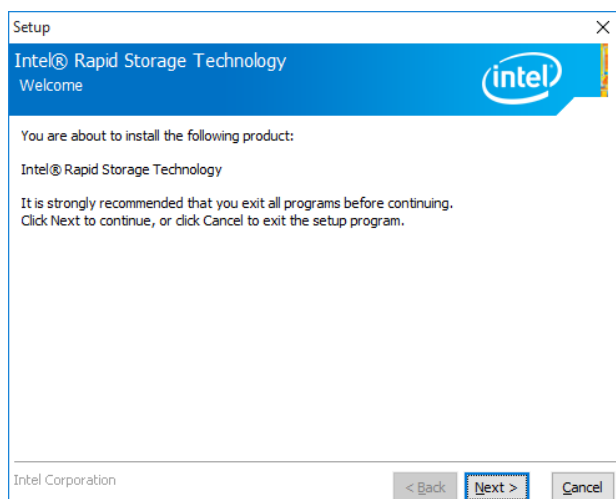
Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left.



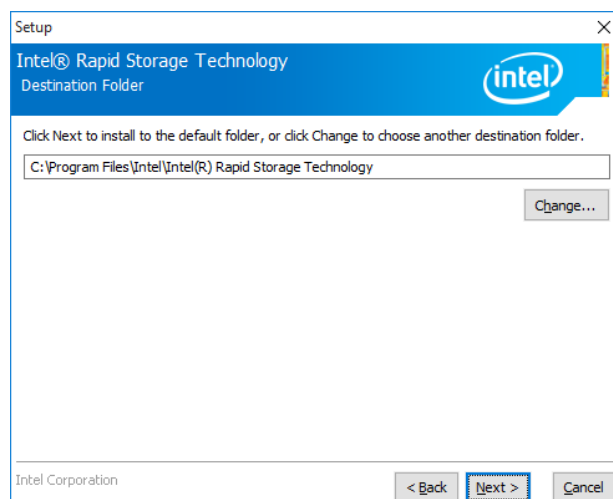
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system.



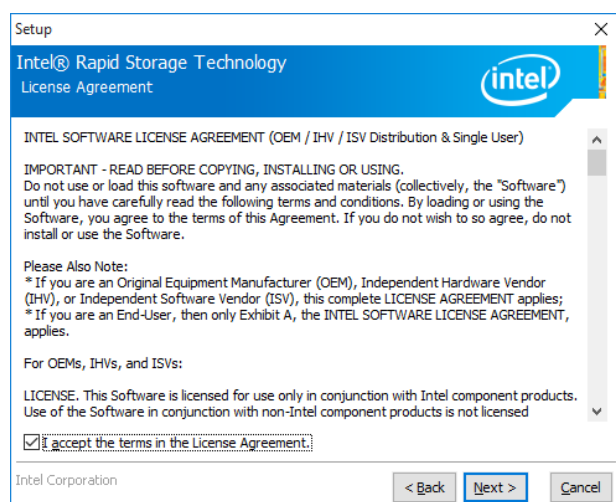
Step 3. Click Next.



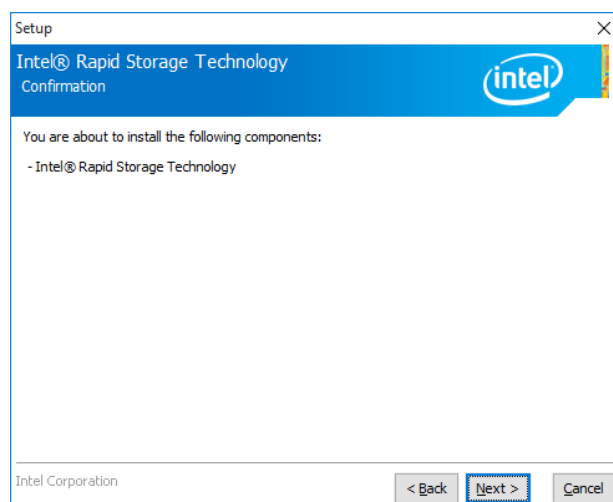
Step 1. Click Next to continue installation.



Step 4. Click Next.



Step 2. Click Next.



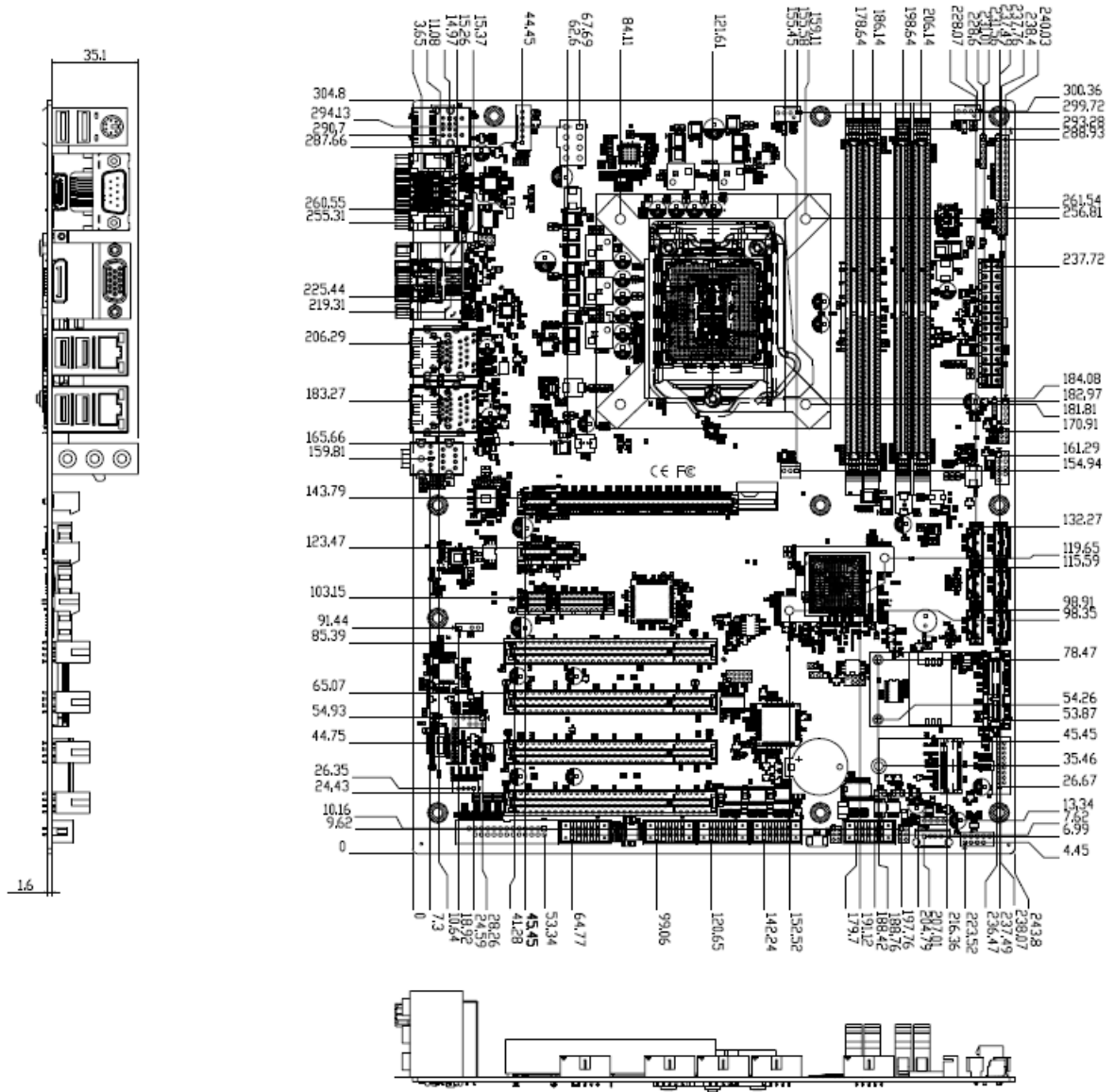
Step 5. Click Finish to complete setup.

EAX-C236P User's Manual

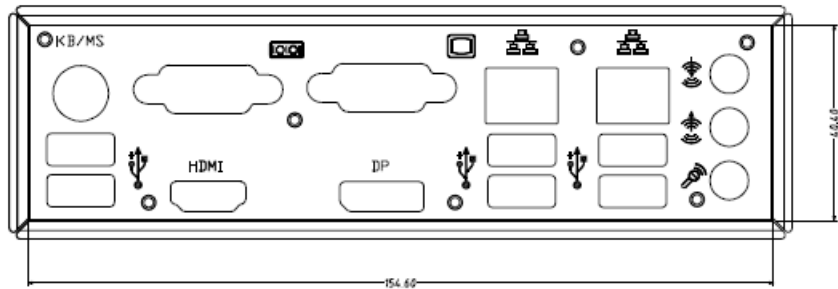
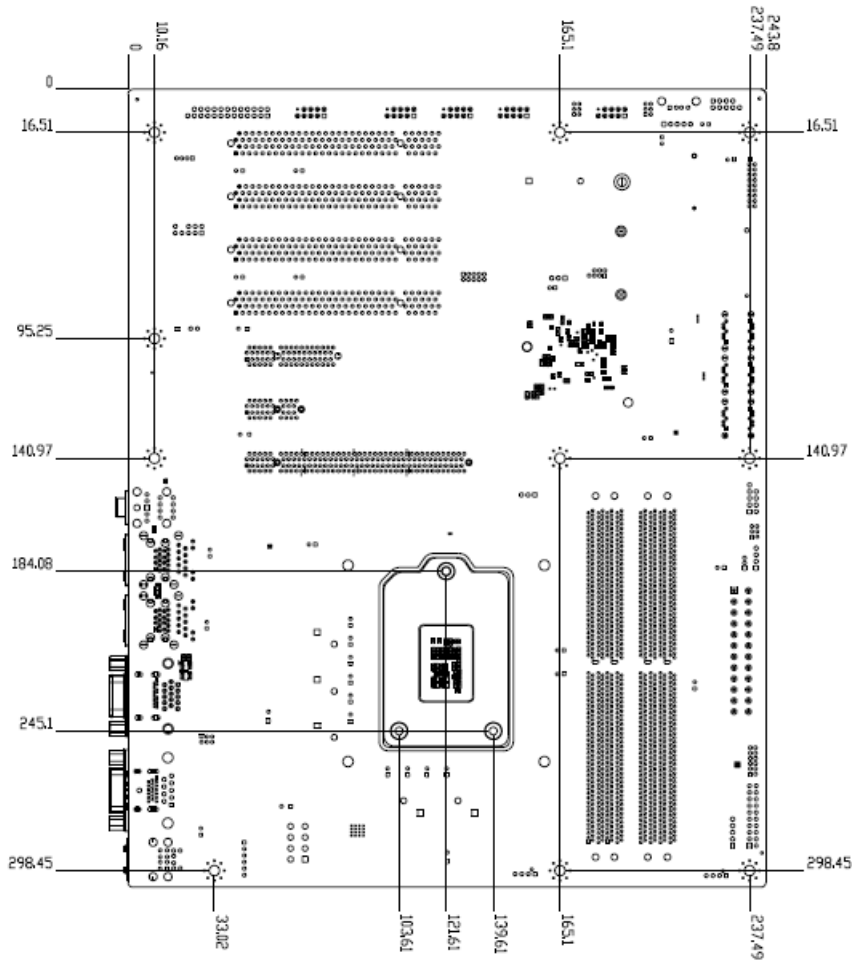


Step 6. Click **Finish** to complete setup.

5. Mechanical Drawing



Unit: mm



Unit: mm

