EmQ-i240A

Qseven® CPU Module

User's Manual

Version 1.1

2021.04

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Revision History

Version	Release Time	Description
1.0	2019.03	Initial release
1.1	2021.04	Update Optional Accessories

Copyright Notice

The information in this document is subject to change without prior notice in order to improve the reliability, design and function. It does not represent a commitment on the part of the manufacturer.

Under no circumstances will the manufacturer be liable for any direct, indirect, special, incidental, or consequential damages arising from the use or inability to use the product or documentation, even if advised of the possibility of such damages.

Declaration of Conformity

CE

The CE symbol on your product indicates that it is in compliance with the directives of the Union European (EU). A Certificate of Compliance is available by contacting Technical Support.

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from ARBOR. Please contact your local supplier for ordering information.

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC Class A

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1)This device may not cause harmful interference, and

(2)This device must accept any interference received, including interference that may cause undesired operation.

NOTE:

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.

RoHS

ARBOR Technology Corp. certifies that all components in its products are in compliance and conform to the European Union's Restriction of Use of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive 2002/95/EC.

The above mentioned directive was published on 2/13/2003. The main purpose of the directive is to prohibit the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE) in electrical and electronic products. Member states of the EU are to enforce by 7/1/2006.

ARBOR Technology Corp. hereby states that the listed products do not contain unintentional additions of lead, mercury, hex chrome, PBB or PBDB that exceed a maximum concentration value of 0.1% by weight or for cadmium exceed 0.01% by weight, per homogenous material. Homogenous material is defined as a substance or mixture of substances with uniform composition (such as solders, resins, plating, etc.). Lead-free solder is used for all terminations (Sn(96-96.5%), Ag(3.0-3.5%) and Cu(0.5%)).

SVHC / REACH

To minimize the environmental impact and take more responsibility to the earth we live, Arbor hereby confirms all products comply with the restriction of SVHC (Substances of Very High Concern) in (EC) 1907/2006 (REACH --Registration, Evaluation, Authorization, and Restriction of Chemicals) regulated by the European Union.

All substances listed in SVHC < 0.1 % by weight (1000 ppm)

Warning

Single Board Computers and their components contain very delicate Integrated Circuits (IC). To protect the Single Board Computer and its components against damage from static electricity, you should always follow the following precautions when handling it:

1. Disconnect your Single Board Computer from the power source when you want to work on the inside.
2. Hold the board by the edges and try not to touch the IC chips, leads or circuitry.
3. Use a grounded wrist strap when handling computer components.
4. Place components on a grounded antistatic pad or on the bag that comes with the Single Board Computer, whenever components are separated from the system.

Replacing the Lithium Battery

Incorrect replacement of the lithium battery may lead to a risk of explosion.

The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer.

Do not throw lithium batteries into the trash-can. It must be disposed of in accordance with local regulations concerning special waste.

Technical Support

If you have any technical difficulties, please do not hesitate to call or e-mail our customer service.

http://www.arbor-technology.com

E-mail:info@arbor.com.tw

Warranty

This product is warranted to be in good working order for a period of two years from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster.

Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or inability to use this product. Vendor will not be liable for any claim made by any other related party. Vendors disclaim all other warranties, either expressed or implied, including but not limited to implied warranties of merchantability and fitness for a

particular purpose, with respect to the hardware, the accompanying product's manual(s) and written materials, and any accompanying hardware. This limited warranty gives you specific legal rights.

Return authorization must be obtained from the vendor before returned

merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.

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Chapter 1

Introduction

1.1. Features

• Soldered onboard Intel Apollolake SoC Processor
• Intergrated Gigabit Ethernet
• Dual Channel 24-bit LVDS and 1 x DP port

1.2. About this Manual

This manual is intended for experienced users and integrators with hardware knowledge of computers. If you are not sure about the description in this manual, consult your vendor before further handling.

We recommend that you keep one copy of this manual for the quick reference for any necessary maintenance in the future. Thank you for choosing ARBOR products.

1.3. Specifications

Form Factor	Qseven® CPU Module
CPU	Soldered onboard Intel Pentium® N4200 2.5GHz/ Celeron® N3350 2.4GHz processor
System Memory	Soldered onboard LPDDR4 8GB
BIOS	AMI UEFI BIOS (Legacy)
USB	6 x USB 2.0 ports 2 x USB 3.0 ports
Expansion Bus	4 x PCIex1 lanes, I²C Interface
Storage	2 x Serial ATA ports Soldered onboard eMMC 5.0 32GB (OEM Request)
Ethernet controller	1 x Intel® i210IT PCIe GbE controller
Audio	HD link
Graphics Chipset	Intergrated in Intel® Gen9 graphic
Graphics Interface	Dual Channel 24-bit LVDS, with resolution up to 1920x1200
	1 x DDI port
OS Support	Windows 10 64-bit Linux: Ubuntu
Power Requirement	DC 5V, 5VSB
Power Consumption	2A@5V with N4200
Operating Temp.	-20ºC ~ 85ºC(-4~185ºF)
Operating Humidity	10 ~ 95% @ 85°C (non-condensing)
Dimension (L x W)	70 x 70 mm (2.76” x 2.76”)

1.4. Inside the Package

Before starting with the installation, make sure the following items are shipped. If any of the items is missing or appears damaged, contact your local dealer or distributor.

1 x EmQ-i240A Qseven® CPU Module

1 x Quick Installation Guide

1.5. Ordering Information

EmQ-i240A-N4200-8GB	Intel® Pentium® N4200 Qseven R2.1 CPU module w/ 8GB memory soldered on module, -20~85°C
EmQ-i240A-N3350-8GB	Intel® Celeron® N3350 Qseven R2.1 CPU module w/ 8GB memory soldered on module, -20~85°C
EmQ-i240A-WT-E3950-8G	Intel® Atom® x7-E3950 Qseven R2.1 CPU module w/ 8GB memory soldered on module, -40~85°C
EmQ-i240A-WT-E3940-8G	Intel® Atom® x5-E3940 Qseven R2.1 CPU module w/ 8GB memory soldered on module, -40~85°C
EmQ-i240A-WT-E3930-8G	Intel® Atom® x5-E3930 Qseven R2.1 CPU module w/ 8GB memory soldered on module, -40~85°C

1.6. Optional Accessories

PBQ-900L	Qseven R2.0 w/ EPIC form factor carrier board
HS-240A-F1	Heat Spreader, w/PAD, 70x65x8mm for N-Series
HS-240A-F2	Heat Spreader, w/PAD, 70x65x8mm for E-Series
CBK-06-900L-00	Cable kit: 2 x COM cable 1 x USB cable 1 x SATA cable 1 x SATA Power cable 1 x Audio cable

1.7. Driver(6.7A) Installation Note

To install the drivers, please visit our website at **www.arbor-technology.com** and download the driver pack from the product page.

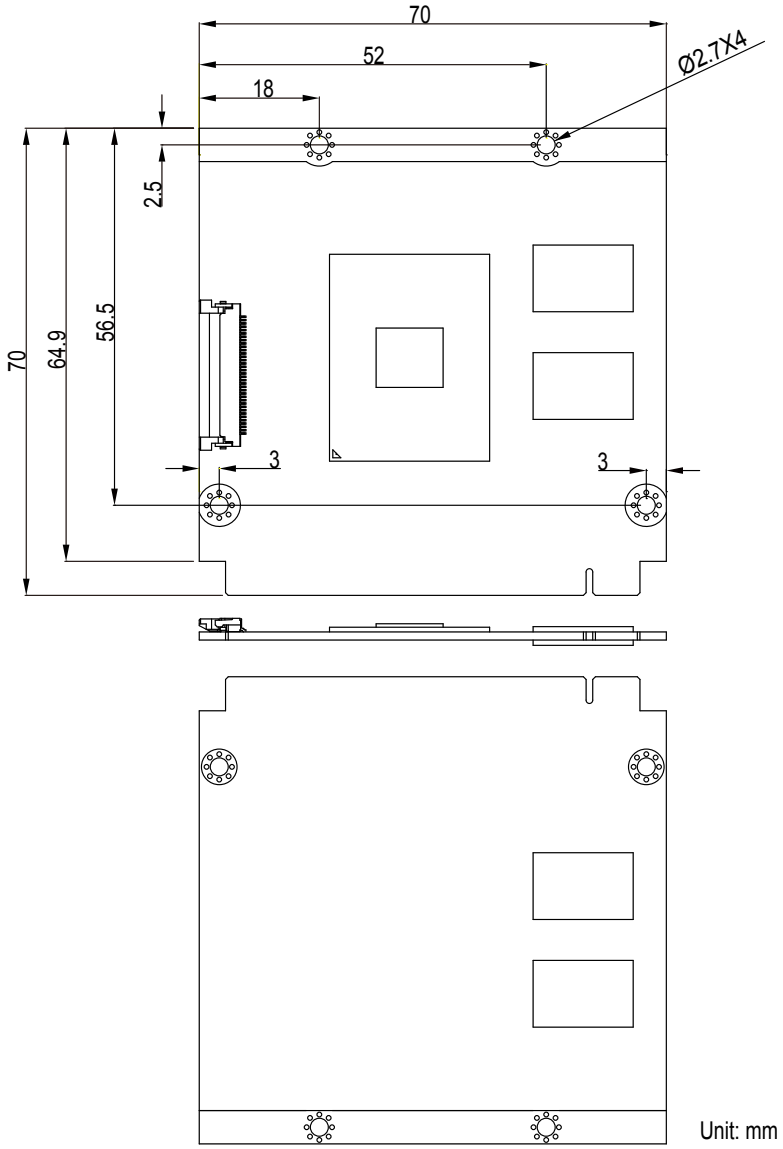
Windows 10 (64-bit)

Driver	Path
Audio	\Apollolake-i240x\Audio\7687_PG436_Win10_Win8.1_Win8_Win7_WHQLx64
Chipset	\Apollolake-i240x\Chipset
Ethernet	\Apollolake-i240x\LAN
Graphics	\Apollolake-i240x\Graphic
Serial IO	\Apollolake-i240x\Serial IO\SerialIO_30.100.1620.02_APL_PV_Win10\x64
TXE	\Apollolake-i240x\TXE

Chapter 2

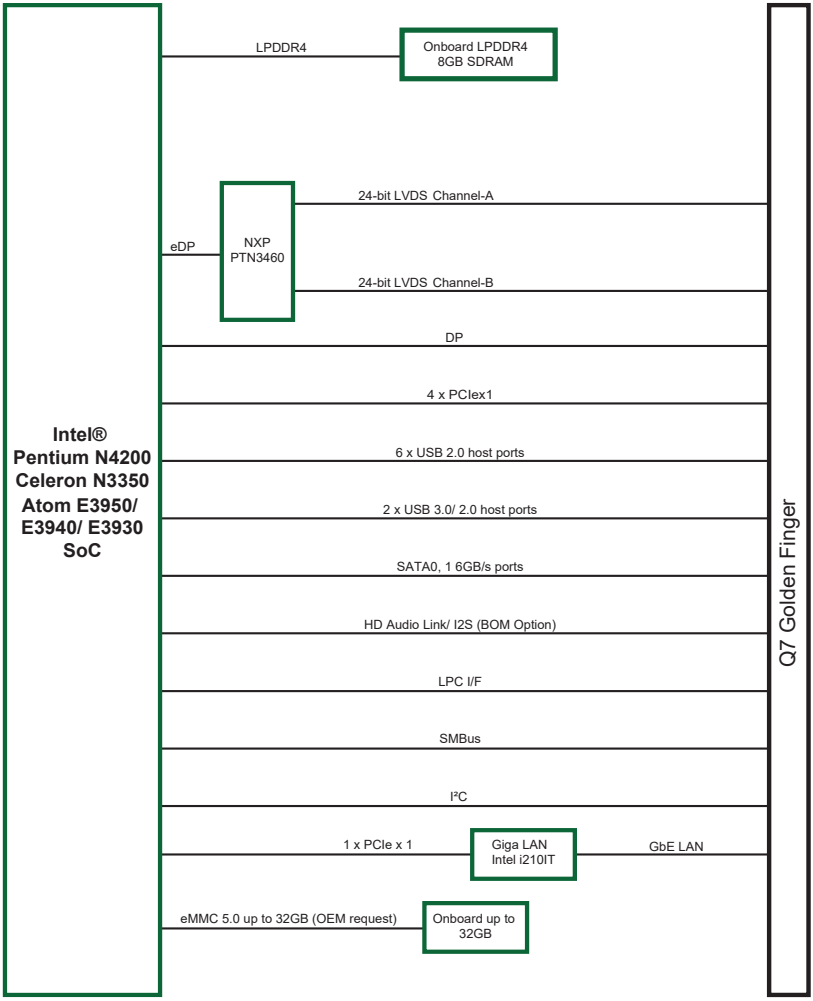
Board Overview

2.1. Board Dimensions



Unit: mm

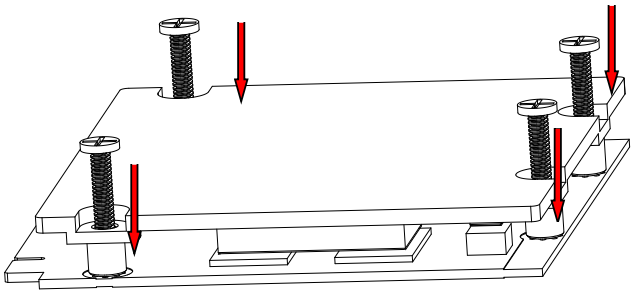
2.2. Block Diagram



Heat Spreader Installation

To install the heat spreader:

See the illustration below. Mount the heat spreader to the board. Fix the heat spreader in place with fours screws.



2.3. Connector Pin Definition

Pin	Signal	Pin	Signal
1	GND	2	GND
3	LAN1_MDI3-	4	LAN1_MDI2-
5	LAN1_MDI3+	6	LAN1_MDI2+
7	LAN_LINK100#	8	LAN_LINK_1000#
9	LAN1_MDI1-	10	LAN1_MDI0-
11	LAN1_MDI1+	12	LAN1_MDI0+
13	LED_LINK#	14	LAN_ACT#
15	GBE_CTREF (N/C)	16	SLP_S4#
17	WAKE#	18	SLP_S3#
19	SUS_STAT#	20	Q7_PWR_BTN#
21	SLEEP#	22	LID#
23	GND	24	GND
	KEY		KEY
25	GND	26	CB_PWRGD
27	Q7_BATLOW#	28	Q7_RSTBTN#
29	SATA_TXP0_C	30	SATA_TXP1_C
31	SATA_TXN0_C	32	SATA_TXN1_C
33	Q7_HDD_ACT#	34	GND
35	SATA_RXP0_C	36	SATA_RXP1_C
37	SATA_RXN0_C	38	SATA_RXN1_C
39	GND	40	GND
41	BIOS_DISABLE#	42	SD_CLK#
43	SD_CD#	44	SDIO_LED (N/C)
45	SD_CMD	46	SD_WP
47	SD_PWR#	48	SD_DATA1
49	SD_DATA0	50	SD_DATA3
51	SD_DATA2	52	RSVD (N/C)
53	RSVD (N/C)	54	RSVD (N/C)
55	RSVD (N/C)	56	USB_OTG_PEN (N/C)
57	GND	58	GND
59	AZ_SYNC	60	SMB_CLK_RESUME
61	AZ_RST#	62	SMB_DATA_RESUME
63	AZ_BIT_CLK	64	Q7_SMB_ALERT#

Pin	Signal	Pin	Signal
65	AZ_SDATA_IN	66	I2C_CLK0
67	AZ_SDATA_OUT	68	I2C_DATA0
69	THRM#	70	WDTRIG#
71	THRMTRIP#	72	WDOUT(N/C)
73	GND	74	GND
75	USB3TXN0	76	USB3_RXN0
77	USB3TXP0	78	USB3_RXP0
79	USB_6_7_OC# (N/C)	80	USB_4_5_OC#(N/C)
81	USB_5N	82	USB_4N
83	USB_5P	84	USB_4P
85	USB_OC2/3	86	USB_OC0/1
87	USB_3N	88	USB_2N
89	USB_3P	90	USB_2P
91	USB_CC(N/C)	92	Q-7_USB_ID(N/C)
93	USB_1N	94	USB_0N
95	USB_1P	96	USB_0P
97	GND	98	GND
99	LVDS_A0+	100	LVDS_B0+
101	LVDS_A0-	102	LVDS_B0-
103	LVDS_A1+	104	LVDS_B1+
105	LVDS_A1-	106	LVDS_B1-
107	LVDS_A2+	108	LVDS_B2+
109	LVDS_A2-	110	LVDS_B2-
111	Q7_VDDEN	112	Q7_BKLTEN
113	LVDS_A3+	114	LVDS_B3+
115	LVDS_A3-	116	LVDS_B3-
117	GND	118	GND
119	LVDS_A_CLK+	120	LVDS_B_CLK+
121	LVDS_A_CLK-	122	LVDS_B_CLK-
123	Q7_LCD_BKLT_CTRL	124	GP_1-Wire_Bus (N/C)
125	LVDS_I2C_DAT	126	eDP0_HPD#/LVDS_BLC_DAT (N/C)
127	LVDS_I2C_CLK	128	eDP1_HPD#/LVDS_BLC_CLK (N/C)
129	CAN0_TX (N/C)	130	CAN0_RX (N/C)

*Note:Only Apollolake-I Series can support SDIO.

Pin	Signal	Pin	Signal
131	Q7_DDI0_TXP3	132	USB3_TXN1
133	Q7_DDI0_TXN3	134	USB3_TXP1
135	GND	136	GND
137	Q7_DDI0_TXP1	138	DDI0_AUXP
139	Q7_DDI0_TXN1	140	DDI0_AUXN
141	GND	142	GND
143	Q7_DDI0_TXP2	144	USB3_RXN1
145	Q7_DDI0_TXN2	146	USB3_RXP1
147	GND	148	GND
149	Q7_DDI0_TXP0	150	DDI0_DDI0_DDCDATA
151	Q7_DDI0_TXN0	152	DDI0_DDC_DDCCLK
153	Q7_DDI0_HPDET#_R	154	DP_HDP#_RSV
155	Q7_PCIE_CLKP1	156	PCIE_WAKE#
157	Q7_PCIE_CLKN1	158	PLTRST#_BUFF
159	GND	160	GND
161	Q7_PCIE_TXP3	162	PCIE_RXP3
163	Q7_PCIE_TXN3	164	PCIE_RXN3
165	GND	166	GND
167	Q7_PCIE_TXP2	168	PCIE_RXP2
169	Q7_PCIE_TXN2	170	PCIE_RXN2
171	Q7_UART1_TXD	172	Q7_UART1_RTS
173	Q7_PCIE_TXP1	174	PCIE_RXP1
175	Q7_PCIE_TXN1	176	PCIE_RXN1
177	Q7_UART1_RXD	178	Q7_UART1_CTS#
179	Q7_PCIE_TXP0	180	PCIE_RXP0
181	Q7_PCIE_TXN0	182	PCIE_RXN0
183	GND	184	GND
185	LPC_LAD0	186	LPC_LAD1
187	LPC_LAD2	188	LPC_LAD3
189	LPC_CLK1	190	LPC_LFRAME#
191	LPC_SERIRQ	192	LPC_LDRQ#
193	VCC_RTC	194	Q7_SPKR
195	FAN_TACHOIN (N/C)	196	FAN_PWMOUT

Pin	Signal	Pin	Signal
197	GND	198	GND
199	Q7_SPI_MOSI	200	Q7_SPI_CS#0
201	Q7_SPI_MISO	202	Q7_SPI_CS#1
203	Q7_SPI_CLK	204	MFG_NC4 (N/C)
205	VCC_5V_SB	206	VCC_5V_SB
207	MFG_NC0 (N/C)	208	MFG_NC2 (N/C)
209	MFG_NC1 (N/C)	210	MFG_NC3 (N/C)
211	N/C	212	N/C
213	N/C	214	N/C
215	N/C	216	N/C
217	N/C	218	N/C
219	VCC	220	VCC
221	VCC	222	VCC
223	VCC	224	VCC
225	VCC	226	VCC
227	VCC	228	VCC
229	VCC	230	VCC

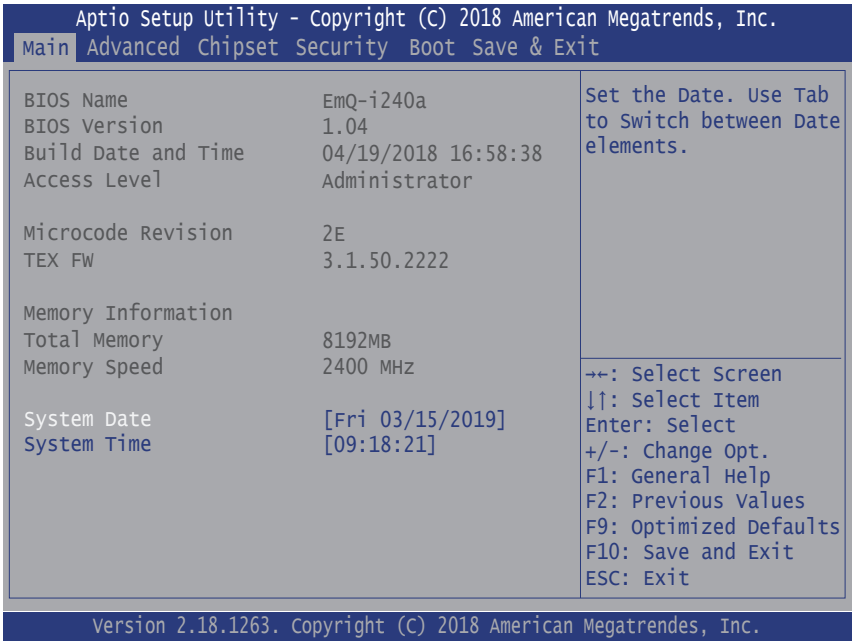
Chapter 3

BIOS

4.1. Main

The AMI BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS RAM of the system stores the Setup utility and configurations. When you turn on the computer, the AMI BIOS is immediately activated. To enter the BIOS SETUP UTILITY, press **"Delete"** once the power is turned on.

The **Main Setup** screen lists the following information:



Setting	Description
System Date	Set the system date. Use Tab to switch between Data elements. Note that the 'Day' automatically changes when you set the date. ► The date format is: **Day:** Sun to Sat **Month:** 1 to 12 **Date:** 1 to 31 **Year:** 1998 to 2099

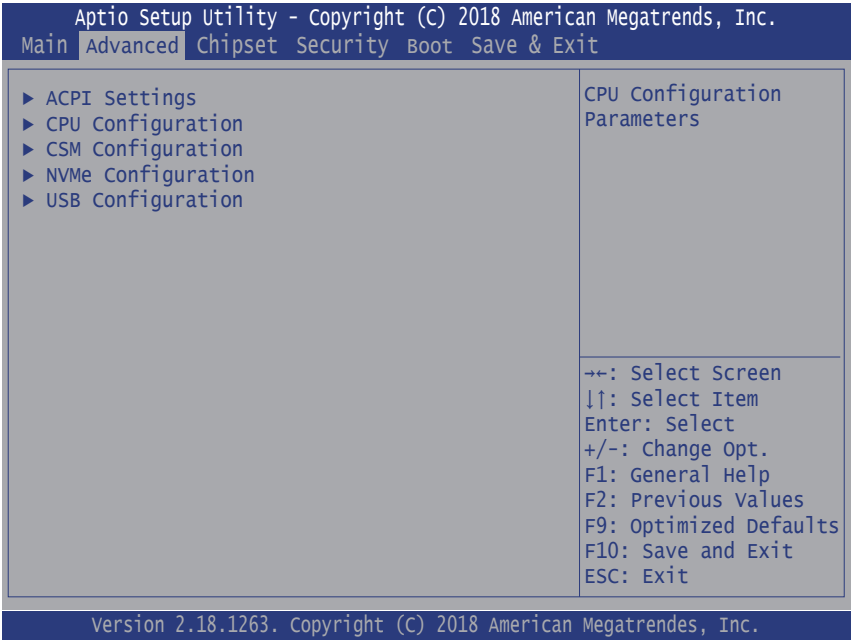
System Time	Set the system time. Use Tab to switch between Time elements. ► The time format is: **Hour:** 00 to 23 **Minute:** 00 to 59 **Second:** 00 to 59

Key Commands

BIOS Setup Utility is mainly a key-based navigation interface. Please refer to the following key command instructions for navigation process.

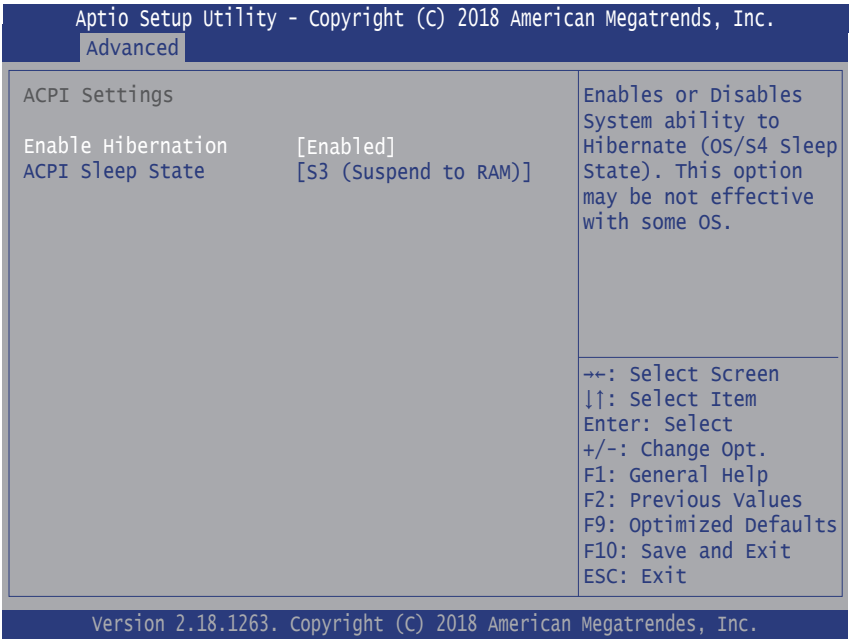
Keystroke	Function
◄ ►	Move to highlight a particular configuration screen from the top menu bar / Move to highlight items on the screen
▼ ▲	Move to highlight previous/next item
Enter	Select and access a setup item/field
Esc	On the Main Menu – Quit the setup and not save changes into CMOS (a message screen will display and ask you to select “OK” or “Cancel” for exiting and discarding changes. Use “←” and “→” to select and press “Enter” to confirm) On the Sub Menu – Exit current page and return to main menu
Page Up / +	Increase the numeric value on a selected setup item / make change
Page Down / -	Decrease the numeric value on a selected setup item / make change
F1	Activate “General Help” screen
F10	Save the changes that have been made in the setup and exit. (a message screen will display and ask you to select “OK” or “Cancel” for exiting and saving changes. Use “←” and “→” to select and press “Enter” to confirm)

4.2. Advanced



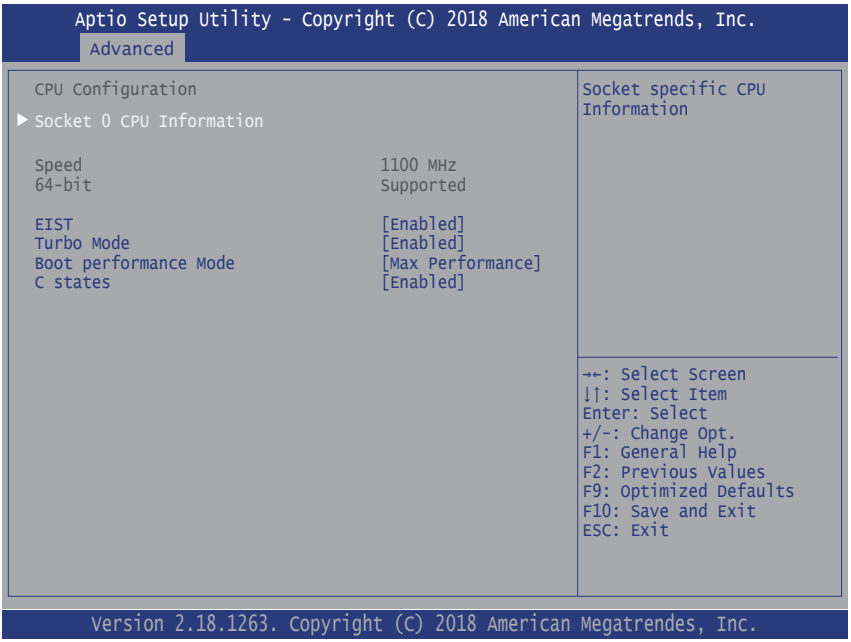
Setting	Description
ACPI Settings	See section 4.2.1. ACPI Settings on page 17
CPU Configuration	See section 4.2.2. CPU Configuration on page 18
CSM Configuration	See section 4.2.3. CSM Configuration on page 19
NVMe Configuration	See section 4.2.4. NVMe Configuration on page 20
USB Configuration	See section 4.2.5. USB Configuration on page 21

4.2.1. ACPI Settings



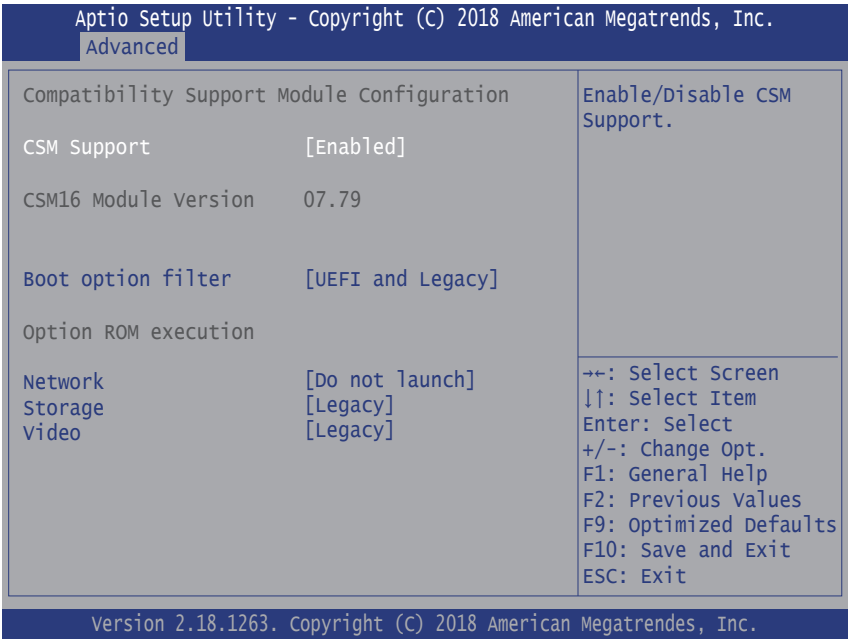
Setting	Description
Enable Hibernation	**Enable** (default) or **Disable** System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.
ACPI Sleep State	Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed. ► Options: **Suspend Disabled** and **S3 (Suspend to RAM)** (default).

4.2.2. CPU Configuration



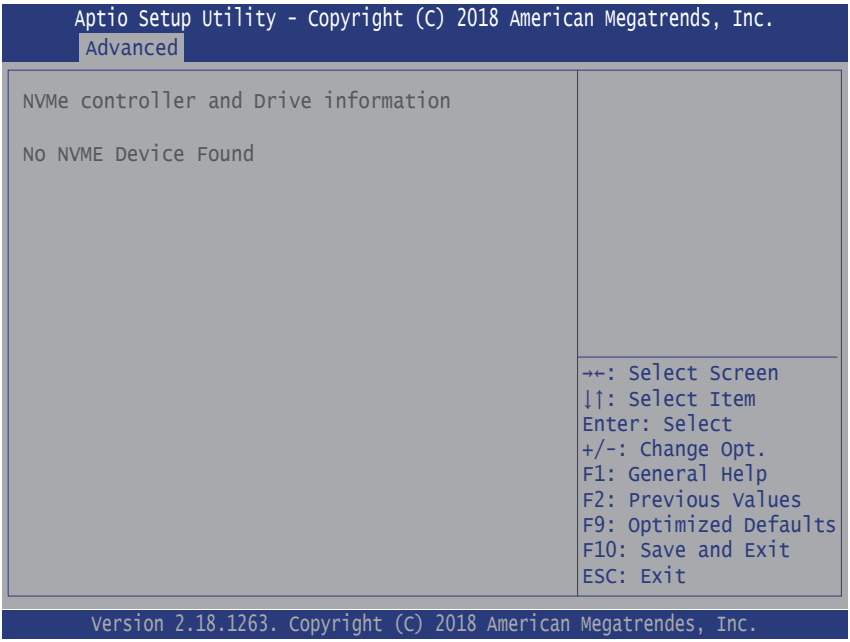
Setting	Description
Socket 0 CPU Information	To view the socket specific CPU information.
EIST	**Enable** (default)/**Disable** Intel SpeedStep
Turbo Mode	**Enable** (default)/**Disable** Turbo Mode. Only available when EIST (Intel Speed Step) is **Enabled**.
Boot performance Mode	Set the performance state that the BIOS will set before the OS handoff. ► Options: **Max Performance** (default) and **Max Battery**
CPU C States	**Enable** /**Disable** (default) CPU C States

4.2.3. CSM Configuration



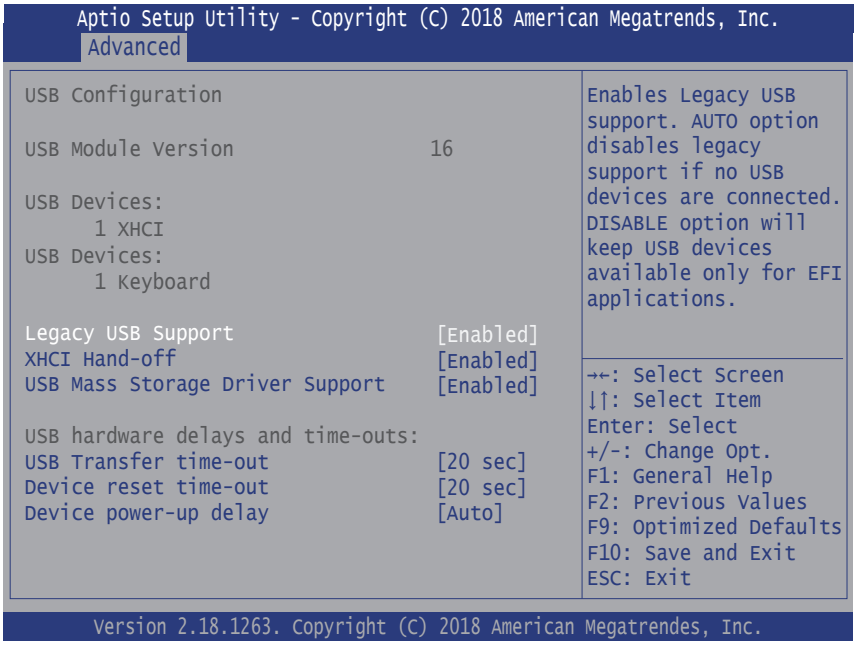
Setting	Description
CSM Support	**Enable** (default) or **Disable** CSM Support.
Boot option filter	Control the Legacy/UEFI ROMs priority. ► Options: **UEFI and Legacy** (default), **Legacy only**, **UEFI only**
Network	Control the execution of UEFI and Legacy PXE OpROM ► Options: **Do not launch** (default) and **Legacy**
Storage	Control the execution of UEFI and Legacy Storage OpROM ► Options: **Do not launch** and **Legacy** (default)
Video	Control the execution of UEFI and Legacy Video OpROM ► Options: **Do not launch**, **UEFI** and **Legacy** (default)

4.2.4. NVMe Configuration



This page shows the NVMe controller and drive information.

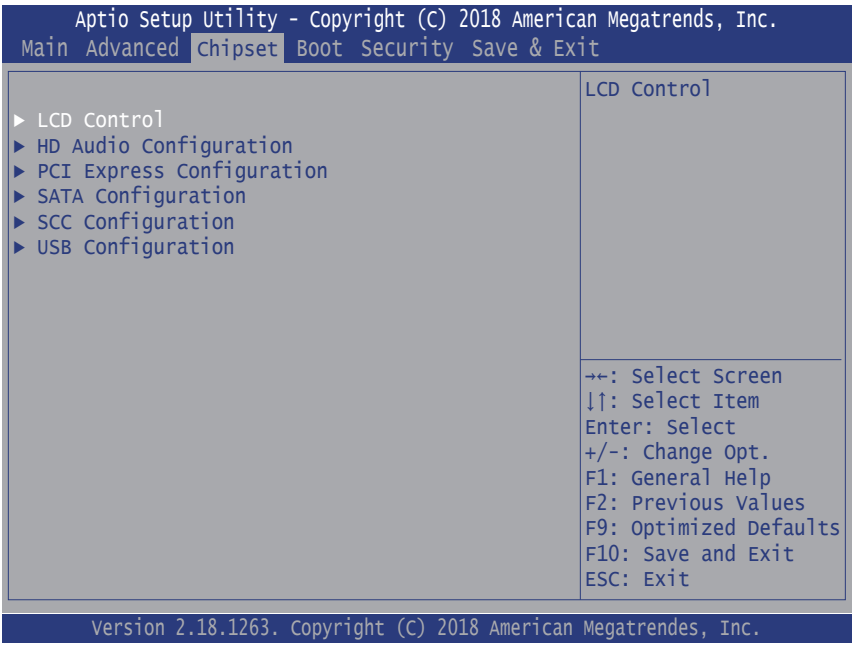
4.2.5. USB Configuration



Setting	Description
Legacy USB Support	Sets legacy USB support. ► Options: **Enabled** (default), **Disabled** and **Auto**. **AUTO** option disables legacy support if no USB devices are connected. **Disable** option will keep USB devices available only for EFI applications.
XHCI Hand-off	**Enable** (default) or **Disable** XHCI Hand-off This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.

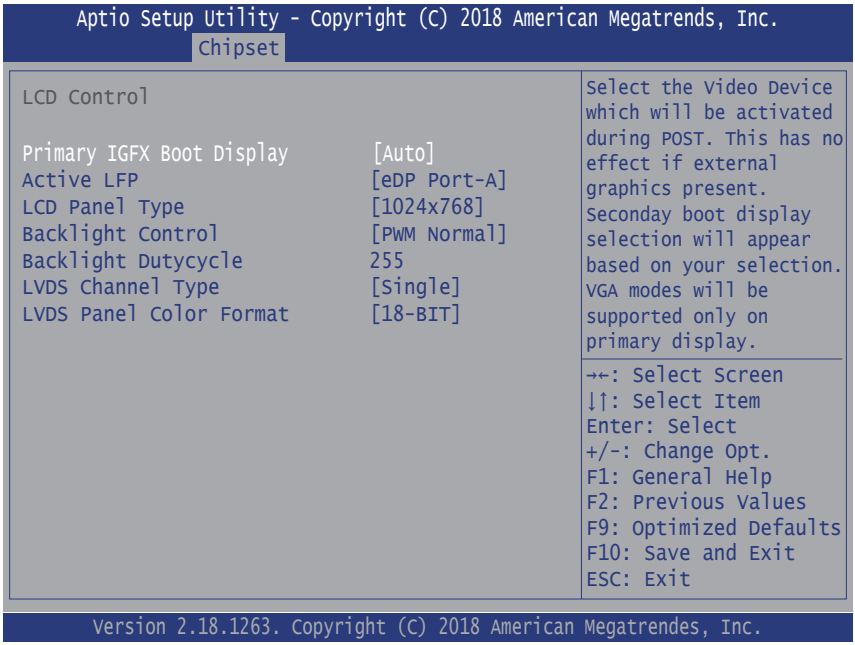
USB Mass Storage Driver Support	**Enable** (default) or **Disable** USB Mass Storage Driver Support.
USB hardware delay and time-out	
USB Transfer time-out	Use this item to set the time-out value for control, bulk, and interrupt transfers. ▸ Options available are: **1 sec, 5 sec, 10 sec, 20 sec** (default)
Device reset time-out	Use this item to set USB mass storage device start unit command time-out. ▸ Options available are: **10 sec, 20 sec** (default)**, 30 sec, 40 sec**
Device power-up delay	Use this item to set maximum time the device will take before it properly reports itself to the host controller. ▸ Options available are: **Auto** (Default): 'Auto' uses default value: for a root port it is 100 ms, for a hub port the delay is taken from hub descriptor. **Manual**: Select **Manual** you can set value for the following sub-item: '**Device Power-up delay in seconds**', the delay range in from 1 to 40 seconds, in one second increments.

4.3. Chipset



Setting	Description
LCD Control	See section 4.3.1. LCD Control on page 24
HD Audio Configuration	See section 4.3.2. HD Audio Configuration on page 26
PCI Express Configuration	See section 4.3.3. PCI Express Configuration on page 27
SATA Configuration	See section 4.3.4. SATA Configuration on page 28
SCC Configuration	See section 4.3.5. SCC Configuration on page 29
USB Configuration	See section 4.3.6. USB Configuration on page 30

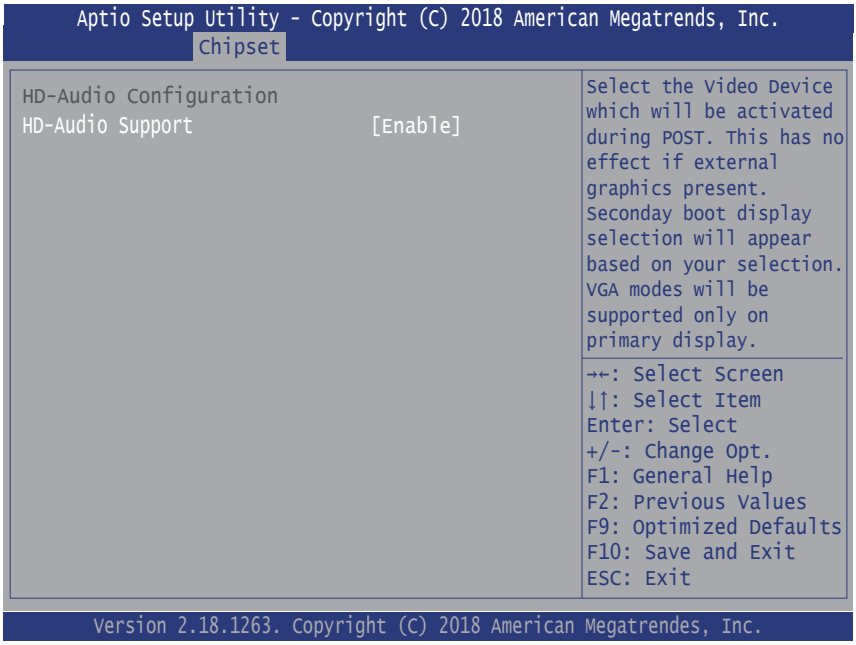
4.3.1. LCD Control



Setting	Description
Primary IGFX Boot Display	Select the Video Device which will be activated during POST. This has no effect if external graphics present. Secondary boot display selection will appear based on your selection. VGA modes will be supported only on primary display. ► Options: **Auto** (default), **EFP** and **LFP**.
Active LFP	Configuring LFP usage ► Options: **No LVDS** and **eDP Port-A** (default)
LCD Panel Type	Select LCD panel used by Internal Graphics Device by selecting the appropriate setup item. Default: **1024 x 768**
Backlight Control	Configuring back light control settings. ► Options: **PWM Inverted** and **PWM Normal** (default).

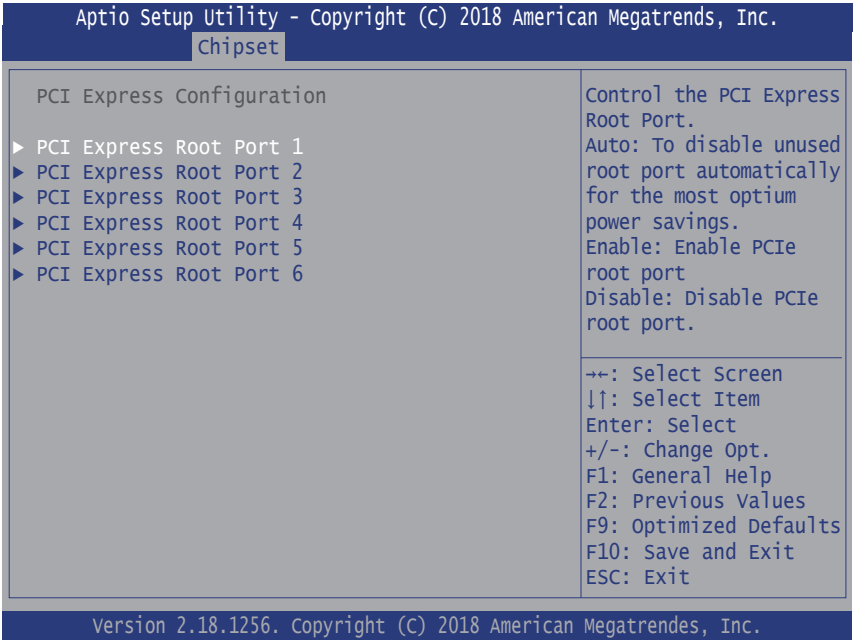
Backlight Dutycycle	Select range from 15 to 255. Step = 10. The default is **255**.
LVDS Channel Type	Select **single** (default) or **dual** channel
LVDS Panel Color Format	Select LVDS color display mode ► Options: **24-BIT** or **18-BIT** (default)

4.3.2. HD Audio Configuration



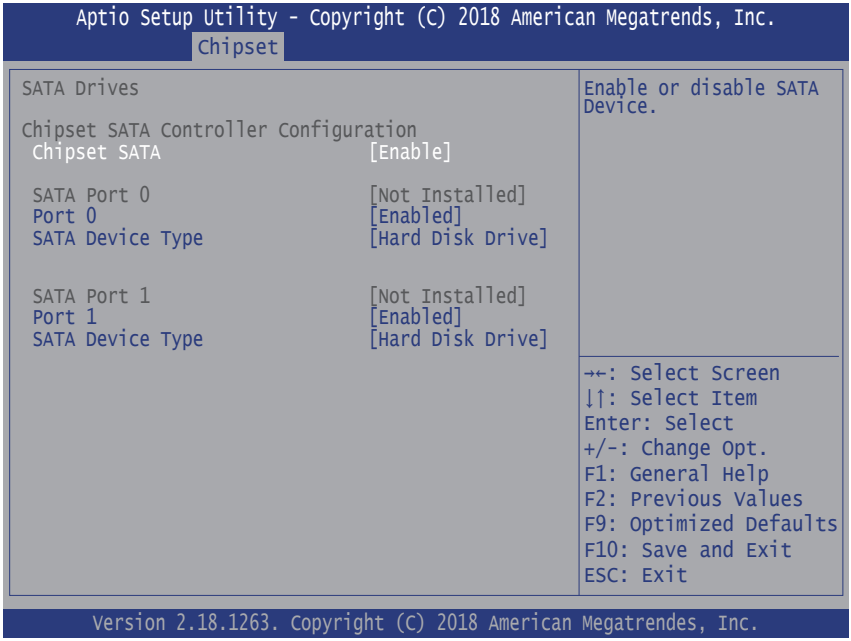
Setting	Description
HD Audio Configuration	Control Detection of the HD-Audio device. ► Options available are: **Disabled**: HDA will be unconditionally disabled **Enabled** (default): HDA will be unconditionally enabled.

4.3.3. PCI Express Configuration



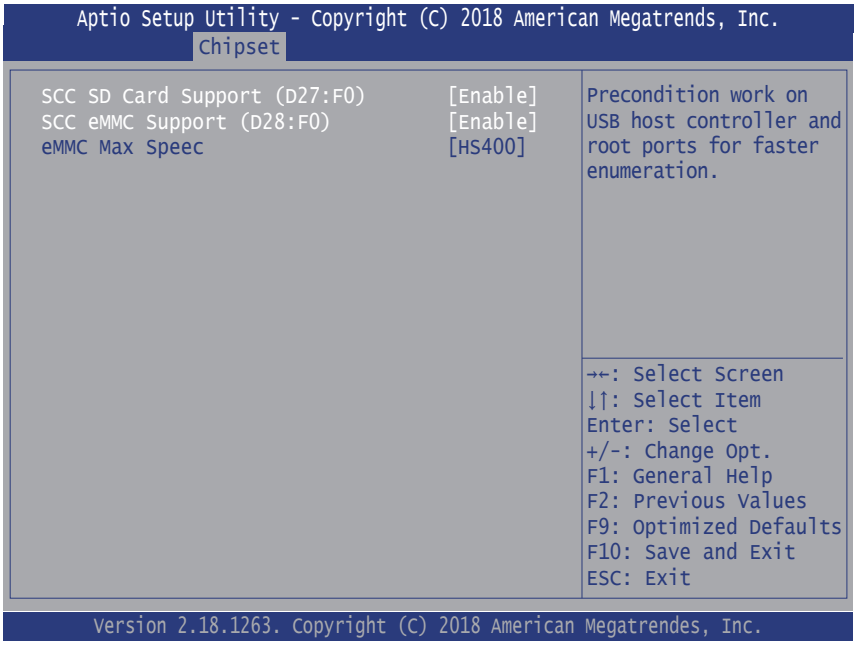
Setting	Description
PCI Express Root Port	Control the PCI Express Root Port. **Auto** (default): To disable unused root port automatically for the most optium power savings. **Enable**: Enable PCIe root port **Disable**: Disable PCIe root port.
ASPM Support	Disable or set the ASPM level. Force L0s will force all inks to L0s state. “Auto” will allow BIOS to auto configure.”Disable” will disable ASPM. ► Options: **Disabled** (default), **L0s**, **L1**, **L0sL1** and **Auto**.
PCIe Speed	Select PCI Express port speed. ► Options: **Auto** (default), **Gen1**and **Gen2**

4.3.4. SATA Configuration



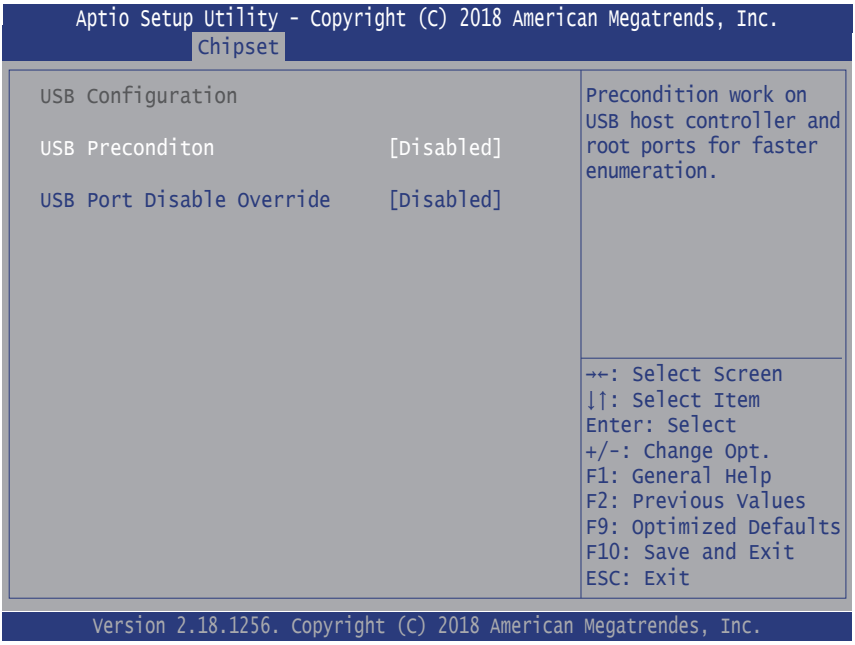
Setting	Description
Chipset SATA	**Enable** (default) or **disable** the chipset SATA Controller.
Port 0/1	**Enable** (default) or **disable** SATA Port.
SATA Device Type	Identify the SATA port is connected to Solid State Drive or Hard Disk Drive. ► Options: **Hard Disk Drive** (default) and **Solid State Drive**

4.3.5. SCC Configuration



Setting	Description
SCC SD Card Support	**Enable** (default) / **Disable** SCC SD Card Support
SCC eMMC Boot Support	**Enable** (default) / **Disable** SCC eMMC Support
eMMC Secure Erase	Select the eMMC max Speed allowed. ► Options: **HS400** (default), **HS200** and **DDR50**.

4.3.6. USB Configuration

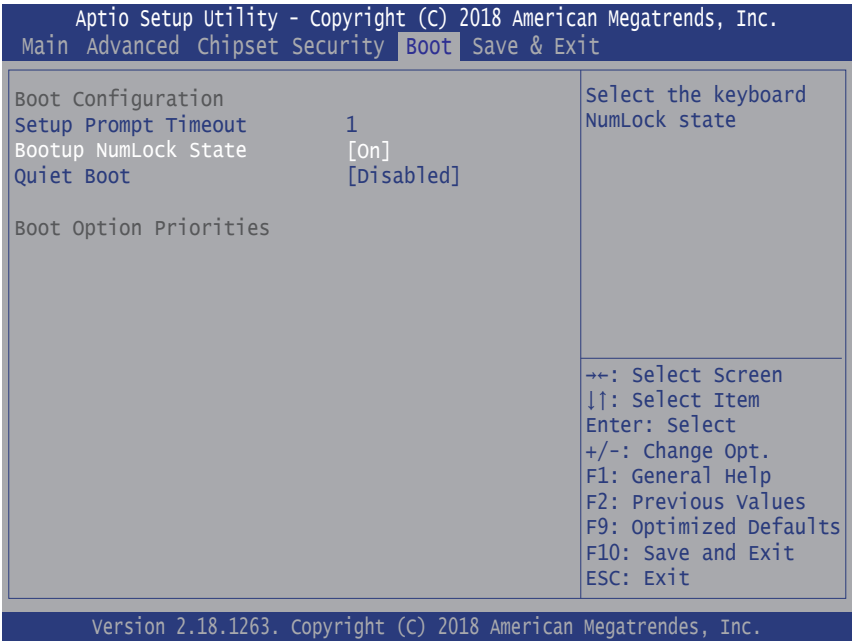


Setting	Description
xHCI Mode	**Enable** (default) or **Disable** xHCI mode. Once disabled, XHCI controller would be function disabled, none of the USB devices are detectable and usable during boot and in OS. Do not disable it unless for dubug purpose.
USB port #0-5 USB 3 port #0-1	**Enable** (default) or **Disable** USB port. Once disabled, any USB devices plug into the connector will not be detected by BIOS or OS.

4.4. Security

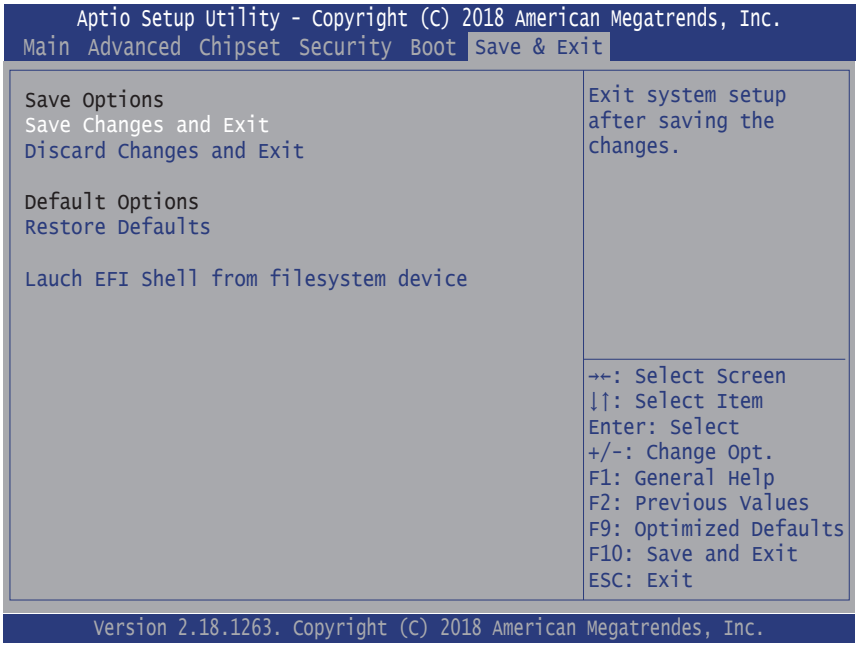
Setting	Description
Administrator Password	To set up an administrator password: 1. Select **Administrator Password**. The screen then pops up an **Create New Password** dialog. 2. Enter your desired password that is no less than 3 characters and no more than 20 characters. 3. Hit [Enter] key to submit.

4.5. Boot



Setting	Description
Setup Prompt Timeout	Number of seconds to wati for setup activation key. 65535 (0XFFFF) means indefinite waiting.
Boot NumLock State	Select the keyboard NumLock state. ► Options: **On** (default) and **Off**.
Quiet Boot	**Enable** or **Disable** (default) Quiet Boot option.

4.6. Save & Exit



Setting	Description
Save Changes and Exit	Exit system setup after saving the changes. ► Enter the item and then a dialog box pops up: **Save configuration and exit? (Yes/ No)**
Discard Changes and Exit	Exit system setup without saving the changes. ► Enter the item and then a dialog box pops up: **Quit without saving? (Yes/ No)**
Restore Defaults	Restore/Load Default values for all the setup options. ► Enter the item and then a dialog box pops up: **Load Optimized Defaults? (Yes/ No)**
Launch EFI Shell from filesystem device	Attempts to launch EFI shell application (Shell.efi) from one of the available filesystem devices.