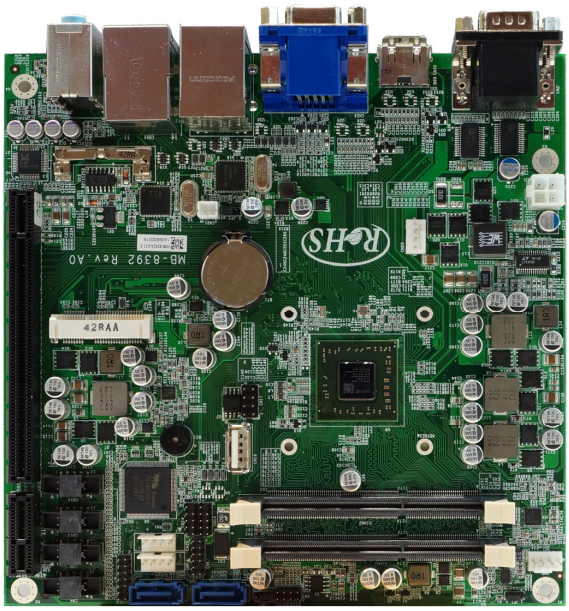
Custom Embedded Solutions

User's Manual

MB-73360

Mini-ITX with AMD G-series SOC (Steppe Eagle), 2 x HDMI, 1 x VGA, 2 x GLAN, 6 x COM, 9 x USB, 2 x SATA, Mini-PCIe x 16, DC 8V ~ 32V input



Ver.	Release Date	Update
1.0	2015.01	Release

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For more information on other WIN products visit our website at: http://www.win-ent.com.

For technical support send your inquiry to sales@win-ent.com.

Packing list

Before using this product make sure that the following materials have been shipped:

- 1 x MB-73360 motherboard
- 1 x CPU cooler (For 15W thermal solution) (P/N: CB-F00056-00)
- 1 x SATA cable, L/ 200mm (P/N: CB-SATA11-00)
- 1 x 12V/5V SATA power cable , L/ 150mm (P/N: CB-IPOW41-00)
- 1 x CD Utility

*CB-F0056-00	CB-SATA11-00	CB-IPOW41-00
		

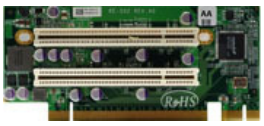
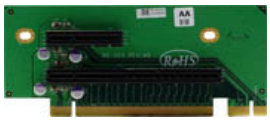
※ Please replace CPU cooler from CB-F0056-00 to CB-F00076-00 when use MB-7336A.

※ CB-F00076-00 CPU cooler is optional and not included in the standard packing

Model Name	Description
MB-7336A	Mini-ITX with AMD GX-424CC SOC, DDR3 1866 up to 8GB, HDMI, VGA, 2GLAN,6 x COM, 2 x SATA, Mini-PCIe, PLIe x 16, DC 8V ~ 32V input
MB-7336B	Mini-ITX with AMD GX-412HC SOC, DDR3 1333 up to 8GB, HDMI, VGA, 2GLAN,6 x COM, 2 x SATA, Mini-PCIe, PCIe x 16, DC 8V ~ 32V input
MB-7336C	Mini-ITX with AMD GX-212JC SOC, DDR3 1333 up to 8GB, HDMI, VGA,2 GLAN, 6 x COM, 2 x SATA, Mini-PCIe, PCIe X16, DC 8V ~ 32V input

* If any of those items are missing or damaged, please contact with sales representative or distributor.

Optional Accessory :

Photo	Model Name	
	P/N:	CB-F00076-00
	CPU Cooler for high performance thermal solution	
	P/N:	IP-S01
	PCI-express riser card support 1 x PCIe X16 & 1 x PCI slots	
	P/N:	IP-S02
	PCI-express riser card support 2 x PCI slots	
	P/N:	IP-S03
	PCI-express riser card support 1 x PCIe X16 & PCIe X1 slots	
	P/N:	CB-SATA11-00
	SATA cable, L/ 200mm	
	P/N:	CB-IPOW41-00
	12V/5V SATA power cable , L/ 150mm	
	P/N:	CB-ICOM38-00
	Dual D-Sub 9-pin COM port card, L/ 250mm, with bracket	
	P/N:	CB-IUSB07-AA
	Dual USB cable, L/ 250mm, with bracket	

Safety Information

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area.
- If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation Safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

Custom Embedded Solutions

Contents

1. General Information

1.1 Introduction

MB-73360 is a Mini-ITX motherboard support AMD® Embedded G-series SOC (Steppe Eagle) with AMD Radeon™ HD series Graphics. Integrated graphics include 2 x HDMI + 1 x VGA port, Two DDR3 SO-DIMM supports a maximum of 16GB DDR3 1600 of system memory.

On the I/O ports, the MB-73360 provides plenty of connectivity with 2 x Intel® i211AT GbE LAN controller, 6 x RS232, 2 x USB3.0 + 7 x USB2.0, HD Audio, 2 x SATA, 8-bit GPIO, optional TPM 1.2 function. The MB-73360 accepts a wide range 8V ~ 32V DC input suitable for a variety of applications in digital signage, POS, kiosks and gaming.

Besides standard PCIe X16 and Mini-PCIe socket, WIN's Mini-ITX delivers flexible PCIe X1 expansion slot allowing customers to install WIN's riser card for an additional 1 ~ 3 PCIe + PCI slots for various application.

WIN has its own firmware team that could provide customize BIOS service, such as security boot function for gaming application……..

About WIN Enteprises. Inc.

WIN offers reliable and solid products which are produced under Management System Standards: ISO9001-2000 Certificate. The certificate keeps us focused on our quality objectives of management and environmental production. Its willingness to customize standard products for meet unique customer needs makes WIN different. All ODM projects are welcome. Years of experiences enables WIN to fulfill the customer's vision, by delivering products to exact specifications. WIN R&D team is proud of its strong engineering background. R&D professionals account for 25% of the AEWIN workforce. We focus on developing new products for both emerging and established markets.

For more information about an OEM/ODM relationship contact us at:
Email: sales@win-ent.com **TEL**: +1 (978) 688-000

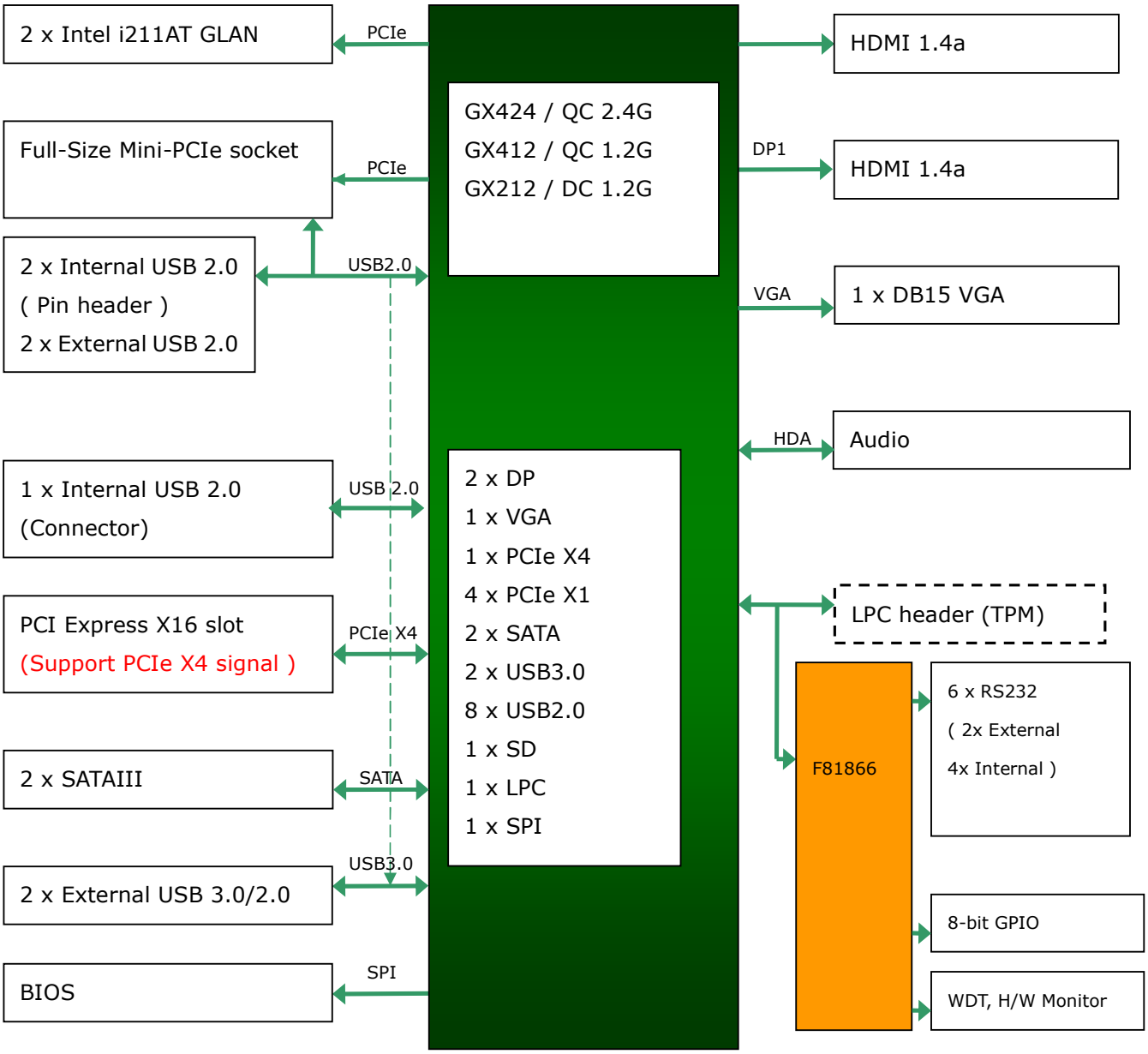
1.2 Specifications

System	
From Factor	Mini-ITX
CPU	AMD Embedded G-series SOC / STEPPE EAGLE MB-7336A: AMD GX-424CC, Quad Core 2.4GHz , 25W TDP (DDR3-1866) MB-7336B: AMD GX-412HC, Quad Core 1.2GHz , 7W TDP (DDR3-1333) MB-7336C : AMD GX-212JC, Dual Core 1.2GHz , 6W TDP (DDR3-1333)
Chipset	Integrated
Memory	2 x DDR3 SO-DIMM / 1866 MHz up to 8GB, w/o ECC support
BIOS	AMI SPI BIOS
SSD	None
Watchdog timer	255 levels, 1 ~ 255 sec
Expansion	1 x Full-size Mini-PCIe socket With PCIe X1 & USB signal. 1 x PCI Express X16 slot (**Support PCIe X4 signal**) 1 x PCI Express X1 slot (Optional)
Board Size	170mm x 170mm
Operating Temp.	0°C~60°C (32°F~140°F)
Storage Temp.	.-20°C~80°C (-4°F~176°F)
Operating Hum.	10%~90% (non-condensing)
Display	
Chipset	AMD G-series SoC integrated
Display interface	1 x external VGA
	2 x external HDMI 1.4 w/ lockable connector. (Support up to 4k*2k)
I/O	
Series Port	Internal : 4 x RS232 , External 2 x RS232
SATA	2 x SATAIII-600
USB	External : 2 x USB3.0 (compatible with USB 2.0) + 2 x USB2.0 Internal : 4 x USB2.0 (Pin header) , 1 x USB2.0 connector
Ethernet	External : 2 x Intel I211AT Gigabit Ethernet (Support Wake On LAN)
Audio	External : Line-in/out , Mic-in
Digital I/O	Internal : 8-bit GPIO interface
LPC	1 x LPC header for Optional TPM module

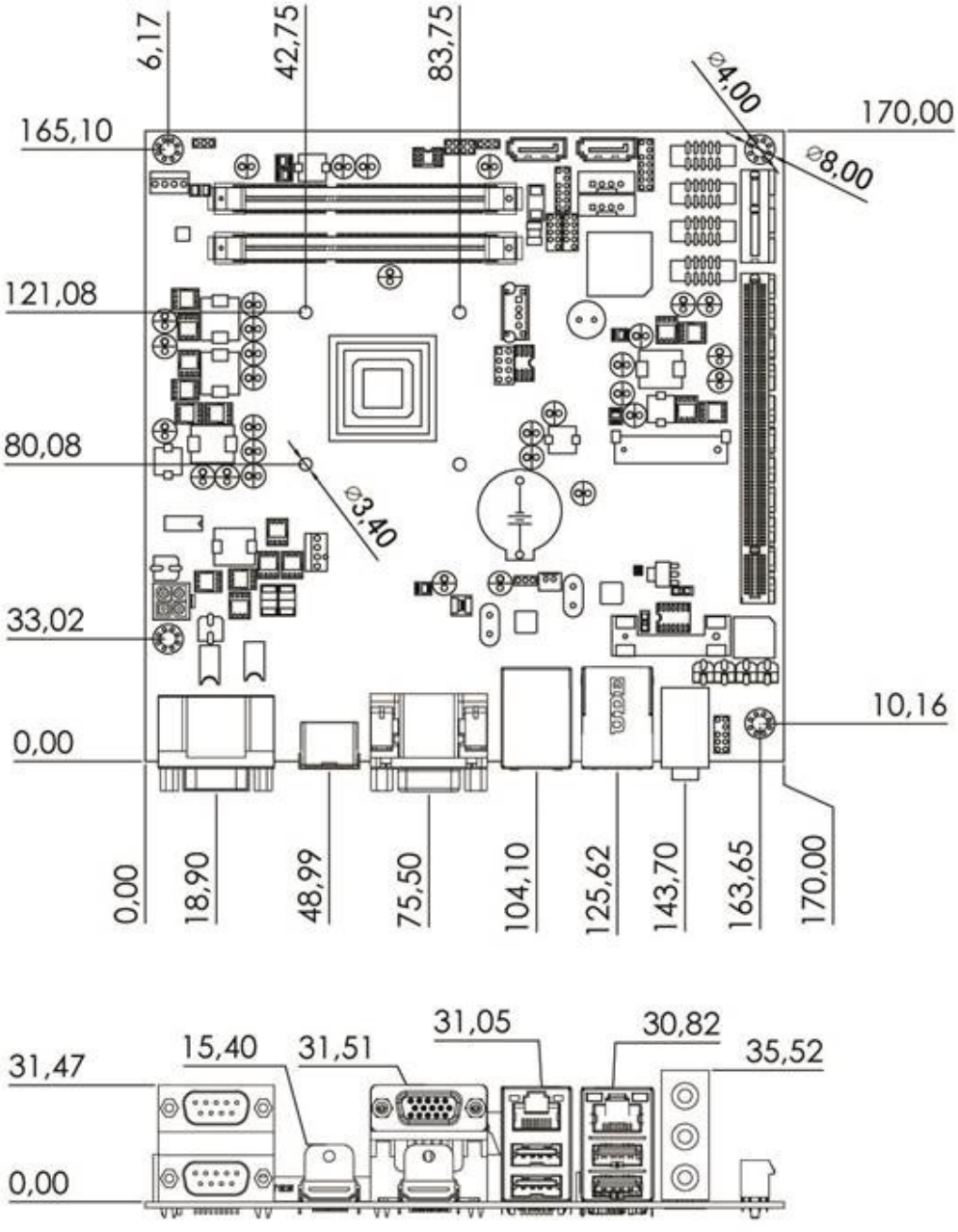
Others	1 x CPU cooling Fan header, 1 x System cooling Fan header 1 x Front Panel header for power on/off, reset, HDD/power LED indicator 2 x 4-pin 12V/5V DC out for SATA HDD 1 x 2-pin for Mini-PCIe LED indicator
Power	
Power in	DC 8V ~ 32V input (AT/ATX mode jumper selectable)
Power connector	1 x 4-pin internal header (Molex 4-pin)
Certification	
Certification	CE , FCC Class B

Note：All specifications and photos are subject to change without notice.

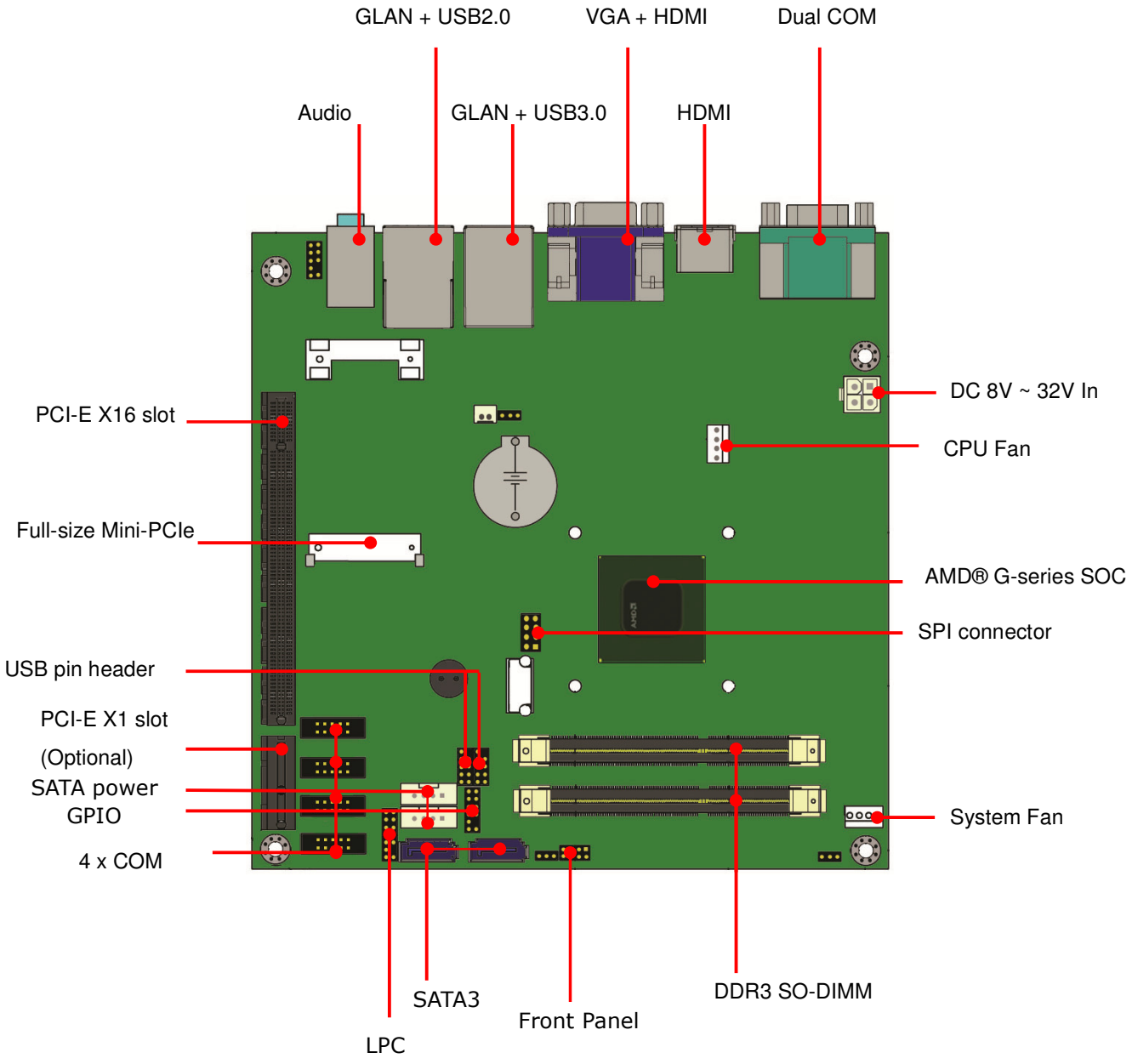
1.3 Block Diagram

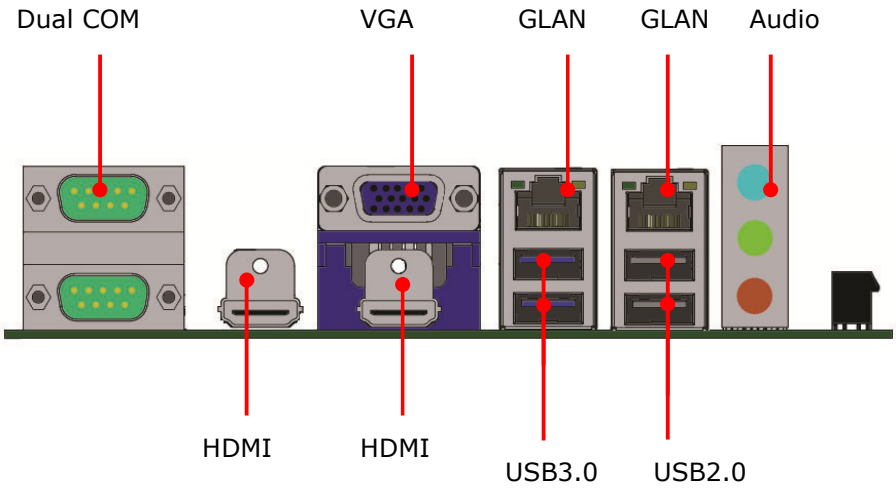


1.4 Board Layout Dimensions



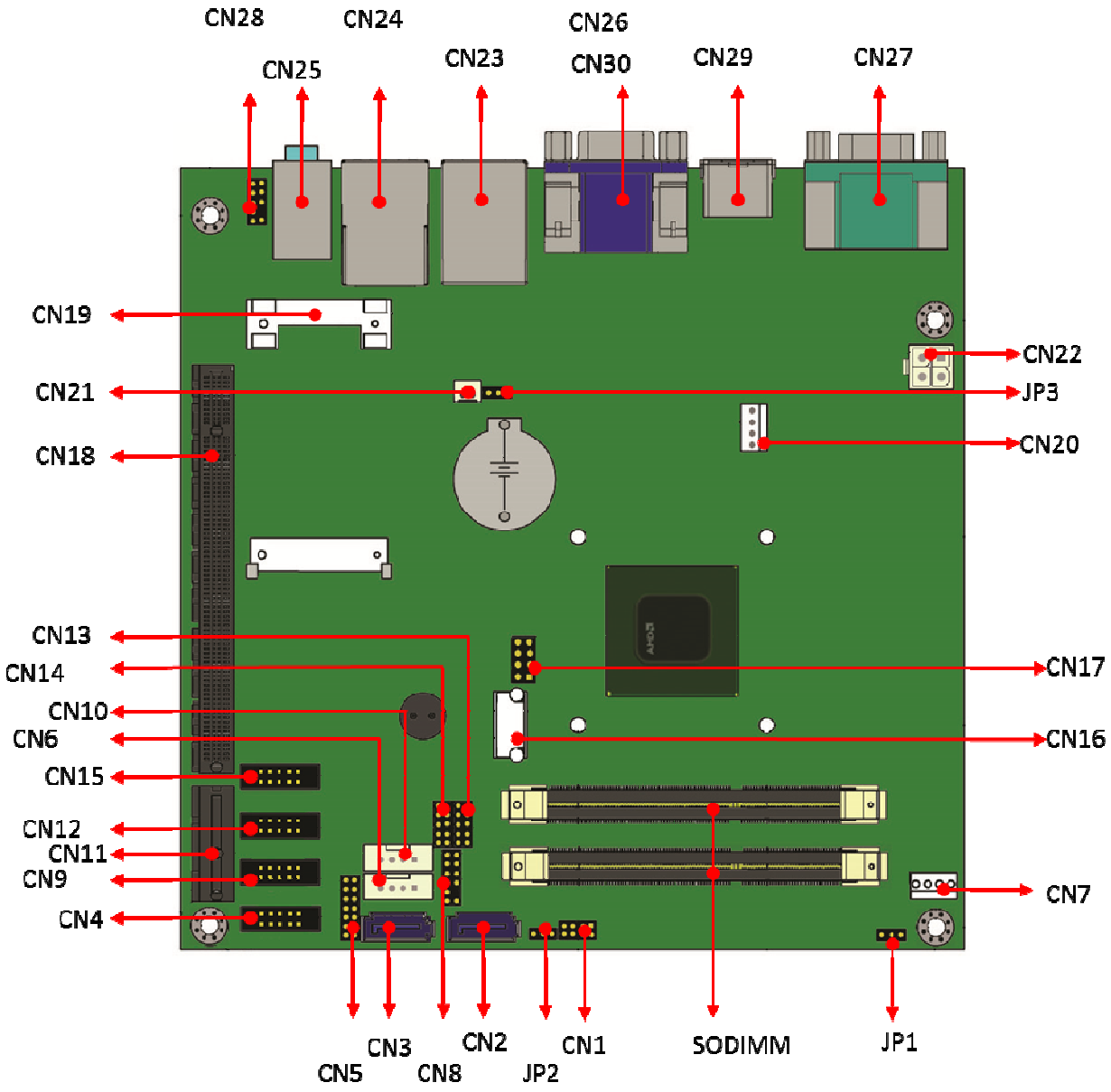
1.5 IO ports


GLAN + USB2.0
VGA + HDMI
Dual COM
Audio
GLAN + USB3.0
HDMI
DC 8V ~ 32V In
PCI-E X16 slot
CPU Fan
Full-size Mini-PCIe
AMD® G-series SOC
SPI connector
USB pin header
PCI-E X1 slot
(Optional)
SATA power
GPIO
System Fan
4 x COM
SATA3
Front Panel
DDR3 SO-DIMM
LPC


Dual COM
VGA
GLAN
GLAN
Audio
HDMI
HDMI
USB3.0
USB2.0

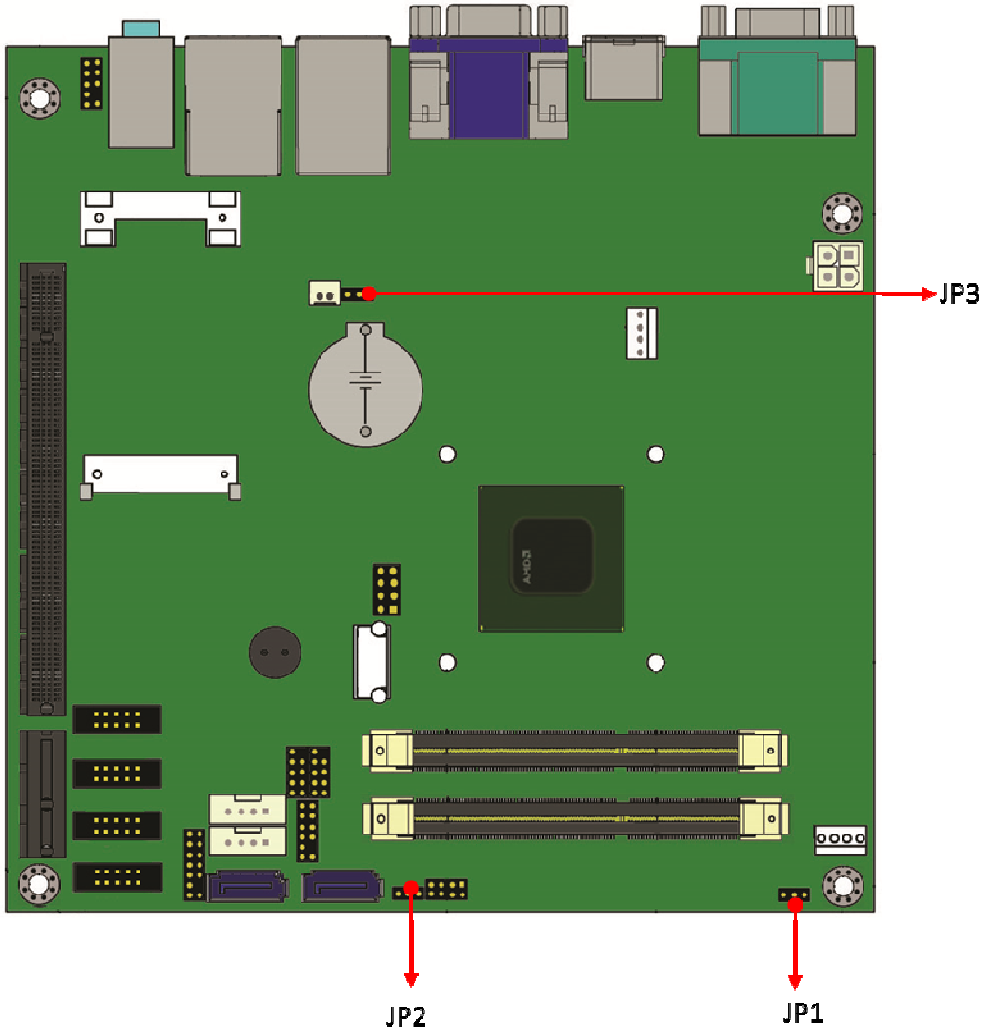
2. Hardware installation

2.1 The location of onboard connectors



CN1	FRONT PANEL
CN2	SATA1
CN3	SATA0
CN4	COM4
CN5	LPC
CN6	HDD POWER CONN.
CN7	SYSTEM FAN
CN8	GPIO
CN9	COM3
CN10	HDD POWER CONN.
CN11	PCIE X1 SLOT
CN12	COM5
CN13	USB 3,4
CN14	USB 1,2
CN15	COM6
CN16	USB 5
CN17	SPI
CN18	PCIE X16 SLOT
CN19	MINI PCIE
CN20	CPU FAN
CN21	WLAN LED
CN22	DC IN
CN23	LAN0 + USB 3.0
CN24	LAN1 + USB 2.0
CN25	AUDIO
CN26	VGA
CN27	COM 1/2
CN28	AUDIO FRONT HEADER
CN29	HDMI 1
CN32	HDMI 0

2.2 Location of onboard jumper settings



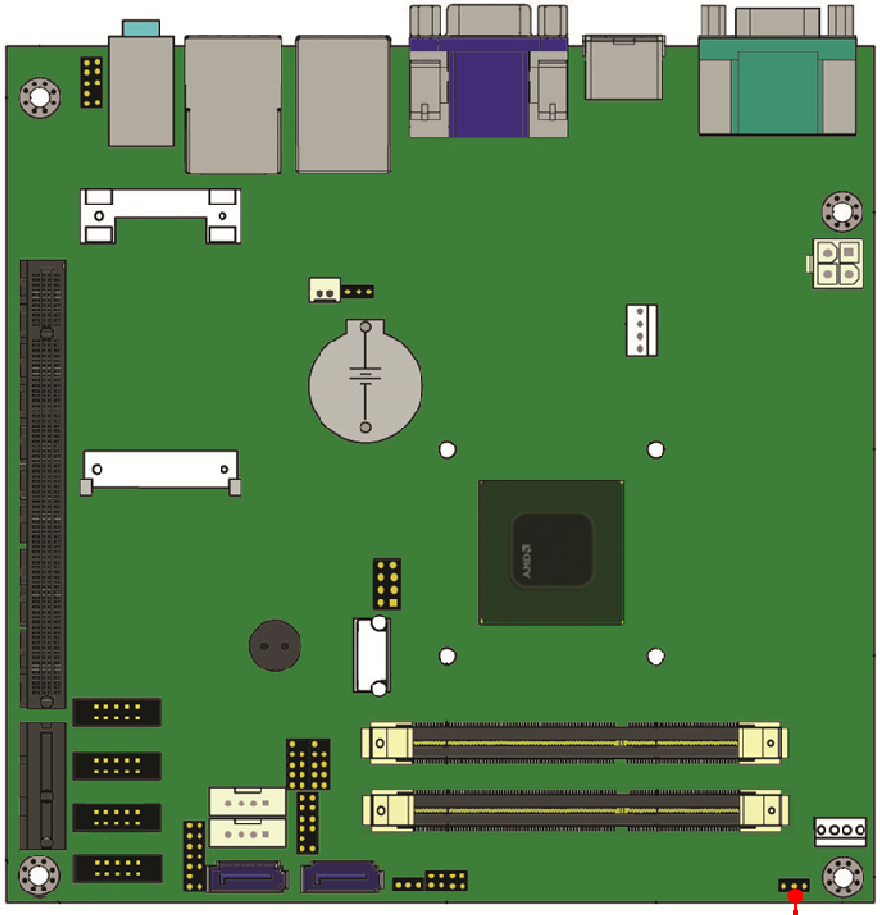
2.3 Function list of onboard jumpers setting

JP1	DRAM VOLTAGE SELECT (1-2: 1.5V ; 2-3: 1.35V)
JP2	ATX & AT Power SELECT (1-2: AT ; 2-3: ATX)
JP3	CLEAR CMOS (1-2 FOR NORMAL ; 2-3 FOR CLEAR CMOS)

2.3.1 JP1: DRAM VOLTAGE SELECT

JP1	
Closed Pin	Result
1-2	1.5V
2-3 *	1.35V

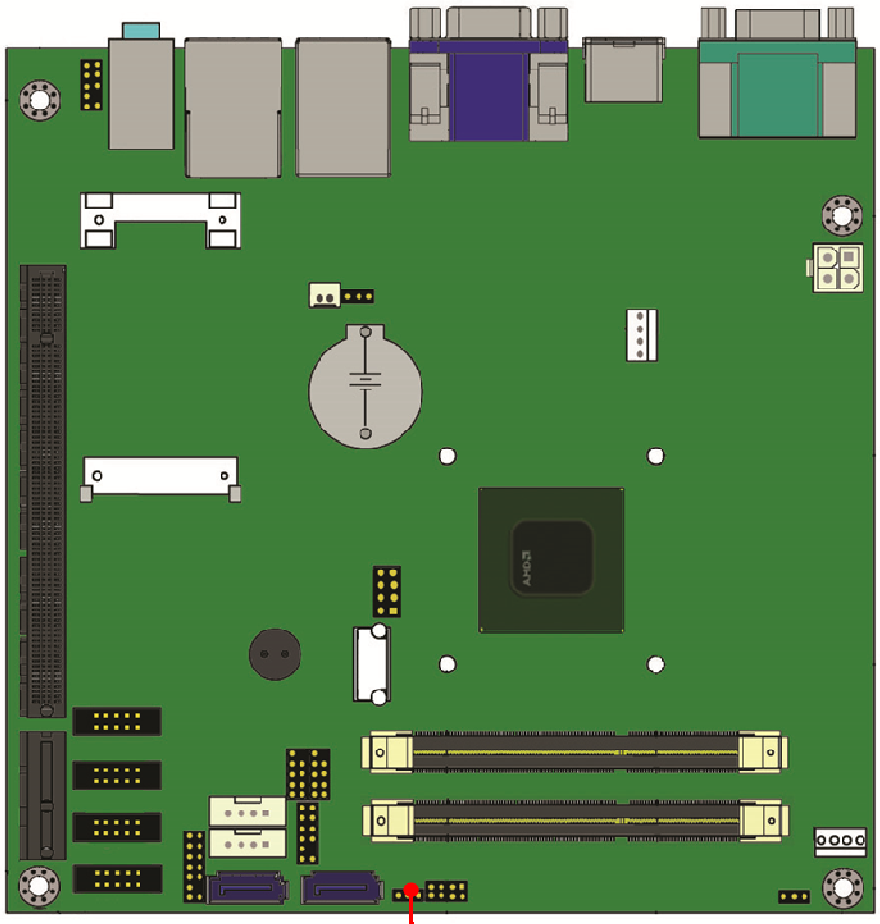
* Default setting



2.3.2 JP2: ATX & AT Power SELECT

JP2	
Closed Pin	Result
1-2	AT
2-3 *	ATX

* Default setting

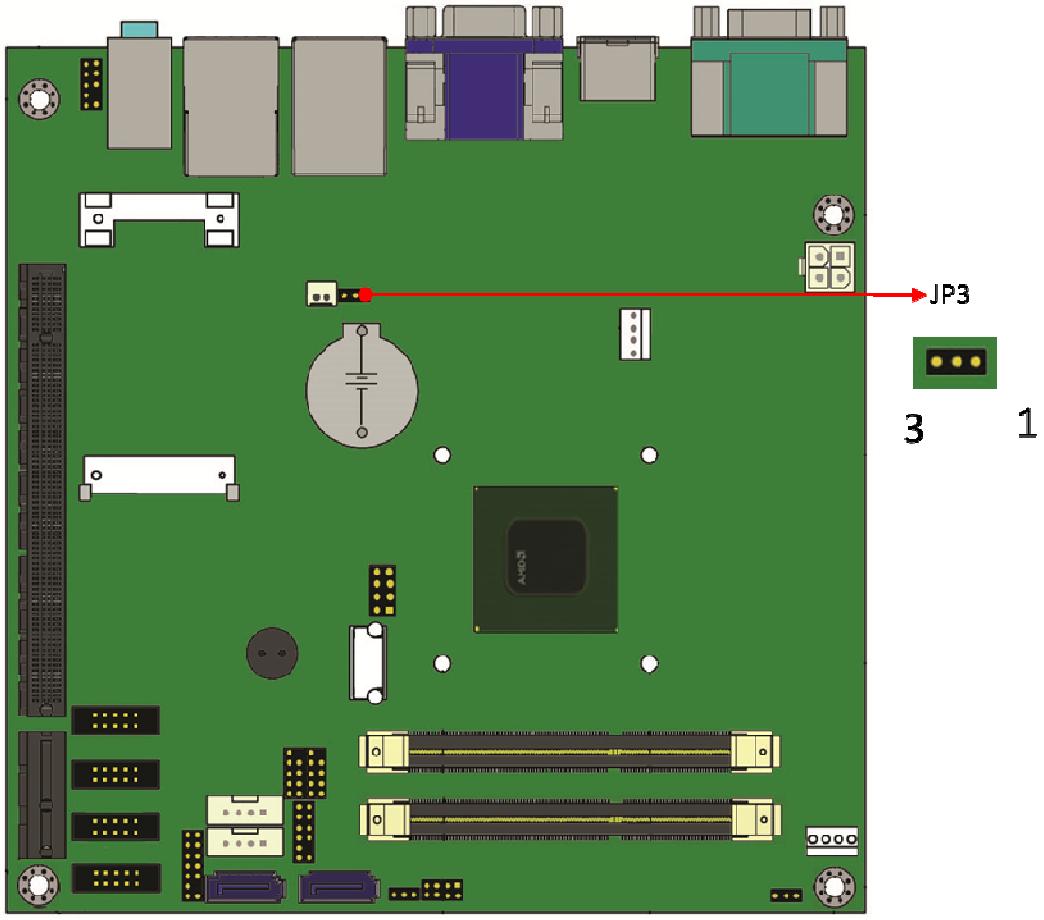


JP2

2.3.3 JP3: CLEAR CMOS

JP3	
Closed Pin	Result
1-2*	FOR NORMAL
2-3	FOR CLEAR CMOS

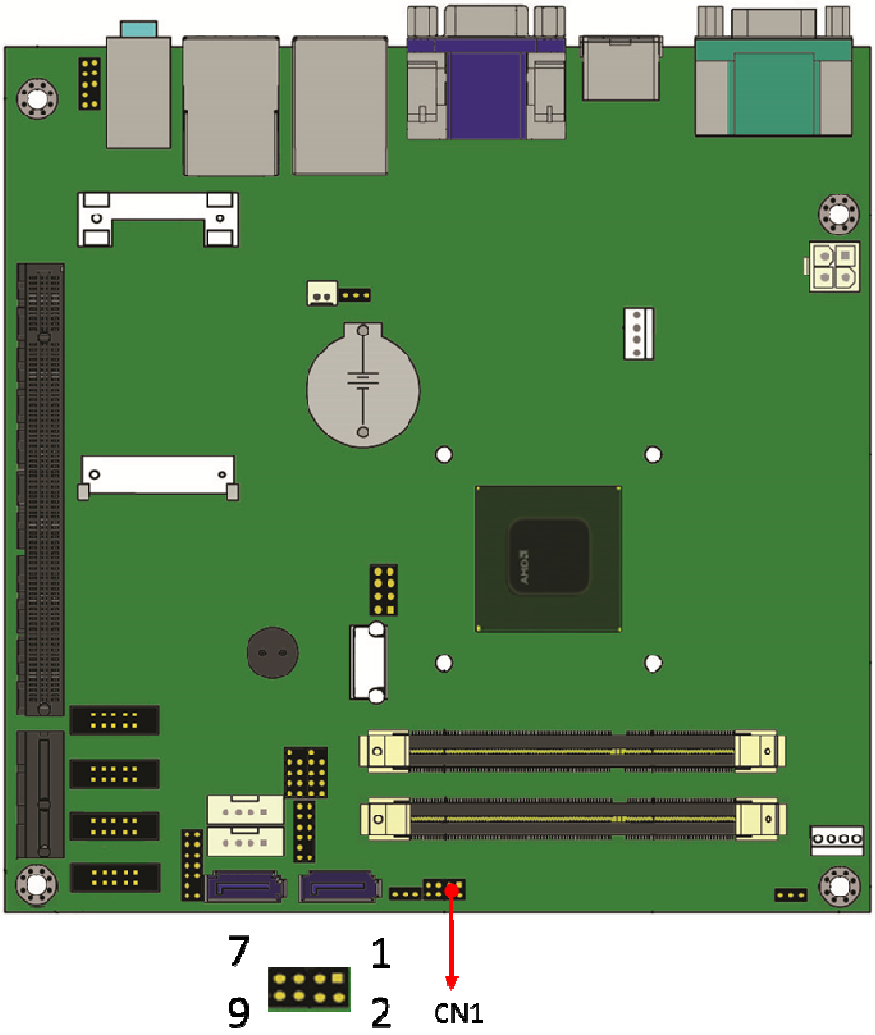
* Default setting



2.4 The function list of onboard connectors

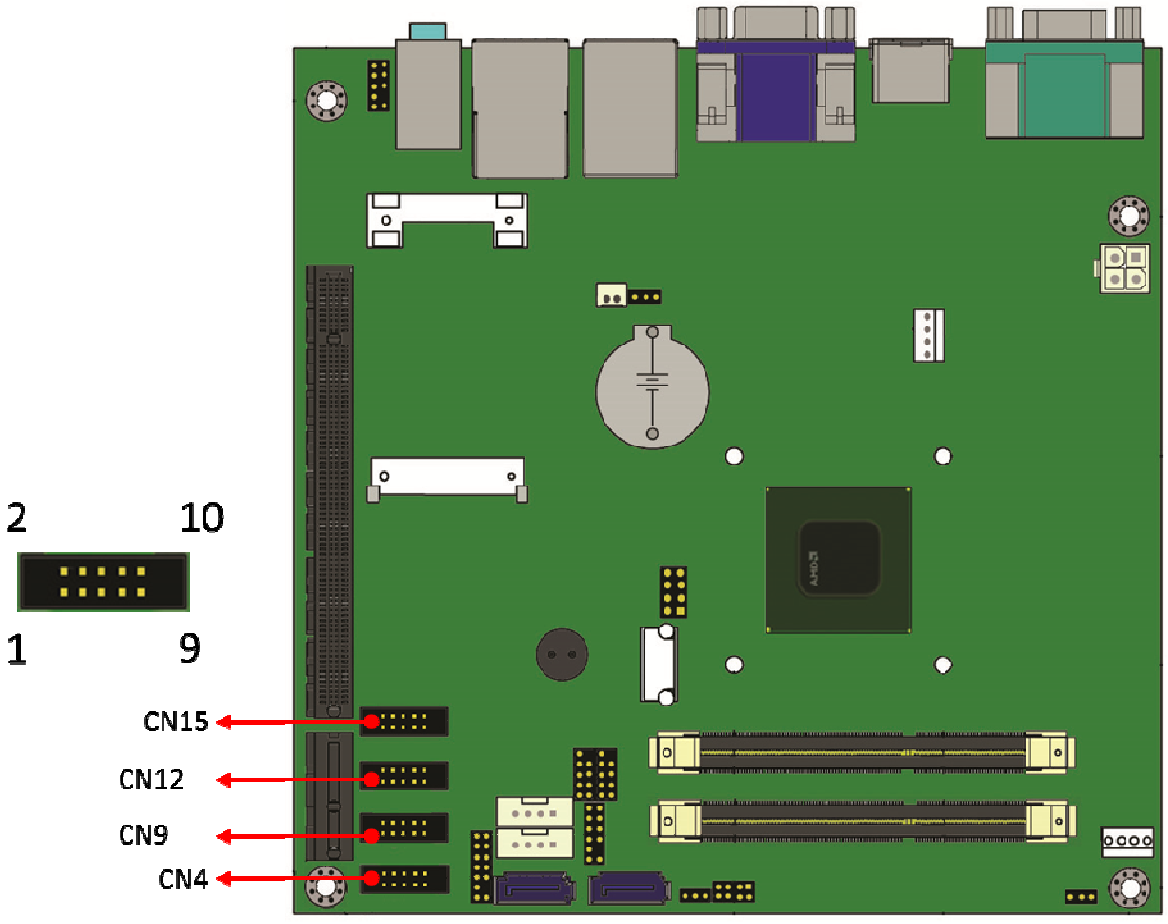
2.4.1: CN1 for front Panel pin header

2 x 4 header , pitch 2.00 mm			
Pin	**Signal**	**Pin**	**Signal**
1	Power_LED+	2	GND
3	HDD_LED+	4	HDD_LED-
5	GND	6	Power on/off
7	RESET	8	GND



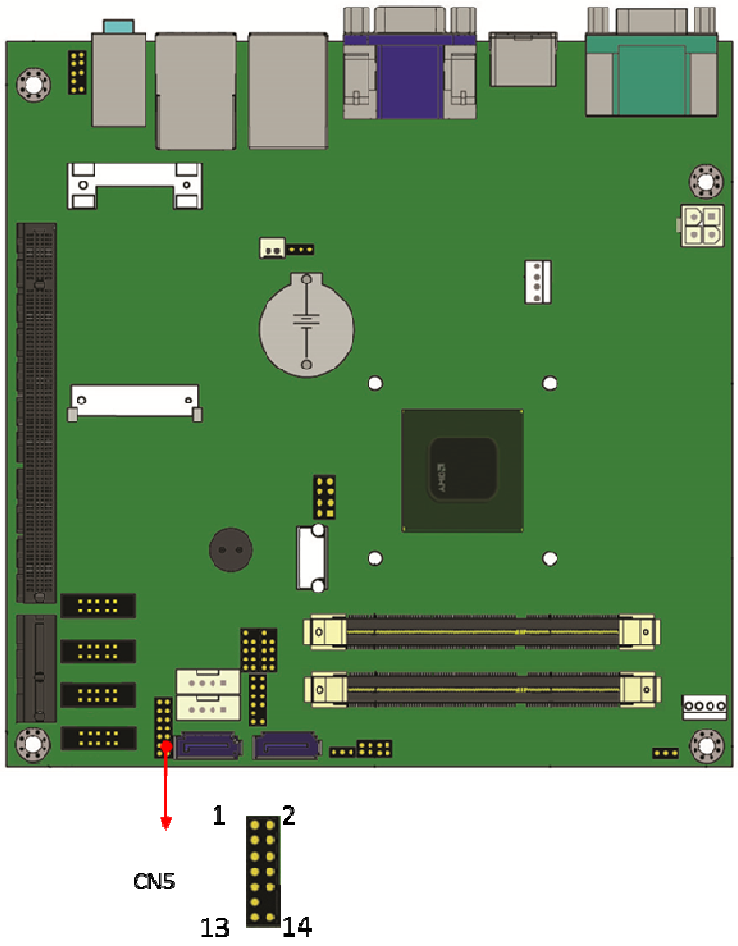
2.4.2: CN4, 9, 12, 15 for COM port pin header

2 x 4 header , pitch 2.00 mm			
Pin	**Signal**	**Pin**	**Signal**
1	DCD, Data carrier detect	2	DSR, Data set ready
3	RXD, Receive Data	4	RTS, Request to send
5	TXD, Send Data	6	CTS, Clear to se
7	DTR, Data Terminal Ready	8	RI, Ring indicator
9	GND	10	N/C



2.4.3: CN5 for Low Pin Count pin-header

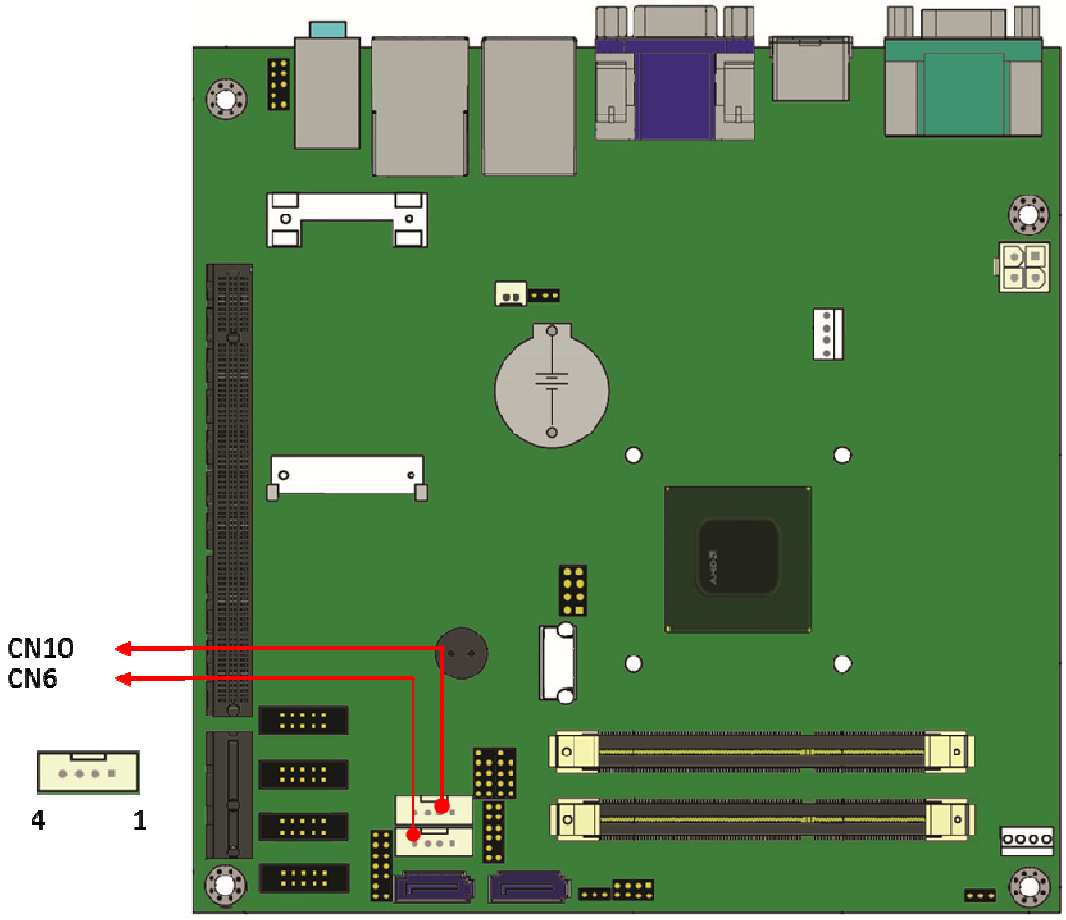
2 x 7 header , pitch 2.0 mm			
Pin	**Signal**	**Pin**	**Signal**
1	+3.3V	2	LAD0
3	LAD1	4	LAD2
5	LAD3	6	LFRAME
7	Reset	8	+5V
9	Clock	10	LPME
11	GND		Key
13	SERIRQ	14	LDRQ



2.4.4: CN6 & CN10 for 4-pin HDD power

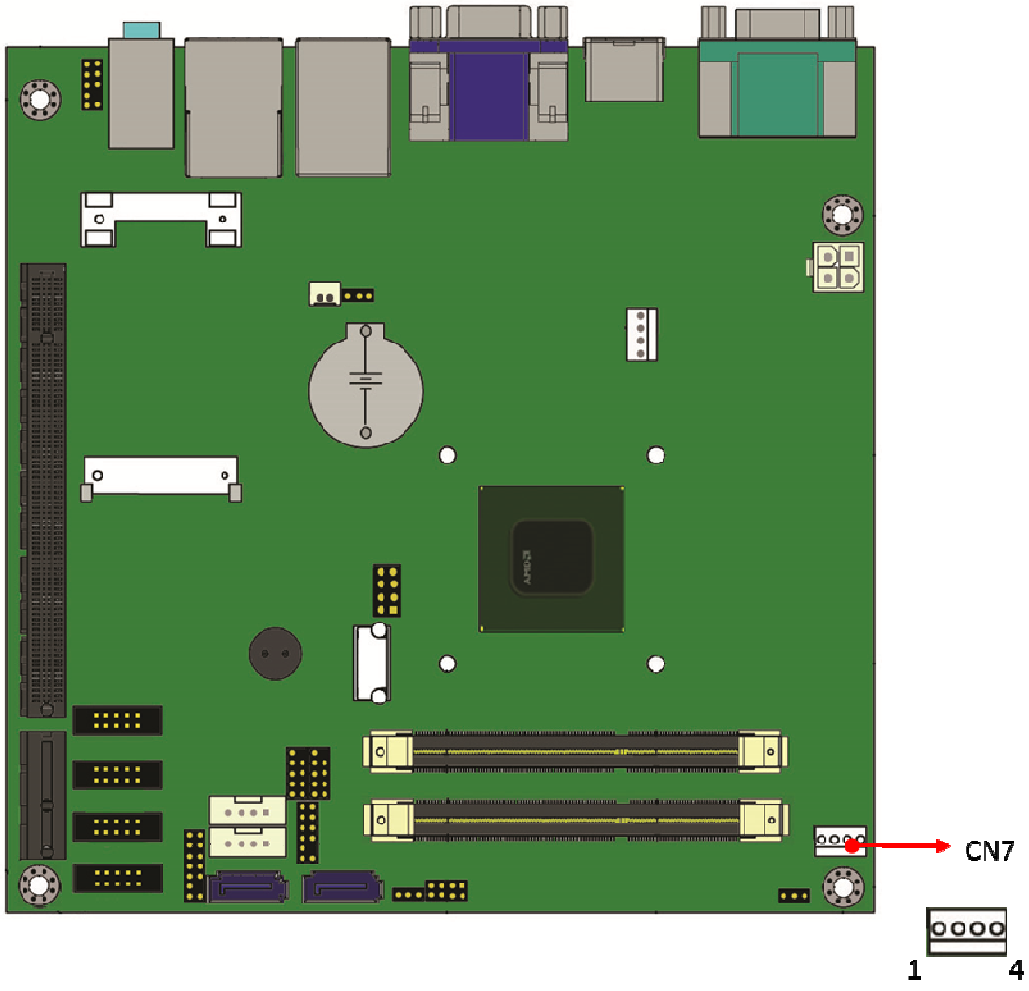
4-pin wafer for SATA power connector			
Pin	**Signal**	**Pin**	**Signal**
1	+12V	2	GND
3	GND	4	+5V

Note: Maximum output current 12V/1A, 5V/1A



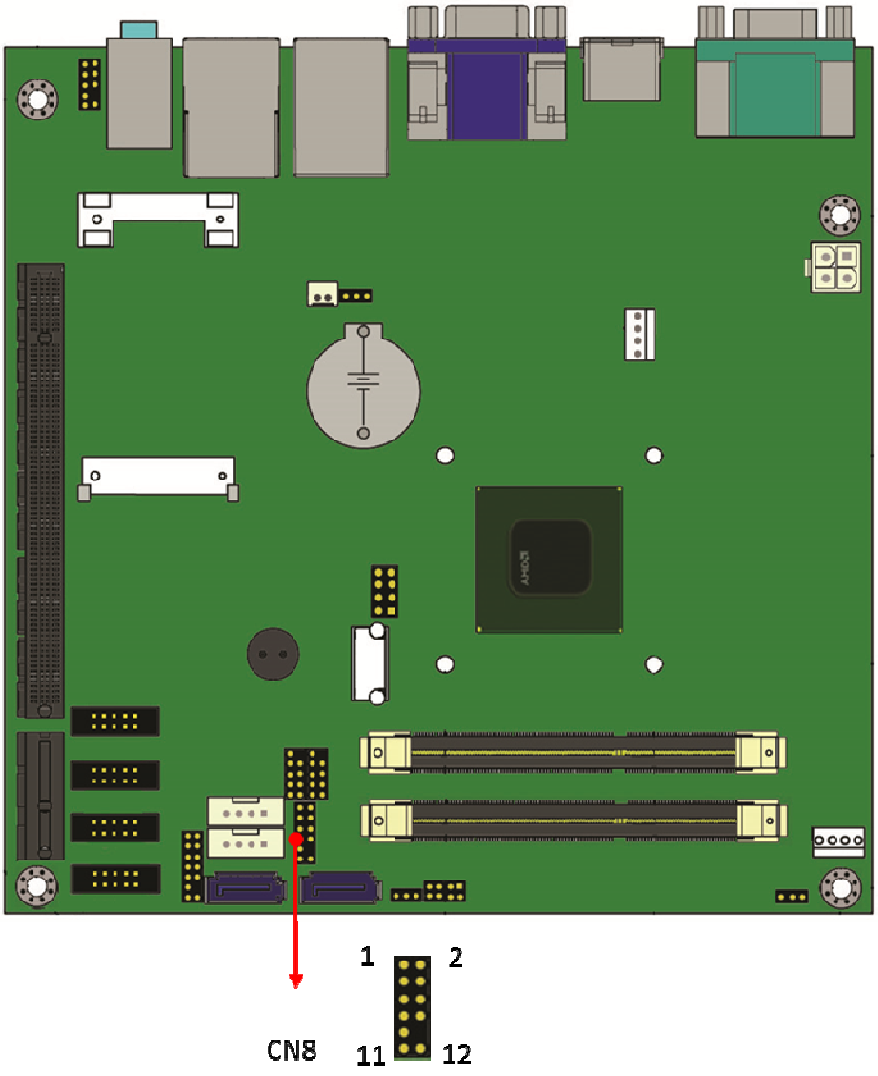
2.4.5: CN7 for System Fan connector

1 x 4 wafer			
Pin	**Signal**	**Pin**	**Signal**
1	GND	2	+12V
3	Sense	4	Control

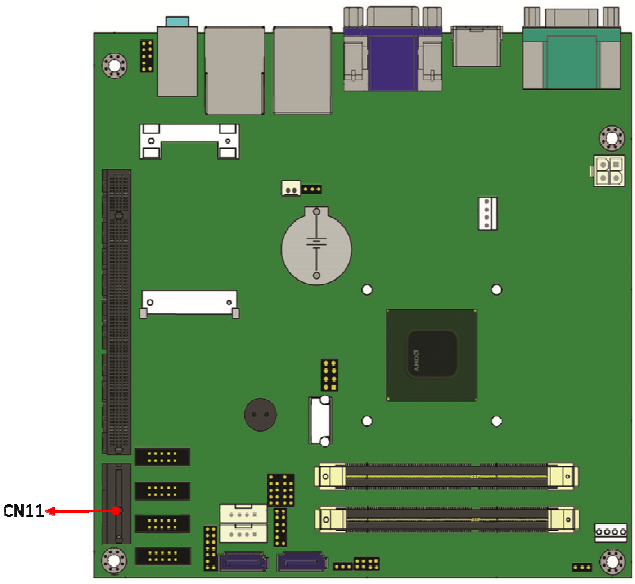


2.4.6: CN8 for 8-bit GPIO

2 x 6 header , pitch 2.0 mm			
Pin	**Signal**	**Pin**	**Signal**
1	+3.3V	2	GPI0
3	GPI1	4	GPI2
5	GPI3	6	GPO0
7	GPO1	8	GPO2
9	GPO3	10	Key
11	+5V	12	GND



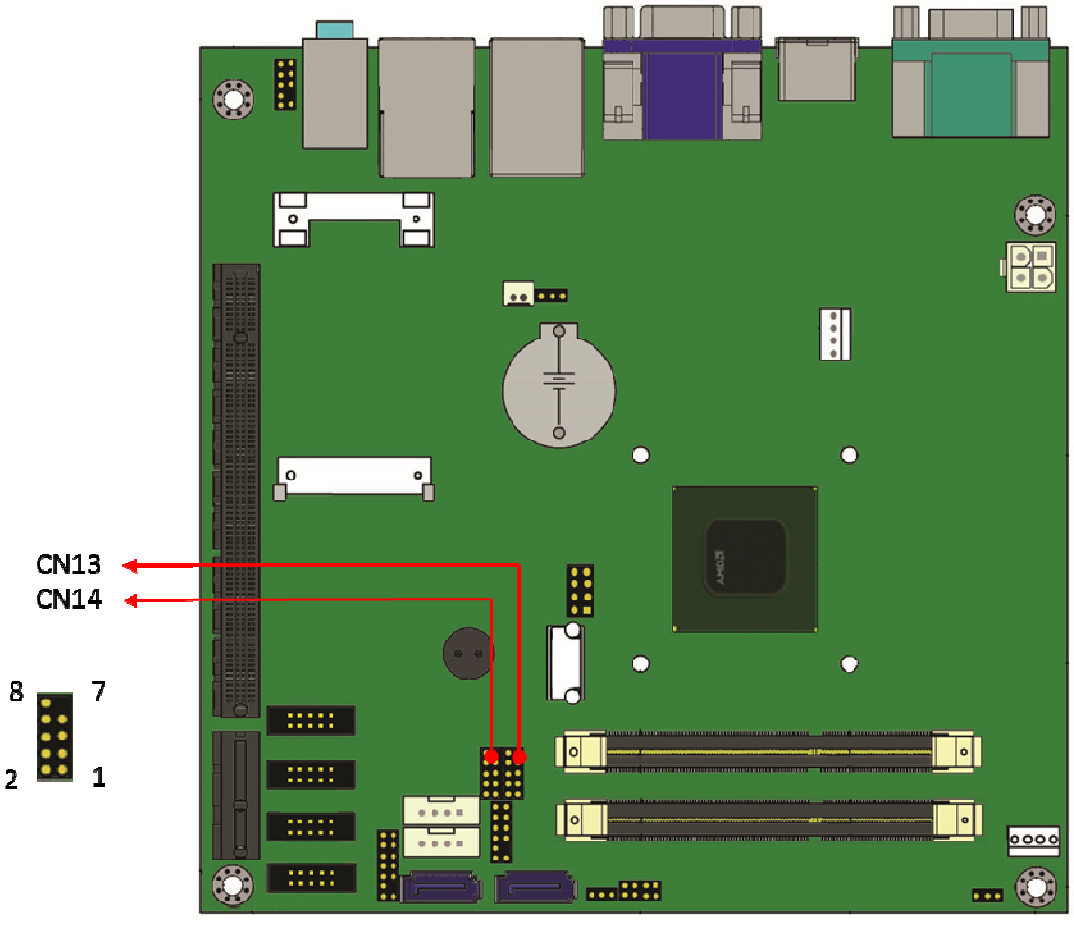
2.4.7: CN11 for PCI-Express X1 slot



Pin	Side B	Side A
1	+12V	PRSNT1
2	+12V	+12V
3	+12V	+12V
4	GND	GND
5	SMCLK	TCK
6	SMDAT	TDI
7	GND	TOD
8	+3.3V	TMS
9	RST	+3.3V
10	+3.3V AUX	+3.3V
11	WAKE	PWRGD
Key Notch		
12	Reserved	GND
13	GND	REFCLK+
14	HSOp	REFCLK-
15	HSOn	GND
16	GND	HSIp
17	PRSNT2	HSIn
18	GND	GND

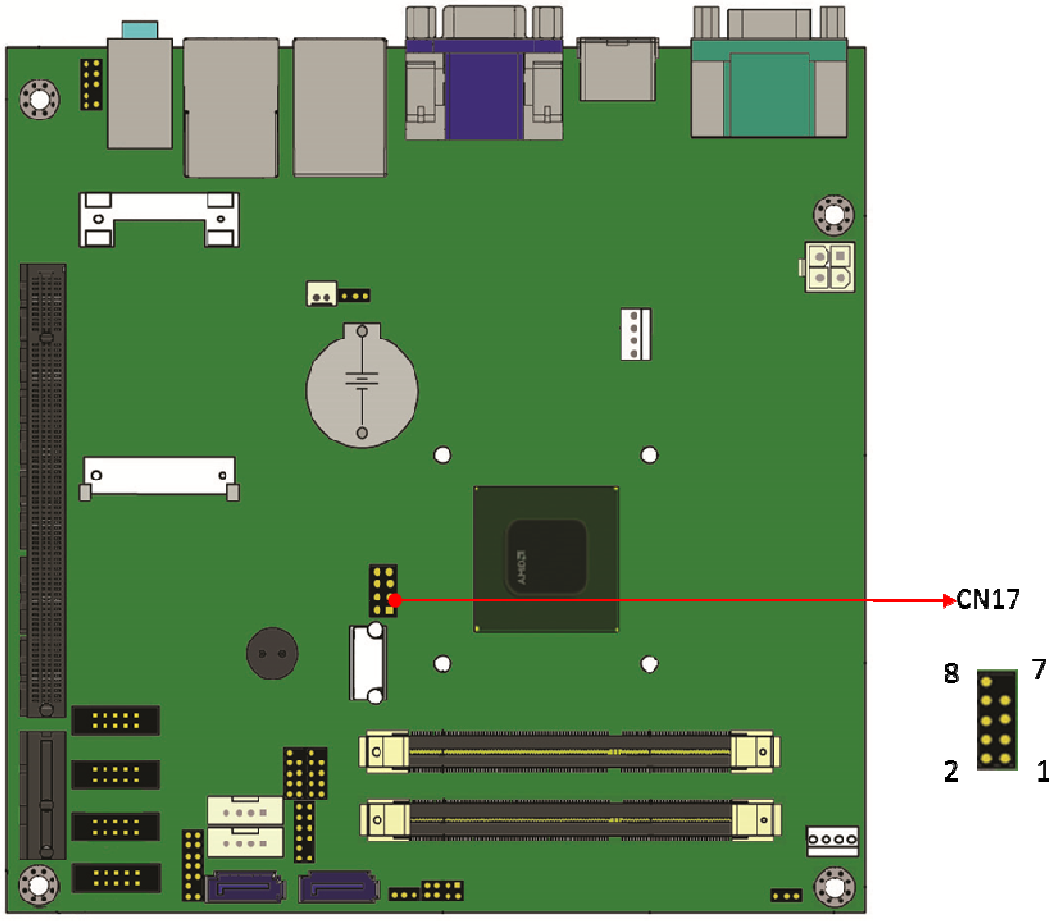
2.4.8: CN13 & CN14 for USB

2 x 5 header , pitch 2.54 mm			
Pin	**Signal**	**Pin**	**Signal**
1	+5V	2	+5V
3	USB_ data-	4	USB_data-
5	USB_ data+	6	USB_data+
7	GND	8	GND
9	Key	10	GND



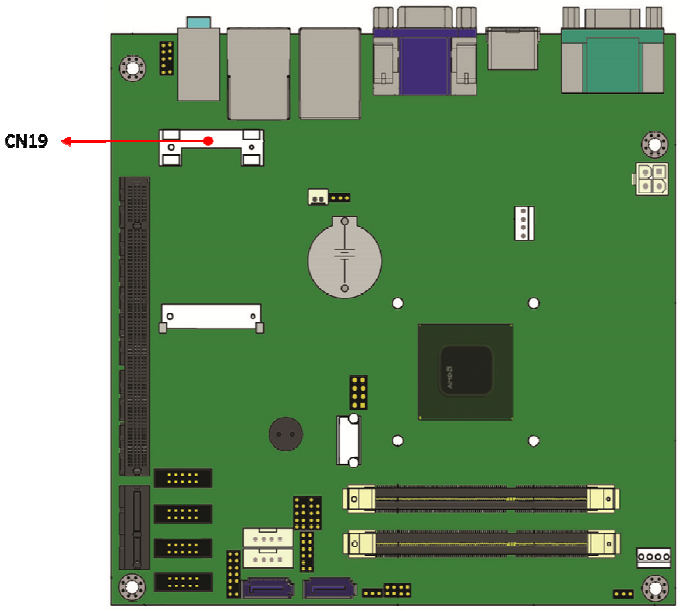
2.4.9: CN17 for SPI pin header

2 x 4 header , pitch 2.54 mm			
Pin	**Signal**	**Pin**	**Signal**
1	+3.3V	2	GND
3	SPI_CS	4	SPI_CLK
5	SPI_DATAIN	6	SPI_DATAOUT
7	N/C	8	N/C



2.4.10: CN19 for Full-size Mini-PCIe socket

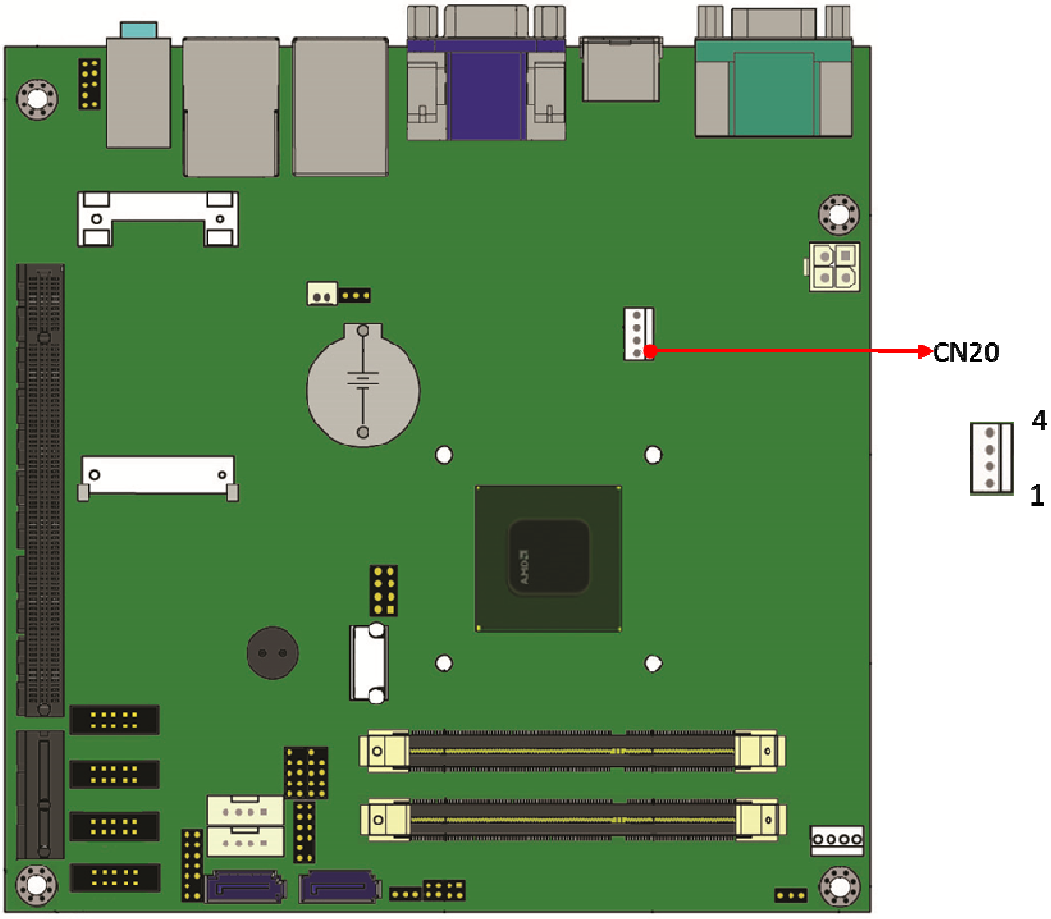
Note: Fill-size Mini-PCIe card could support PCIe and USB signal.



Pin	Signal	Pin	Signal
1	WAKE	27	GND
2	+3.3V AUX	28	+1.5V
3	N/C	29	GND
4	GND	30	SMBCLK
5	N/C	31	PETN0
6	+1.5V	32	SMBDATA
7	CLKREQ	33	PETP0
8	UIM_PWR	34	GND
9	GND	35	GND
10	UIM_DATA	36	USB_D-
11	REFCLK-	37	GND
12	UIM_CLK	38	USB_D+
13	REFCLK+	39	+3.3V AUX
14	UIM_RESET	40	GND
15	GND	41	+3.3V AUX
16	UIM_VPP	42	LED_WWAN
17	UIM_C8	43	GND
18	GND	44	LED_WLAN
19	UIM_C4	45	N/C
20	W_Disable	46	N/C
21	GND	47	N/C
22	PERST	48	+1.5V
23	PERN0	49	N/C
24	+3.3V AUX	50	GND
25	PERP0	51	N/C
26	GND	52	+3.3V AUX

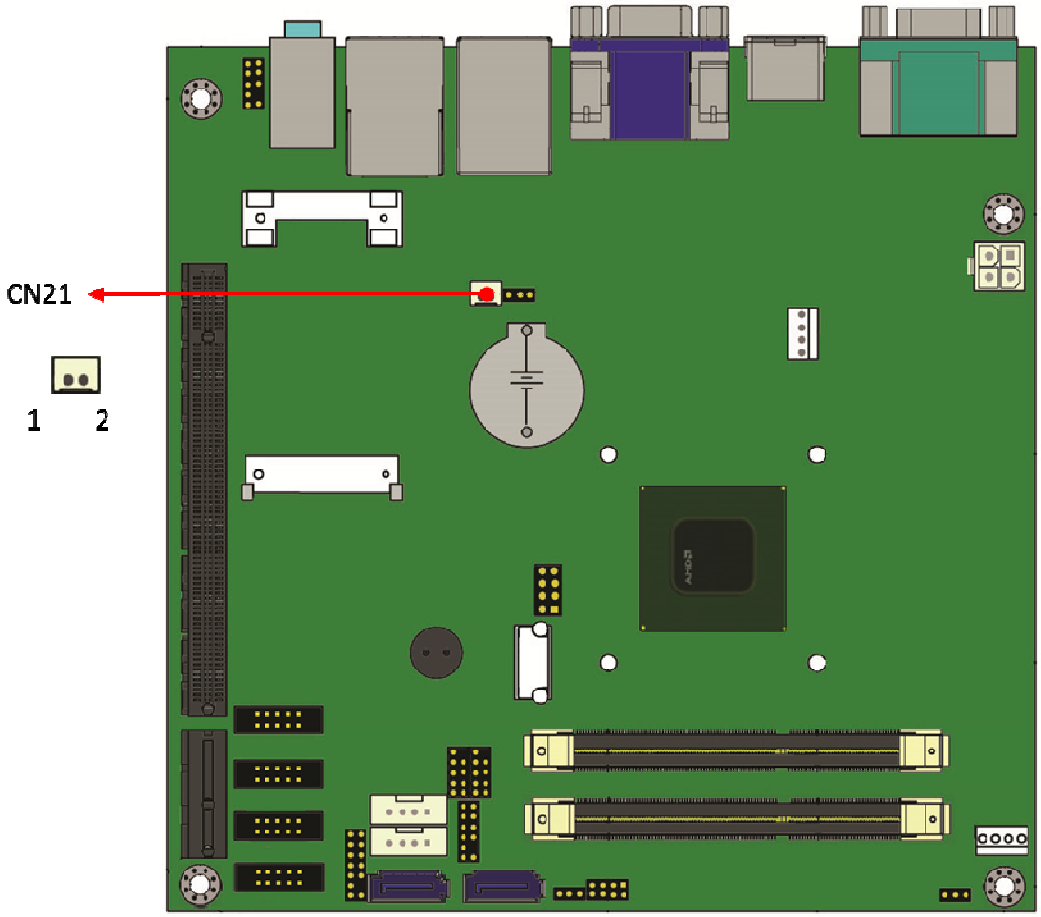
2.4.11: CN20 for CPU Fan connector

1 x 4 wafer			
Pin	**Signal**	**Pin**	**Signal**
1	GND	2	+12V
3	Sense	4	Control



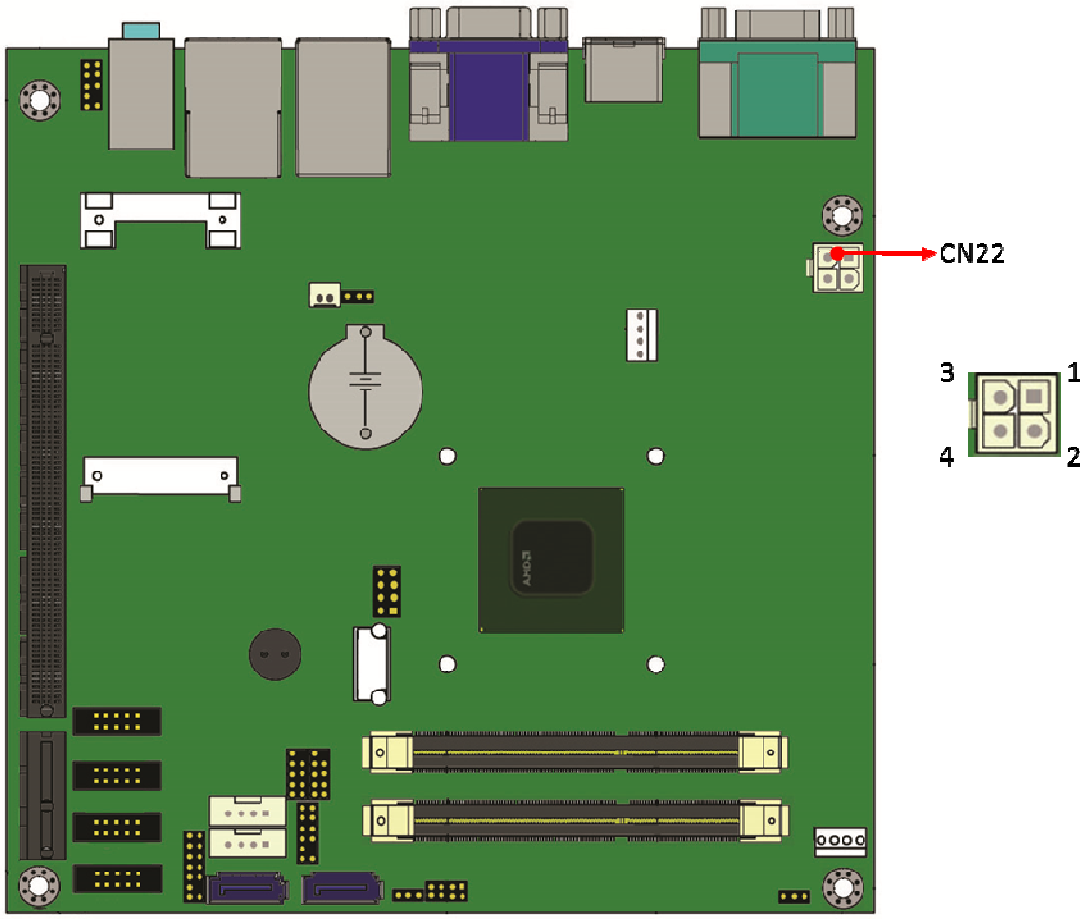
2.4.12: CN21 for WLAN LED

1 x 2 wafer			
Pin	**Signal**	**Pin**	**Signal**
1	LED-	2	+3.3V



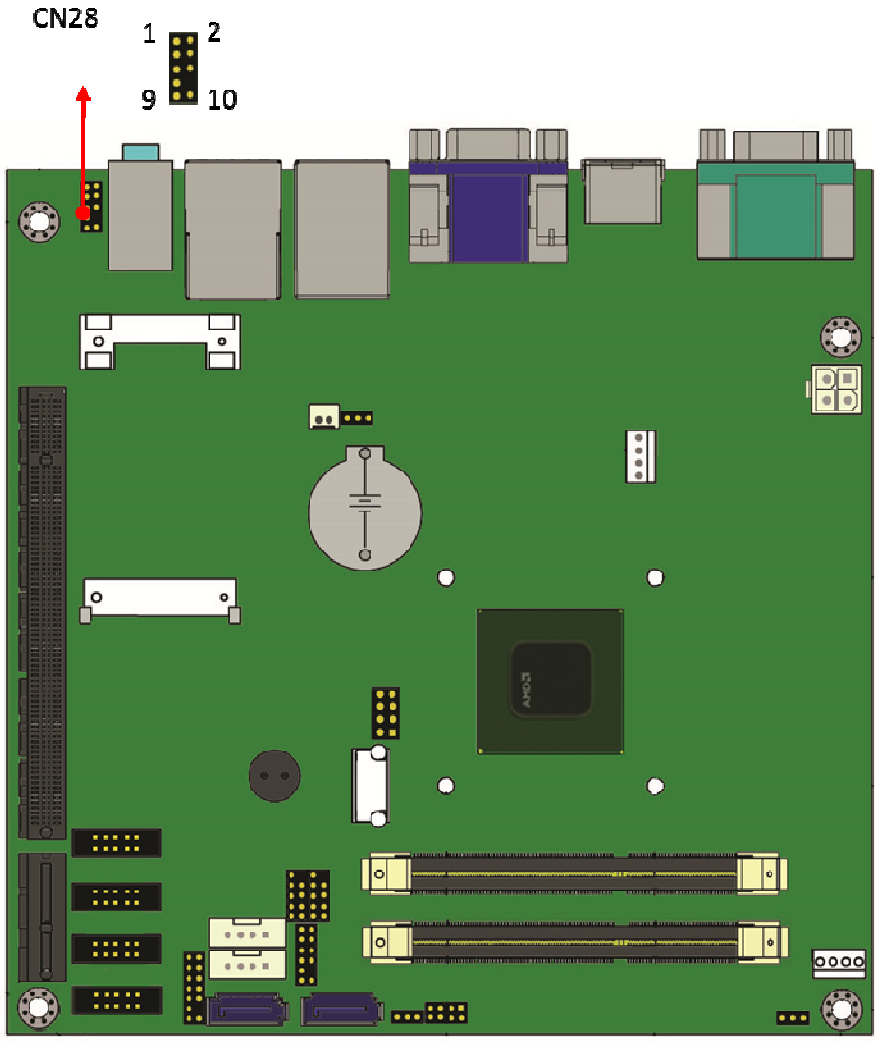
2.4.13: CN22 for 4-pin 12V power input

ATX 2 x 2			
Pin	**Signal**	**Pin**	**Signal**
1	GND	2	GND
3	12V	4	12V



2.4.14: CN28 for Audio pin header

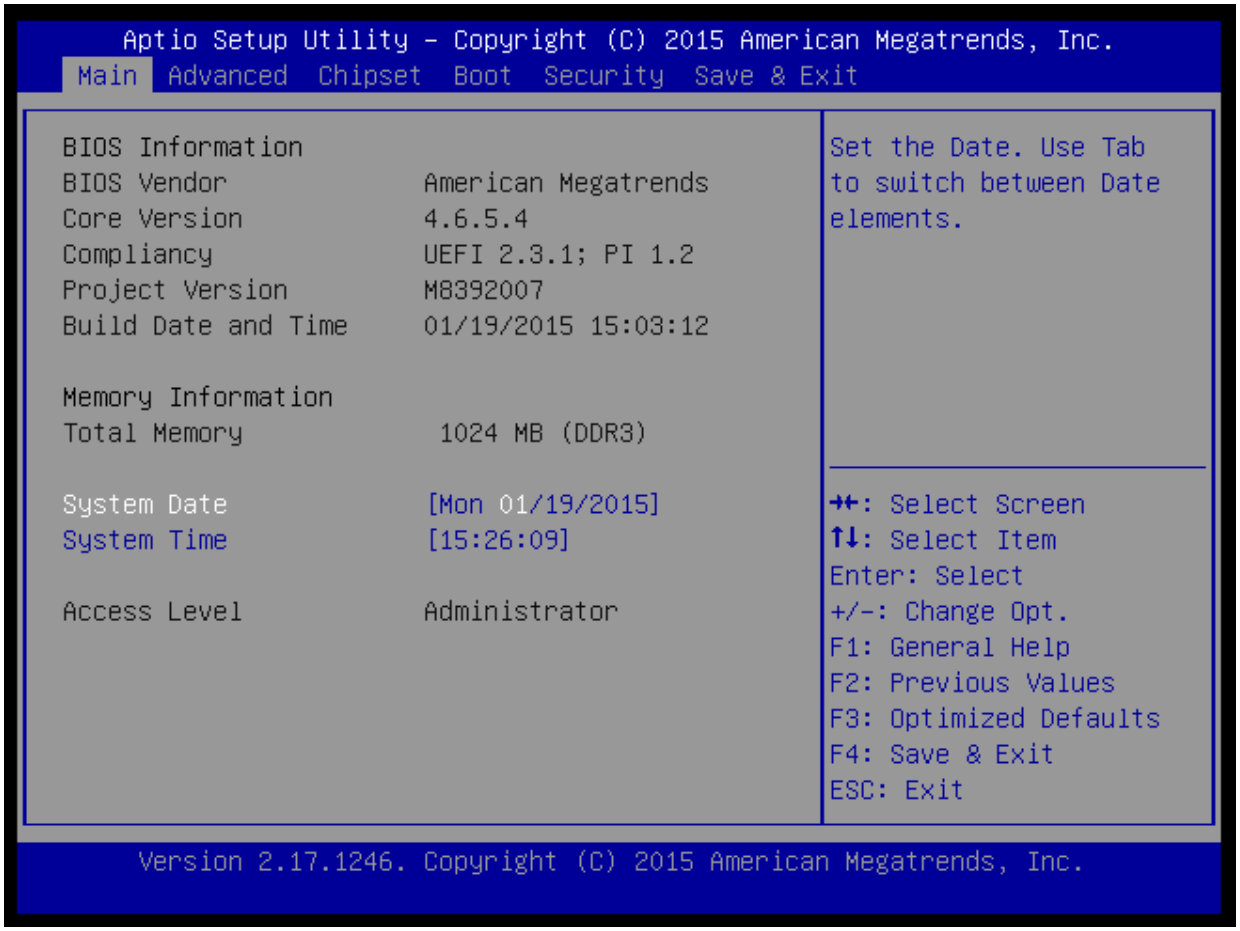
2 x 5 header , Pitch 2.0mm			
Pin	**Signal**	**Pin**	**Signal**
1	MIC2-L	2	LINE1-R
3	MIC2-R	4	GND
5	LINE2-R	6	MIC2_JD
7	GND	8	GND
9	LINE2-L	10	LINE2_JD



3. BIOS Menu Setting

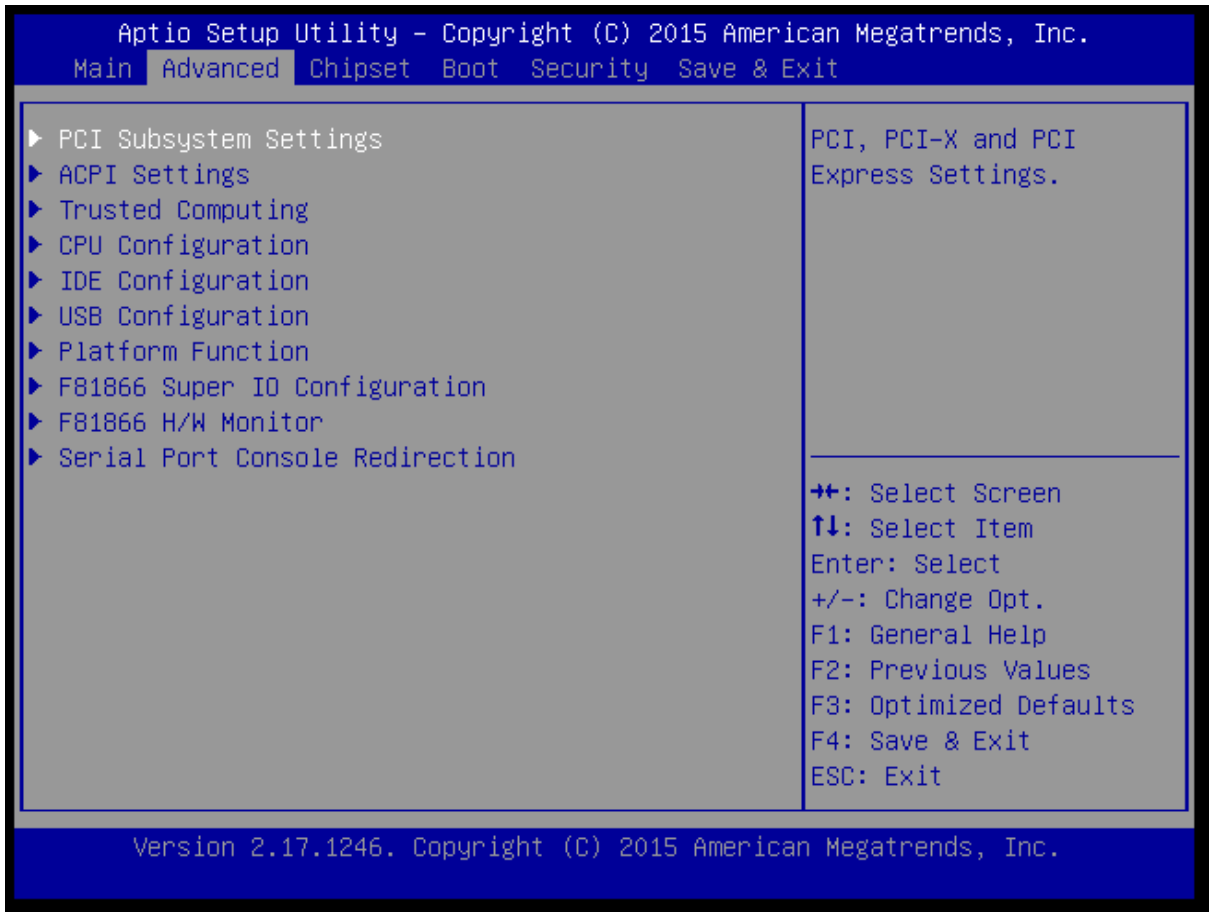
3.1 Main Menu

The Main Menu of BIOS Setup Utility provide a quick overview of basic system information and the ability to change the system Date, time, etc.



3.2 Advanced Menu

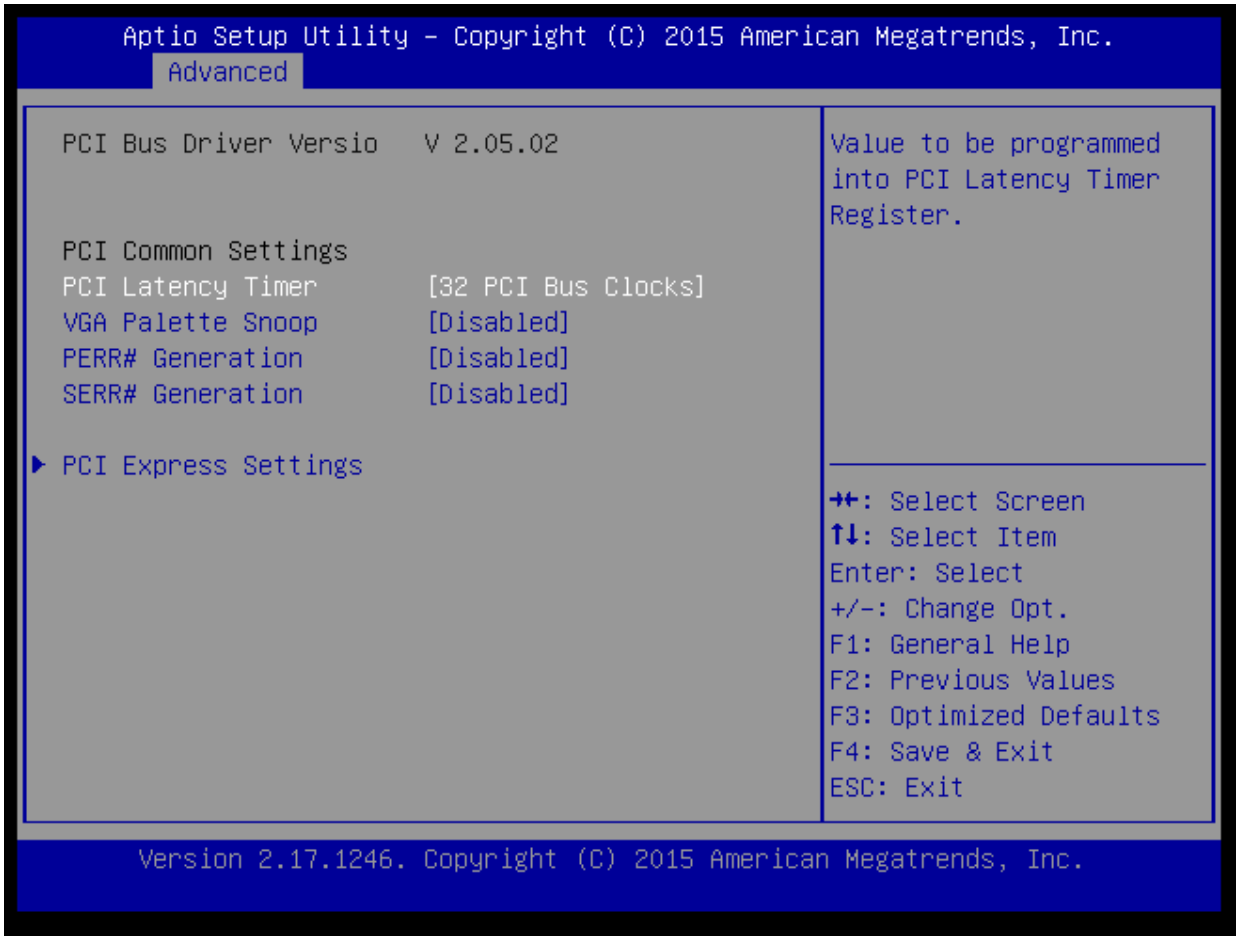
The Advanced Menu of BIOS Setup Utility allows users to configure advanced system settings.



3.2.1 PCI Subsystem Settings

PCI Subsystem Settings:

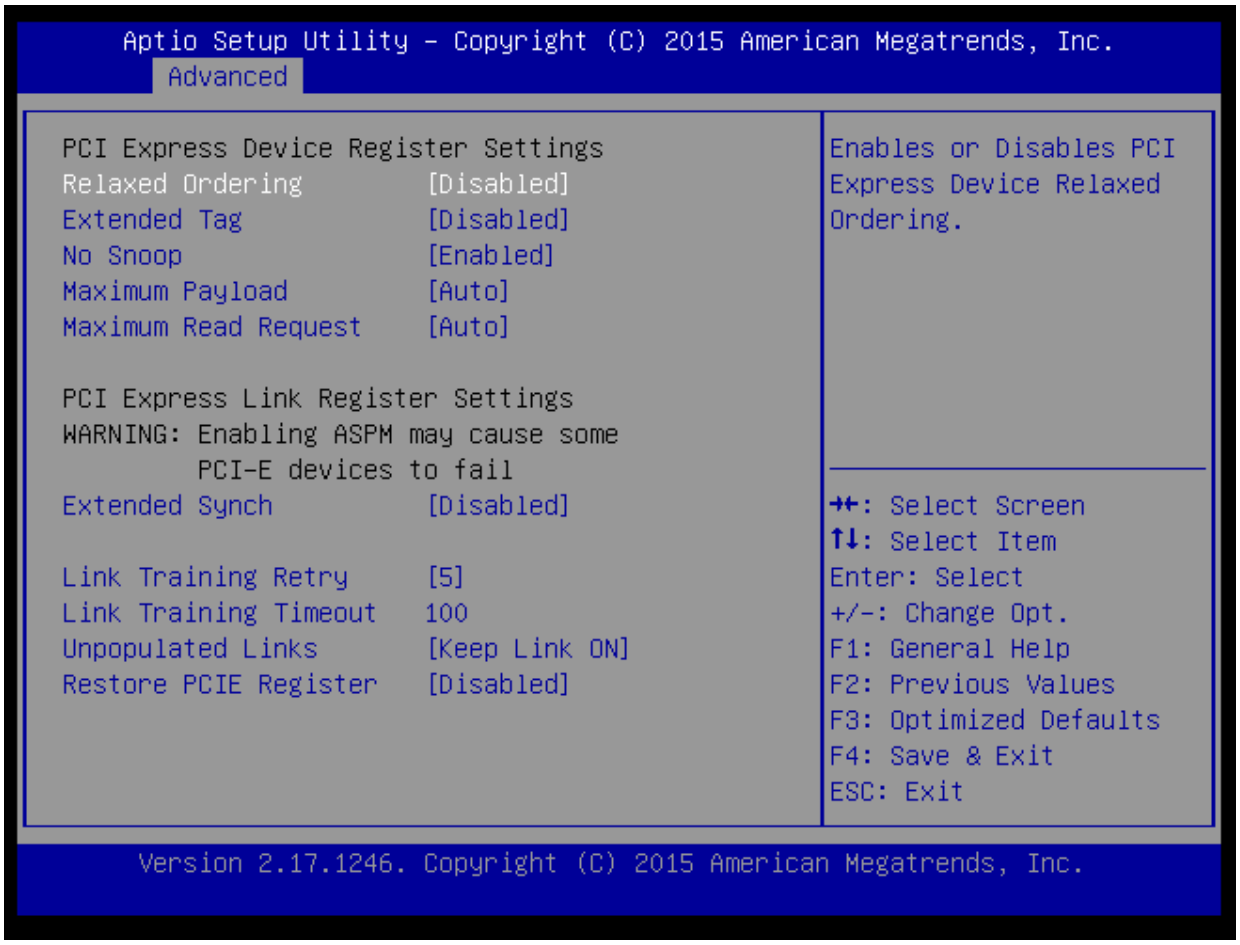
Description: Use this PCI sub-menu to configure relevant PCI settings



3.2.1.1 PCI Express Settings

PCI Express Settings

Description : This menu allow user to configure the PCI Express relevant parameter.

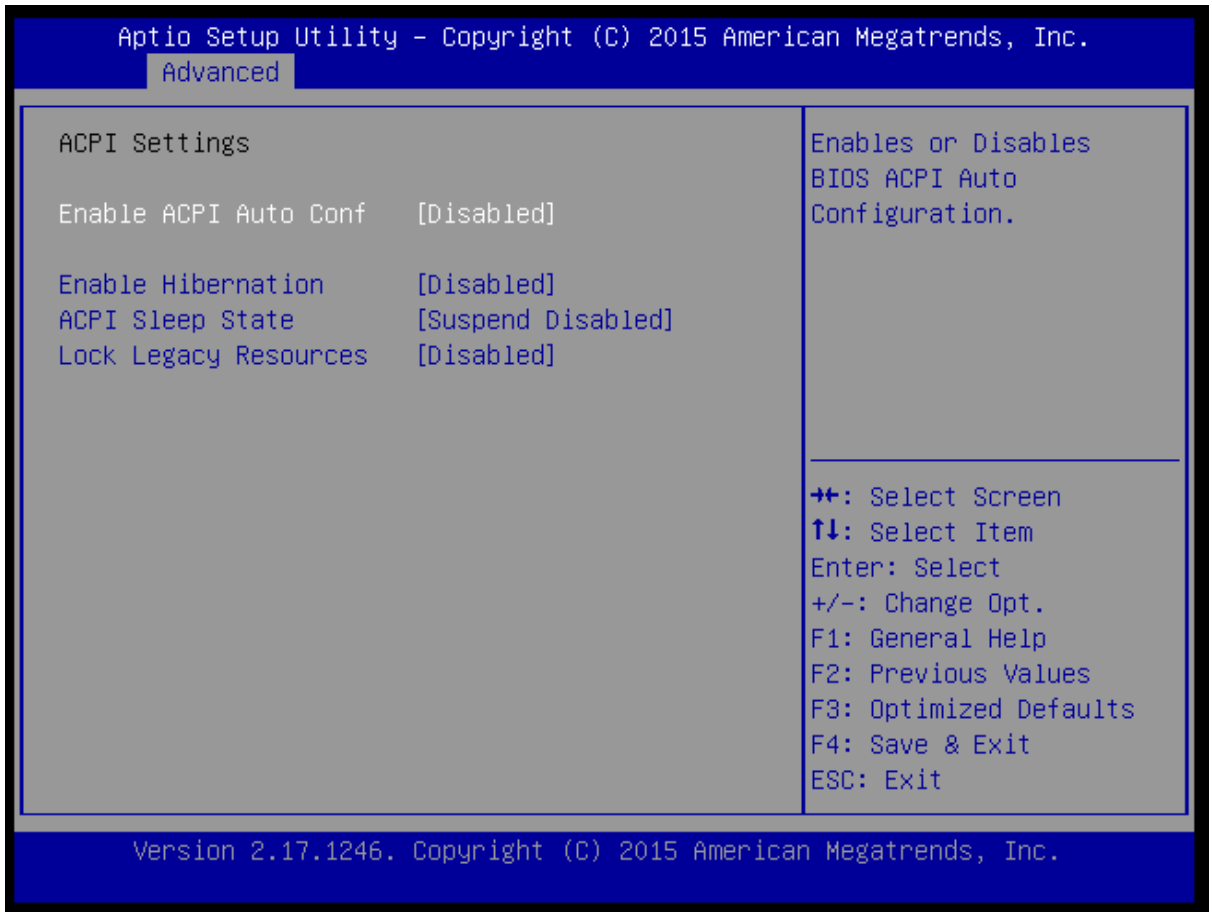


3.2.2 ACPI Settings

ACPI Setting:

Enable ACPI Auto Configuration < Enable >

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

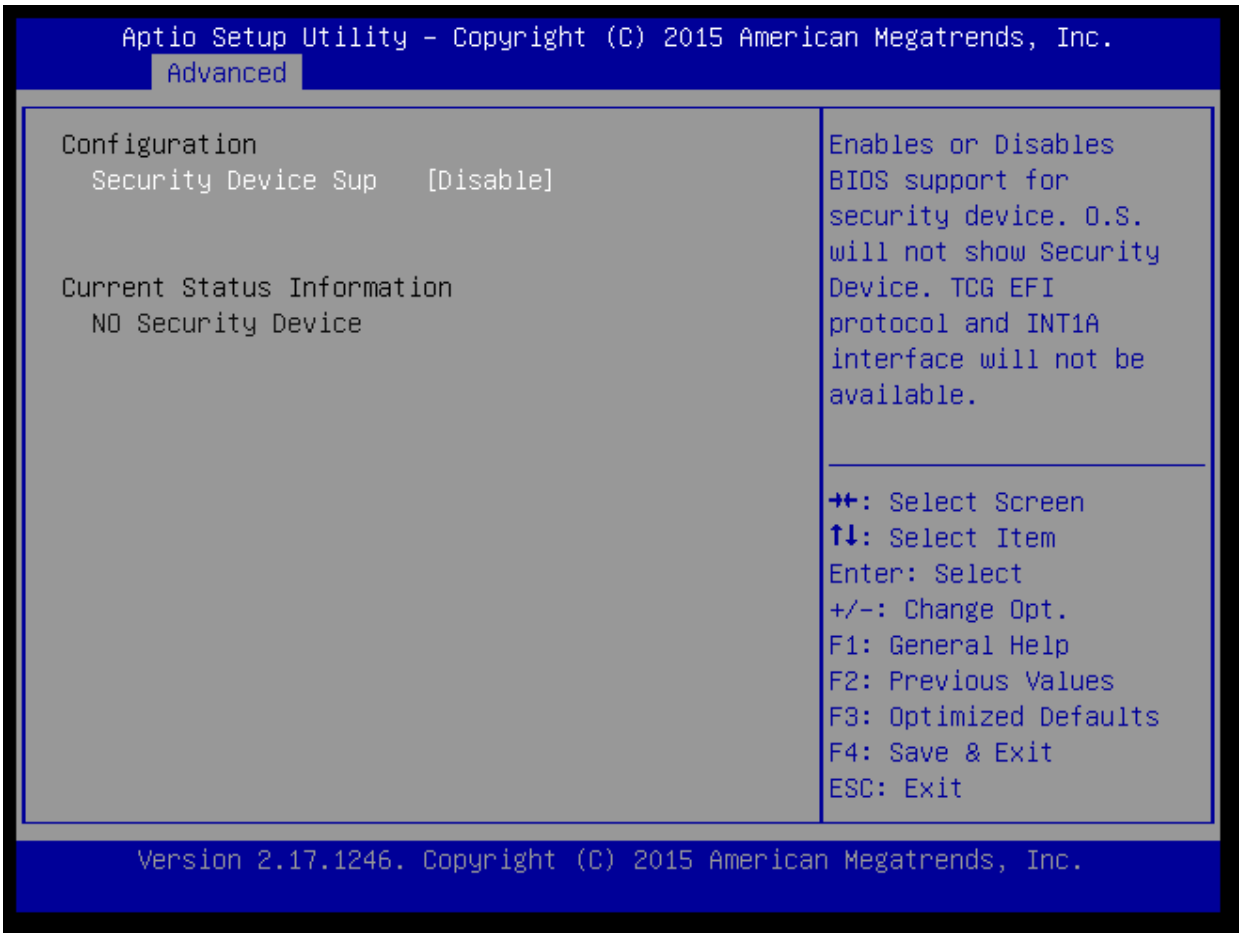


3.2.3 Trsuted Computing

Trsuted Computing:

TPM State *< Enable >*

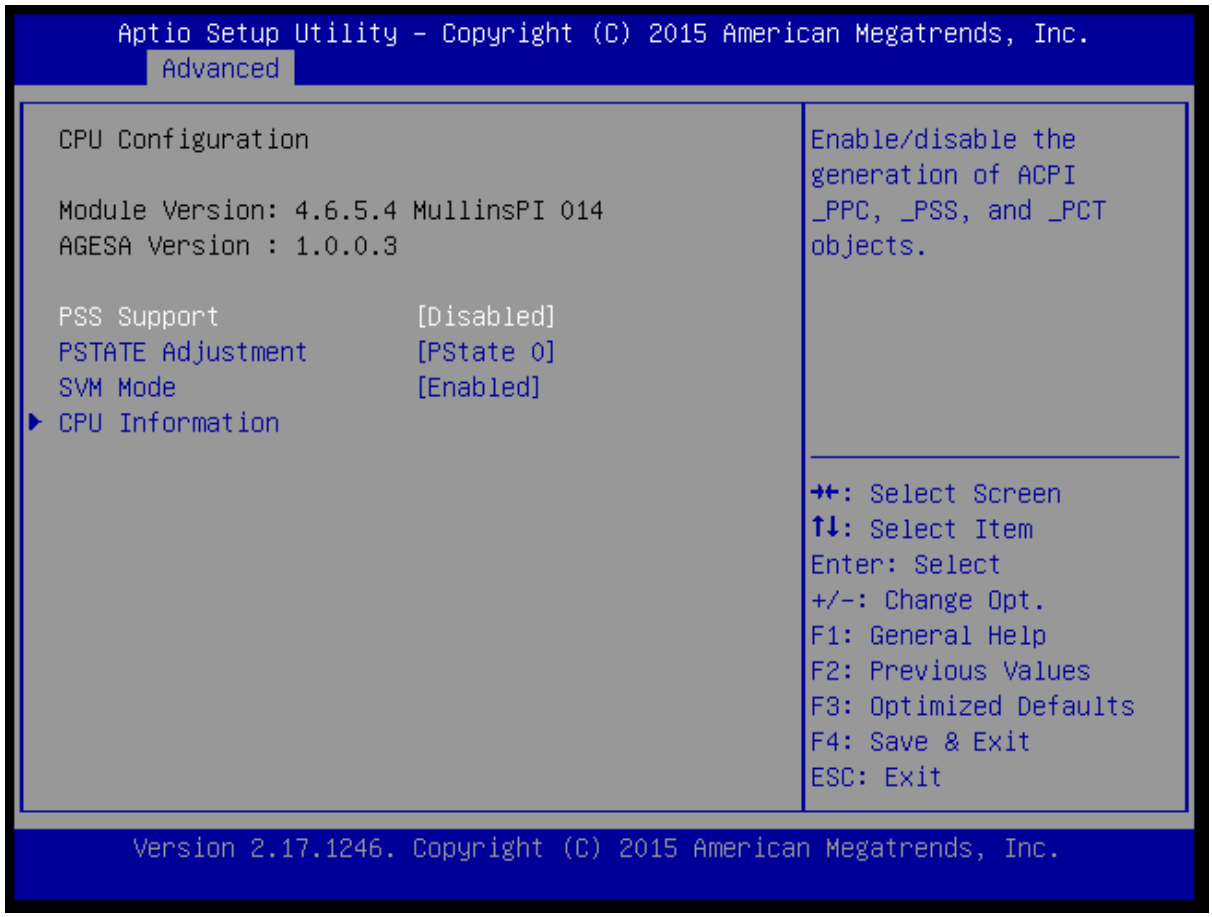
Description: Select Enabled to activate support for trusted platforms (TPM 1.1/1.2) and allow the BIOS to automatically download the drivers needed to provide support for the platforms specified. The options are Disable and Enable. >



3.2.4 CPU Configuration

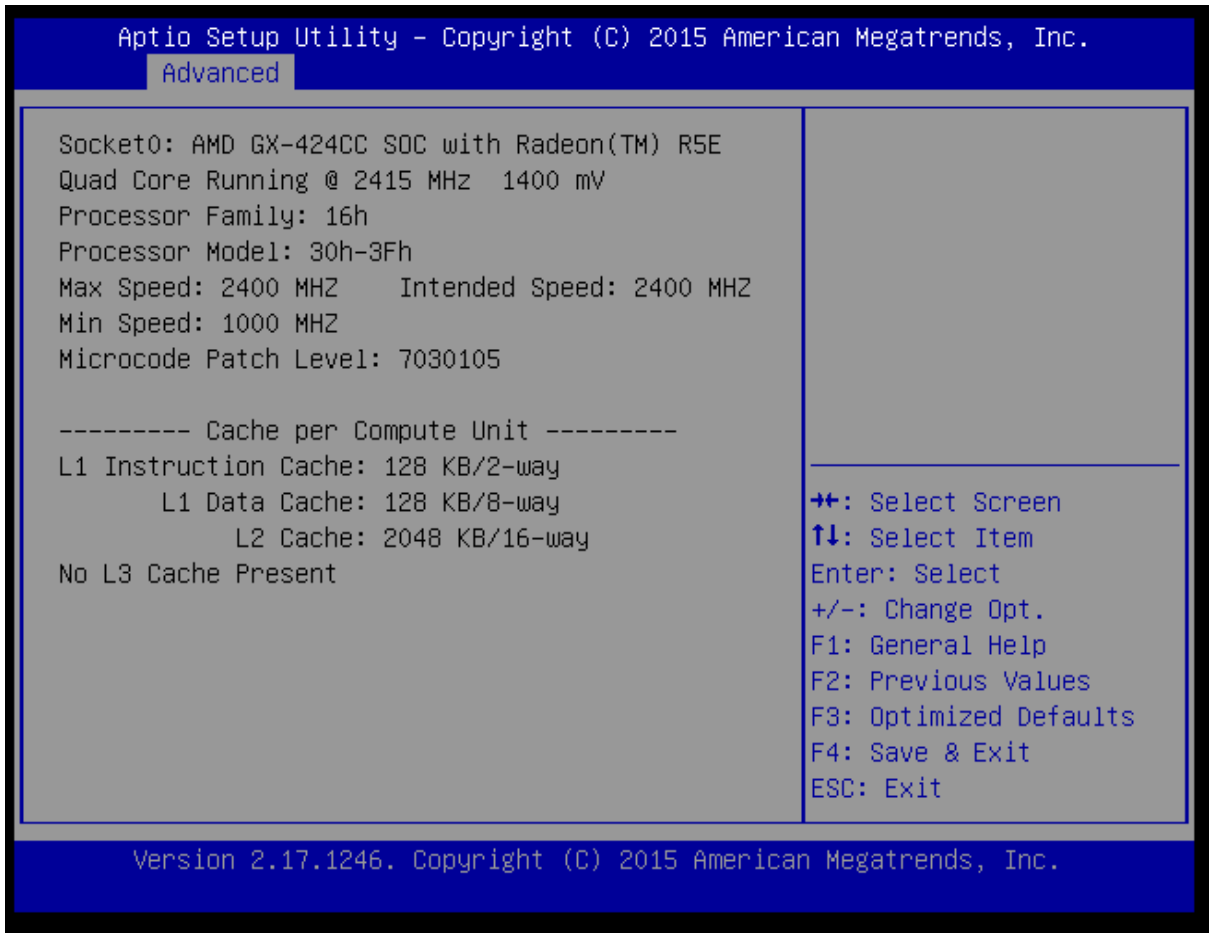
CPU Configuration

Description: This menu allow user to configure CPU with different operation mode and state.



3.2.4.1 CPU Information

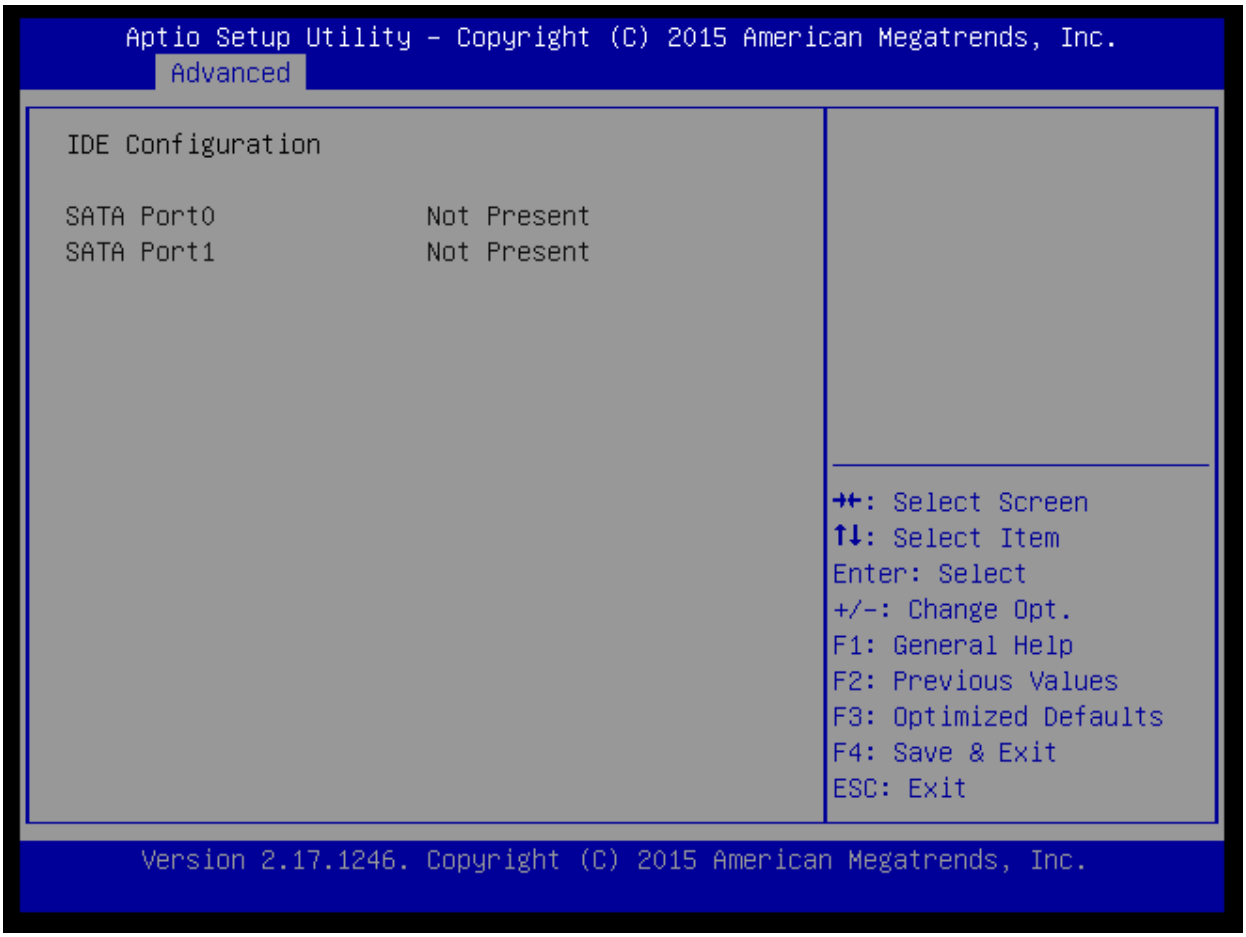
CPU Information Description: CPU processor information can be found here



3.2.5 IDE Configuration

IDE Configuration:

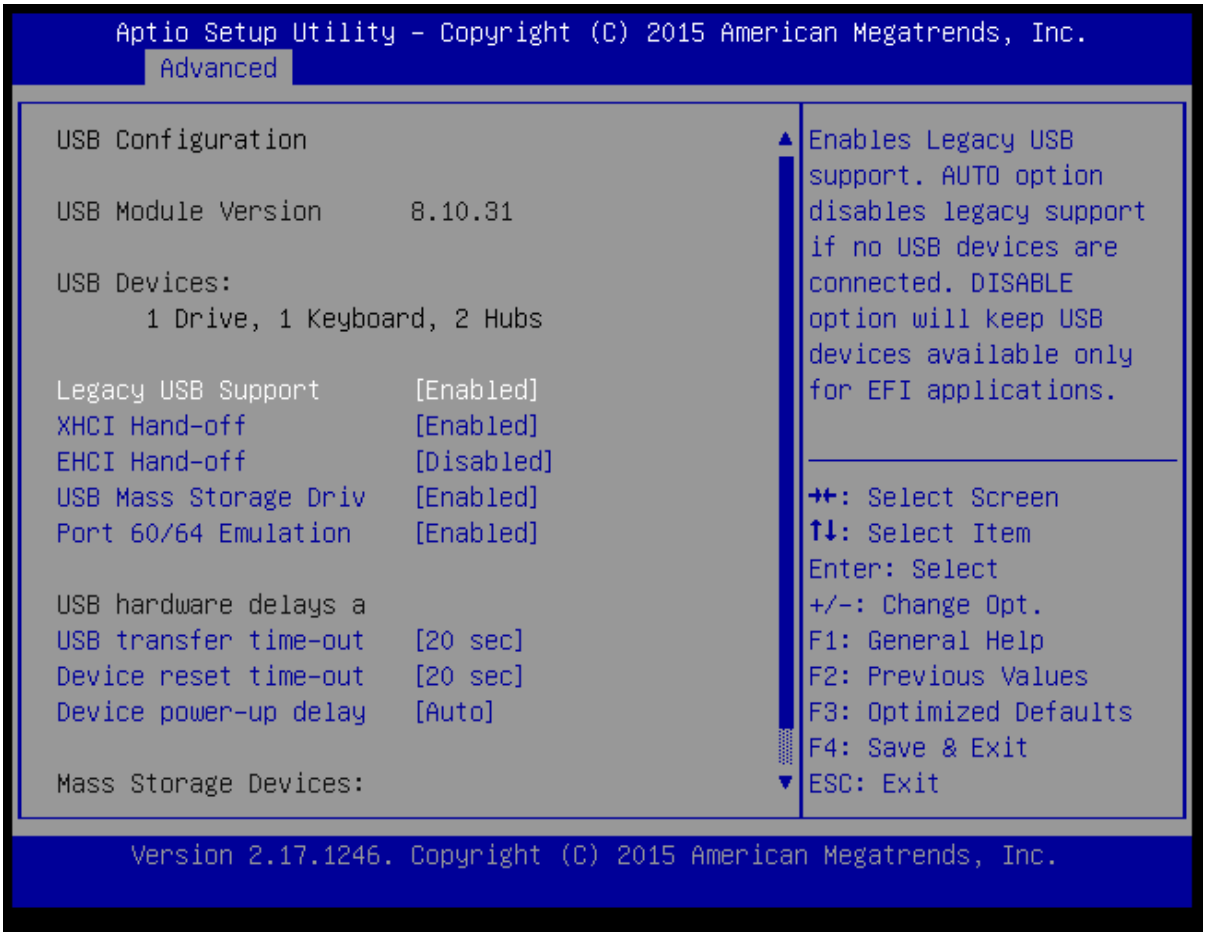
Description: When this submenu is selected, the AMI BIOS automatically detects the presence of the IDE Devices and displays the following items:



3.2.6 USB Configuration

USB Configuration:

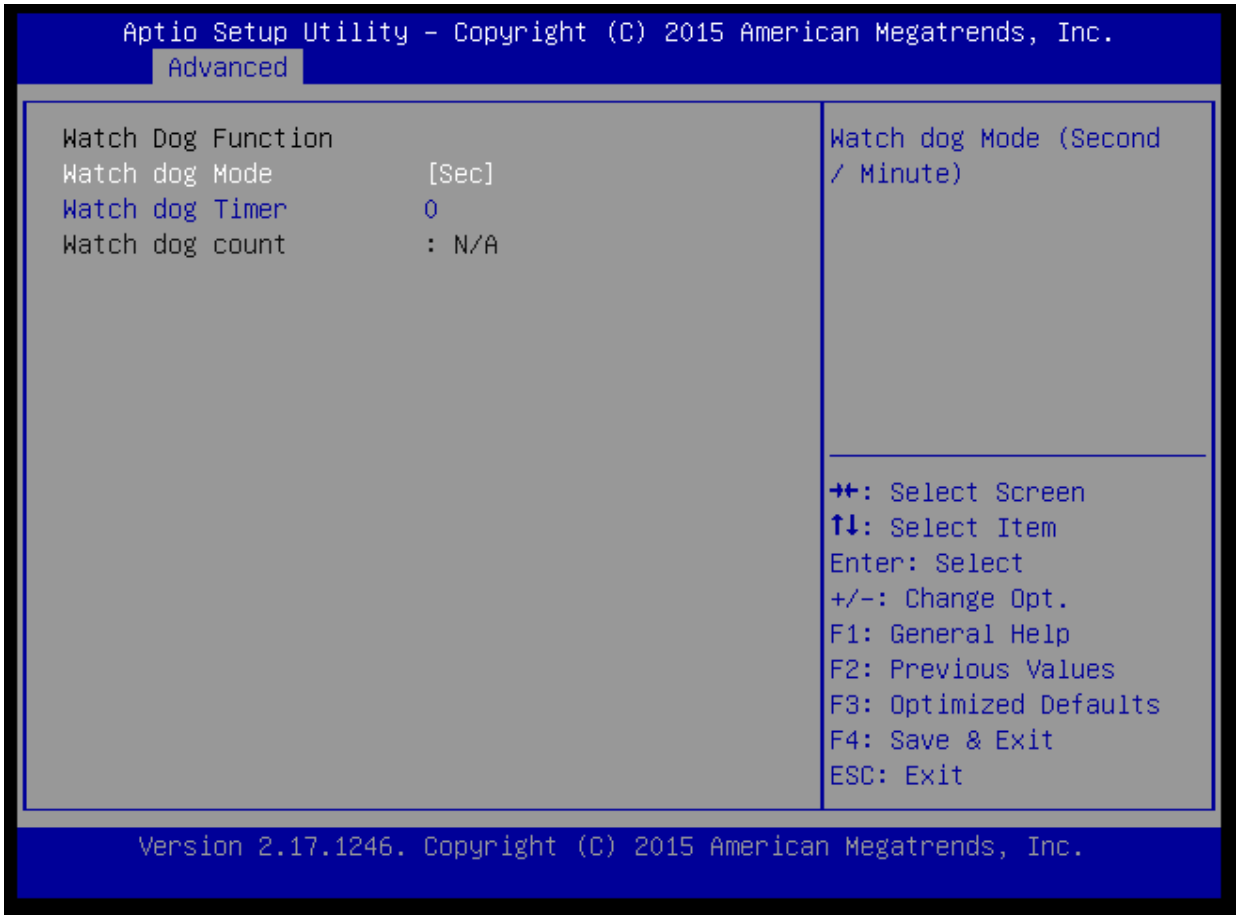
Description: Legacy USB support setup, this setting enable user to configure USB parameter, include whether support legacy USB.



3.2.7 Platform Function

Platform Function

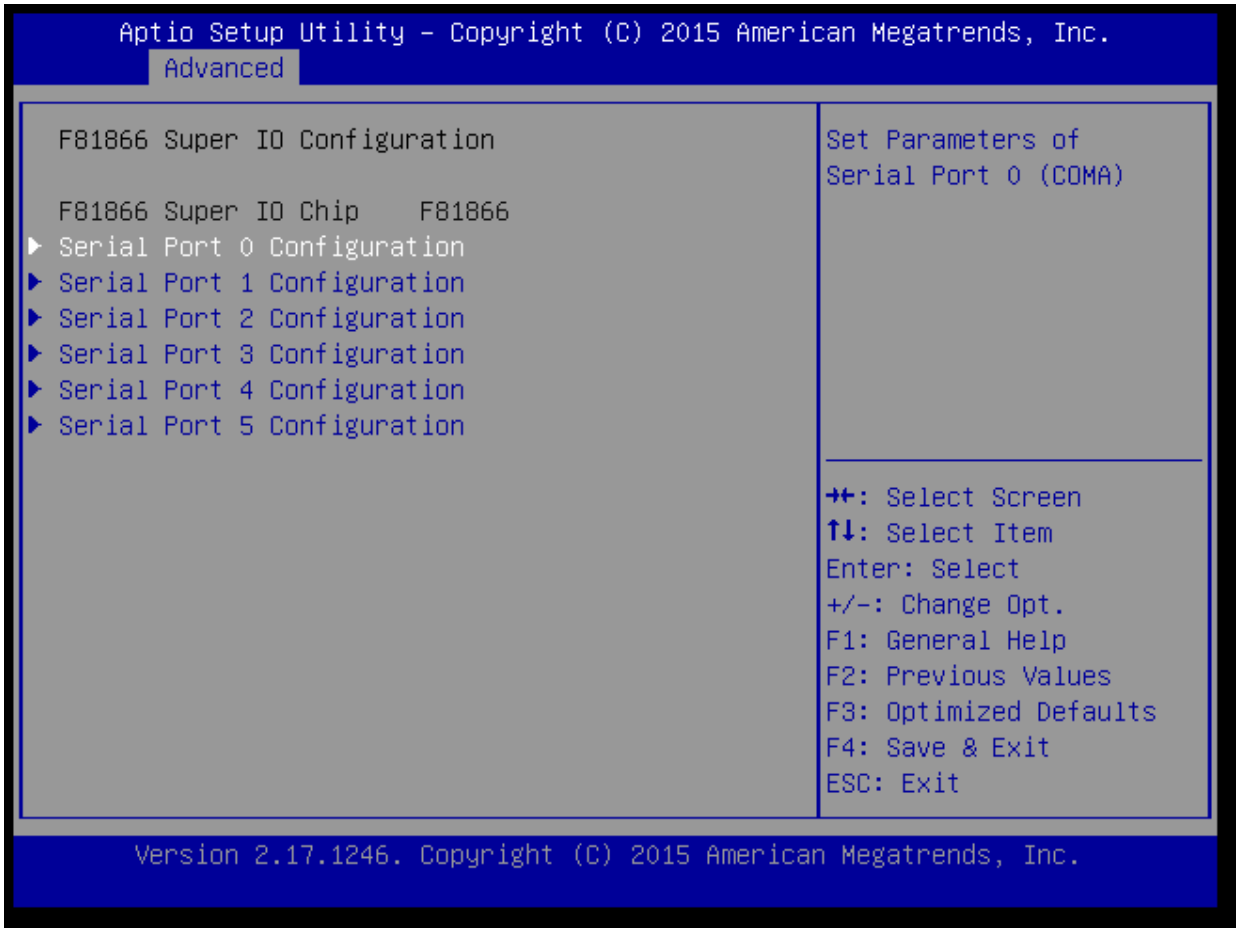
Description: Enable user to configure WatchDog Timer.



3.2.8 F81866 Super IO Configuration

F81866 Super IO Configuration:

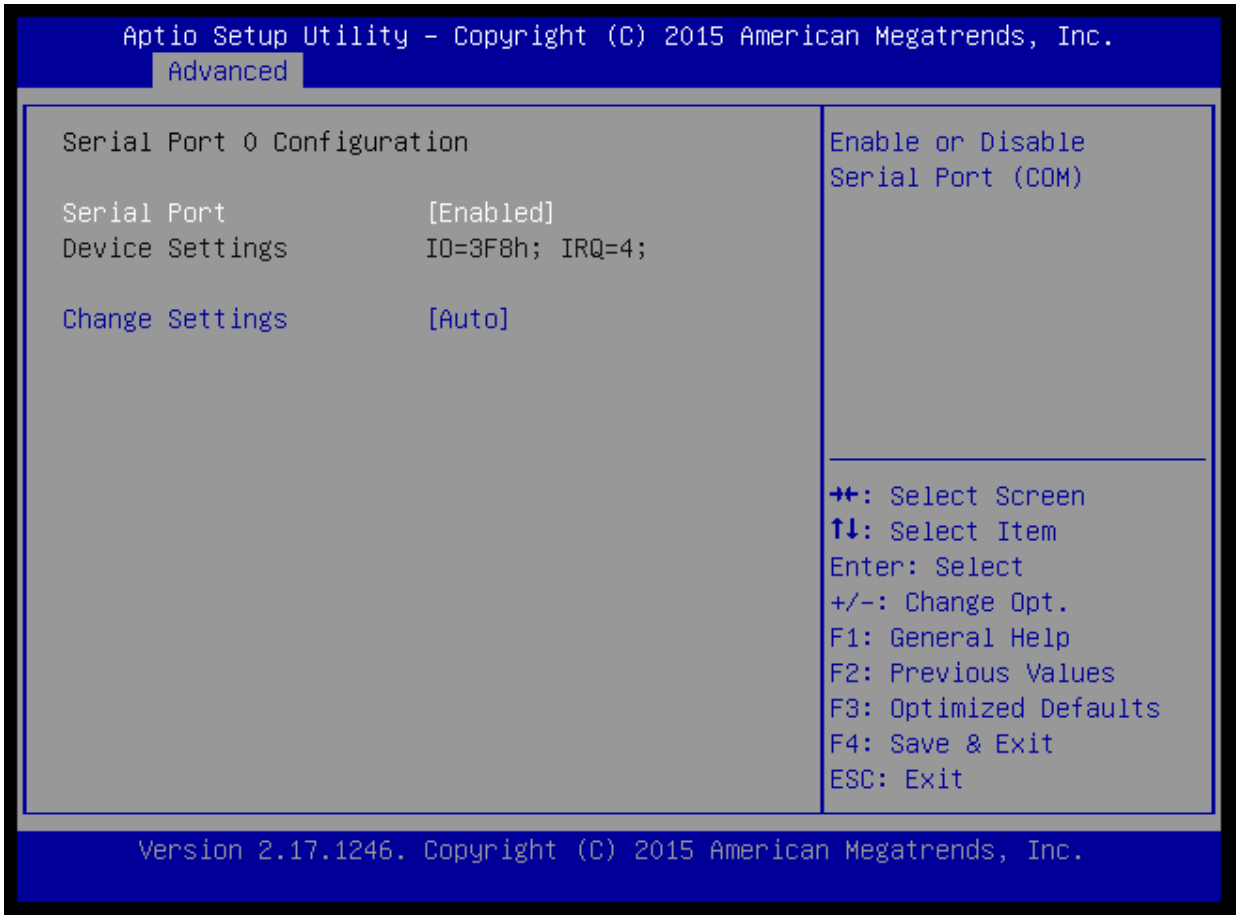
Description: Select Enabled to enable the onboard serial port. The options are Enabled and Disabled.



3.2.8.1 Serial Port 0, 1, 2, 3, 4, 5 Configuration

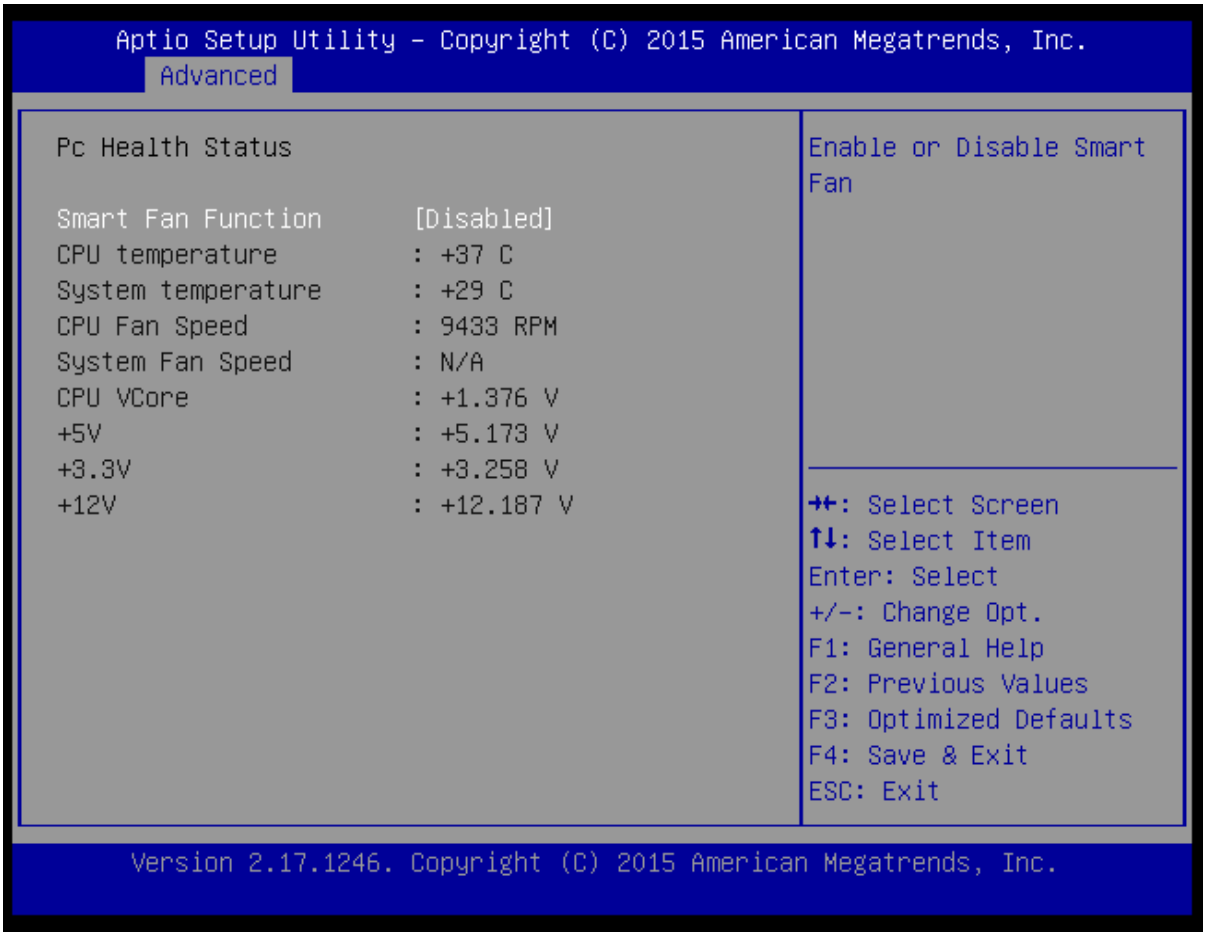
Serial Port 0, 1, 2, 3, 4, 5 Configuration

Description: Enable user to setup address and IRQ for serial Port.



3.2.9 F81866 H/W Monitor

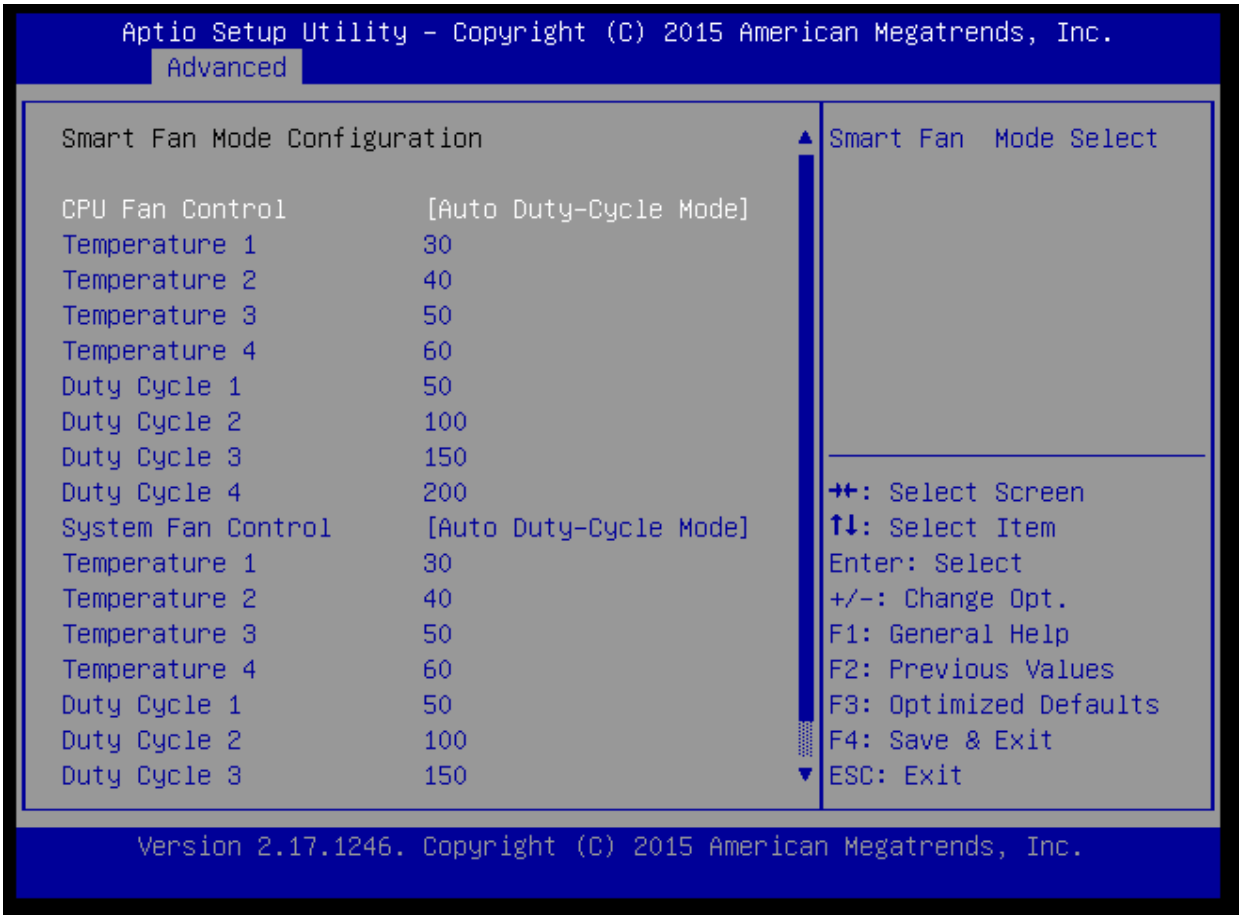
Hardware Monitor Description: Enable user to monitor processor and system status, smart FAN can be controlled by this menu.



3.2.9.1 Smart Fan Mode Configuration

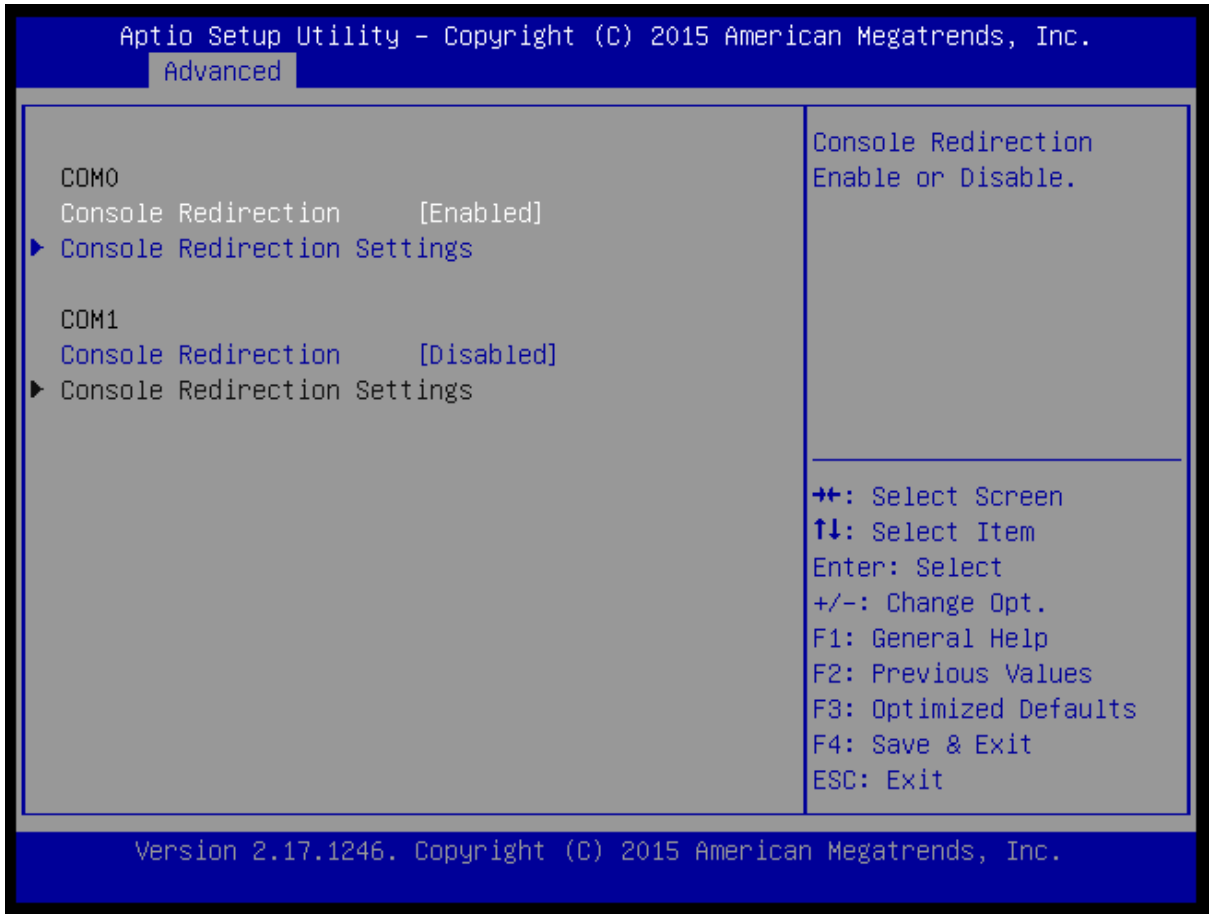
Smart Fan Mode Configuration

Description: Enable user to monitor processor and system status, smart FAN can be controlled by this menu.



3.2.10 Serial Port Console Redirection

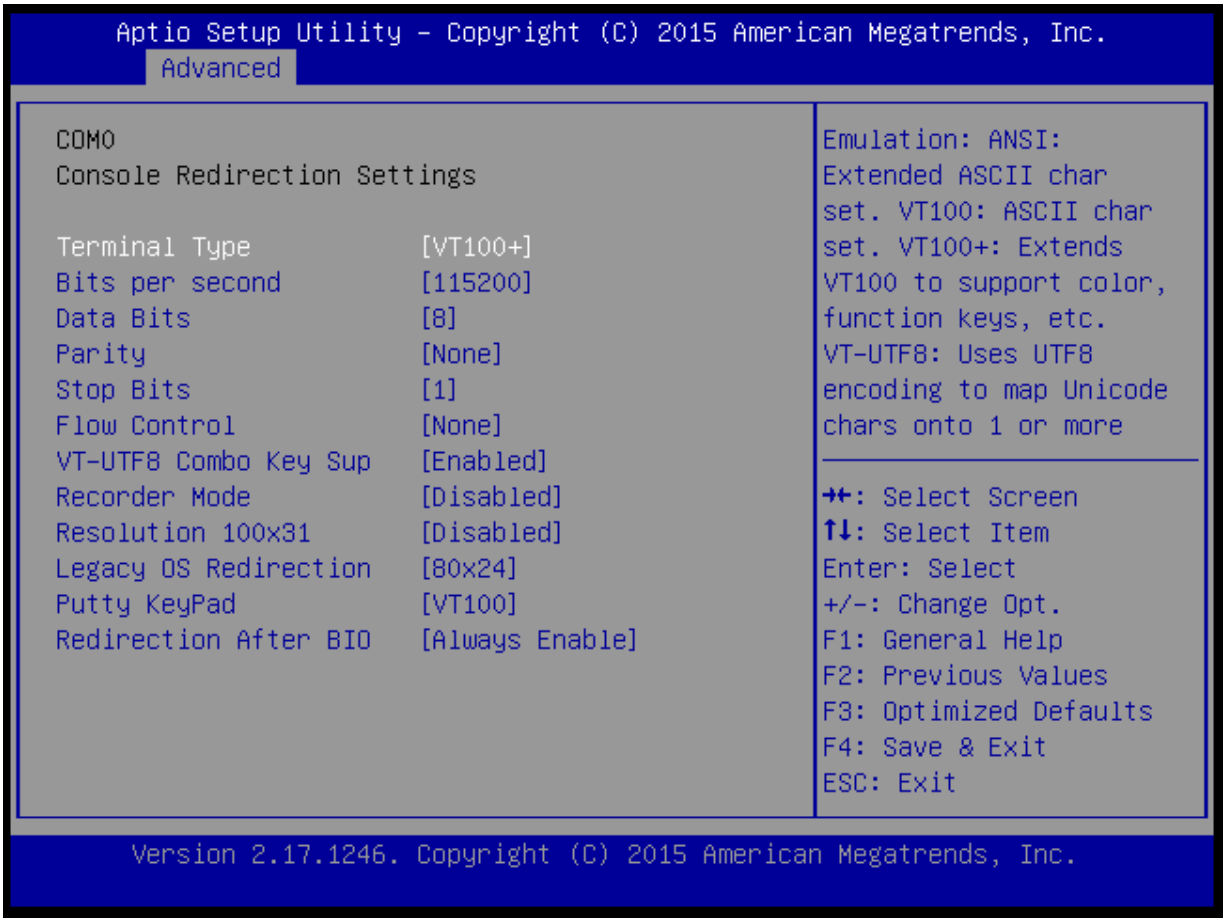
Serial Port Console Redirection Description: Enable user to redirection console port.



3.2.10.1 COM0, COM1 Settings

COM0 Setting

Description: Enable user to configure the setting for the console.

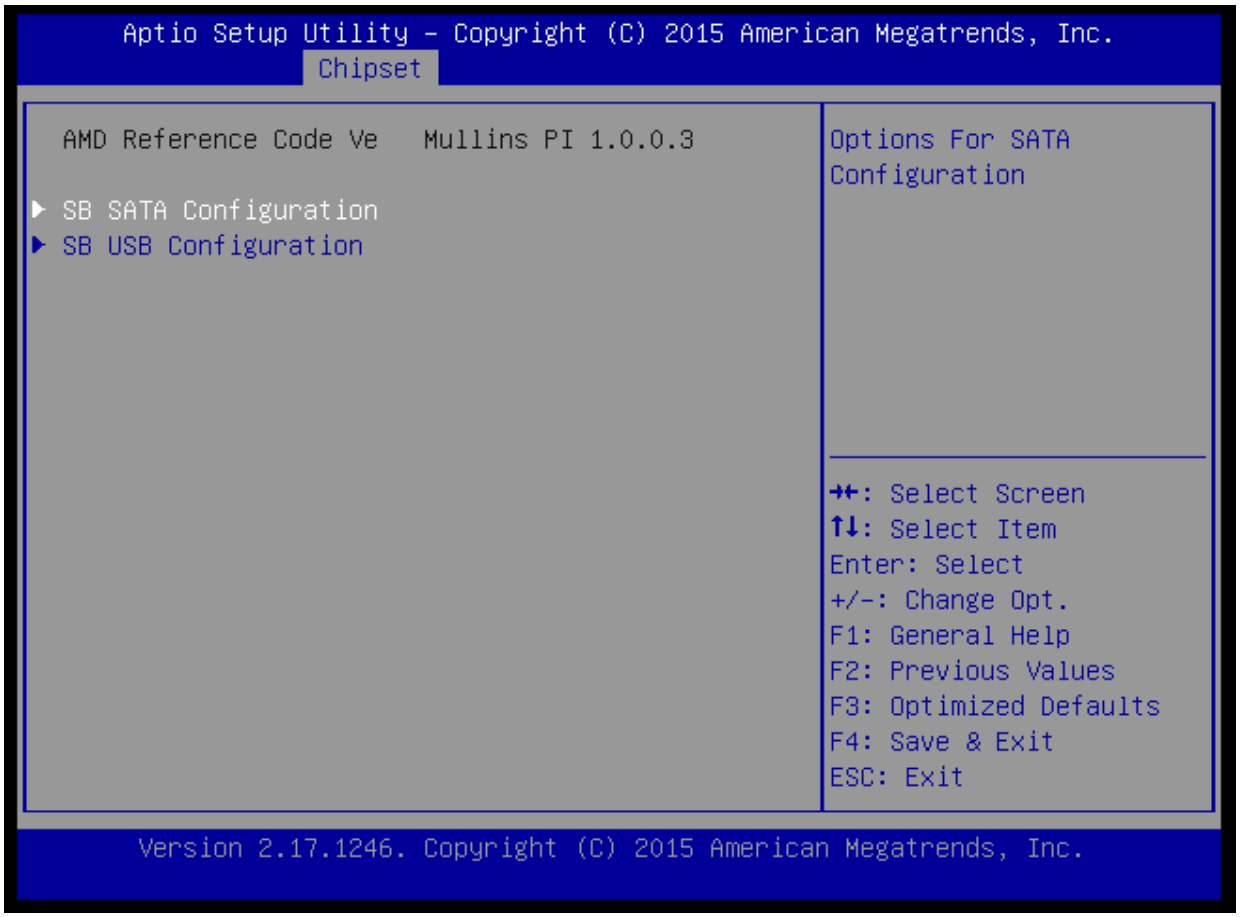


3.3 Chipset Menu

Chipset: Description: South Bridge & North Bridge Setting

3.3.1 South Bridge

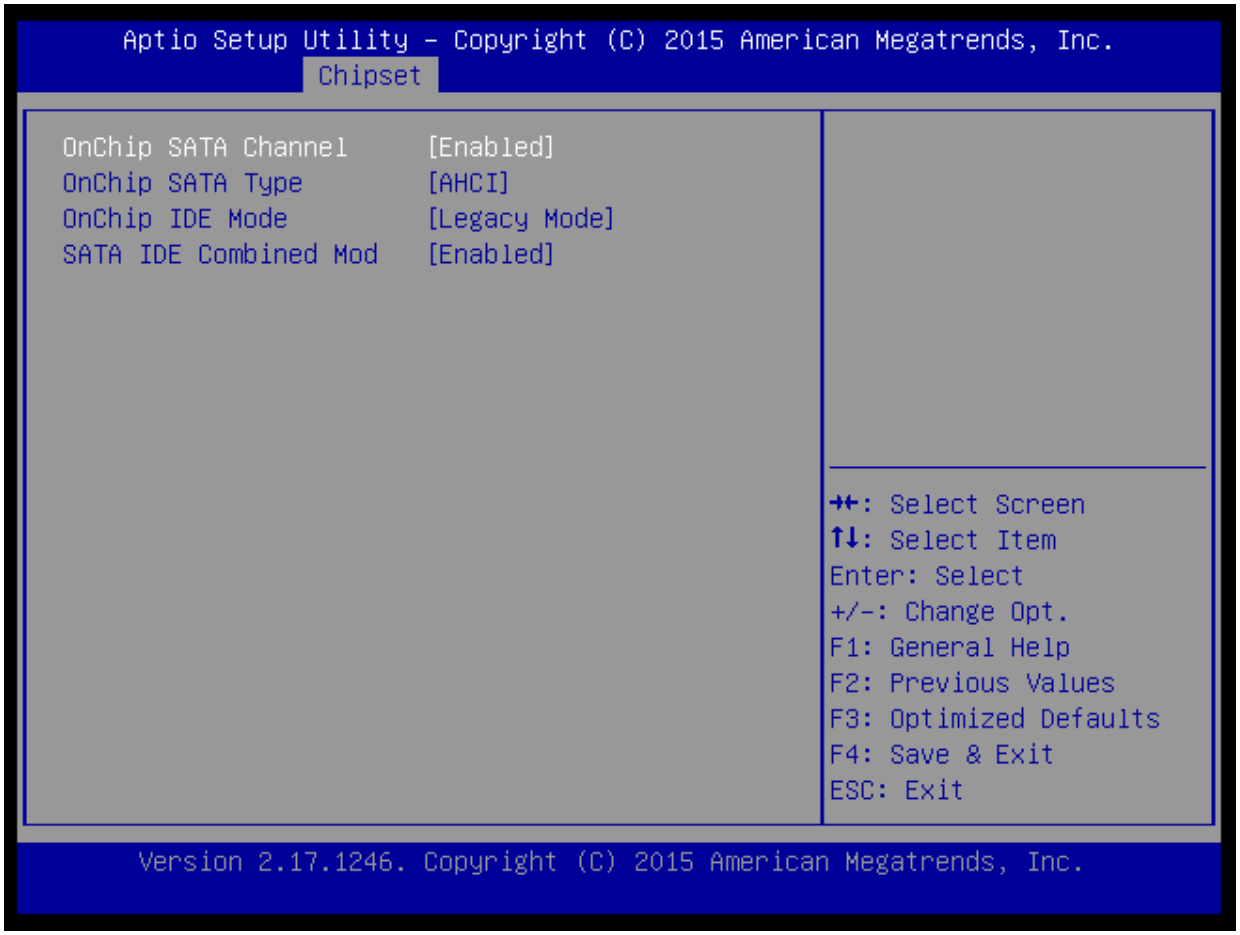
Description: Enable user to configure SATA & USB of south bridge.



3.3.1.1 SB SATA Configuration

South Bridge SATA Configuration:

Description: Customer could enabled/disabled SATA function here.
Default setting is <Enabled>
Onchip SATA Type selects the mode for the installed drives. The options are Disabled, IDE Mode, AHCI Mode and RAID Mode. Default setting is <AHCI>

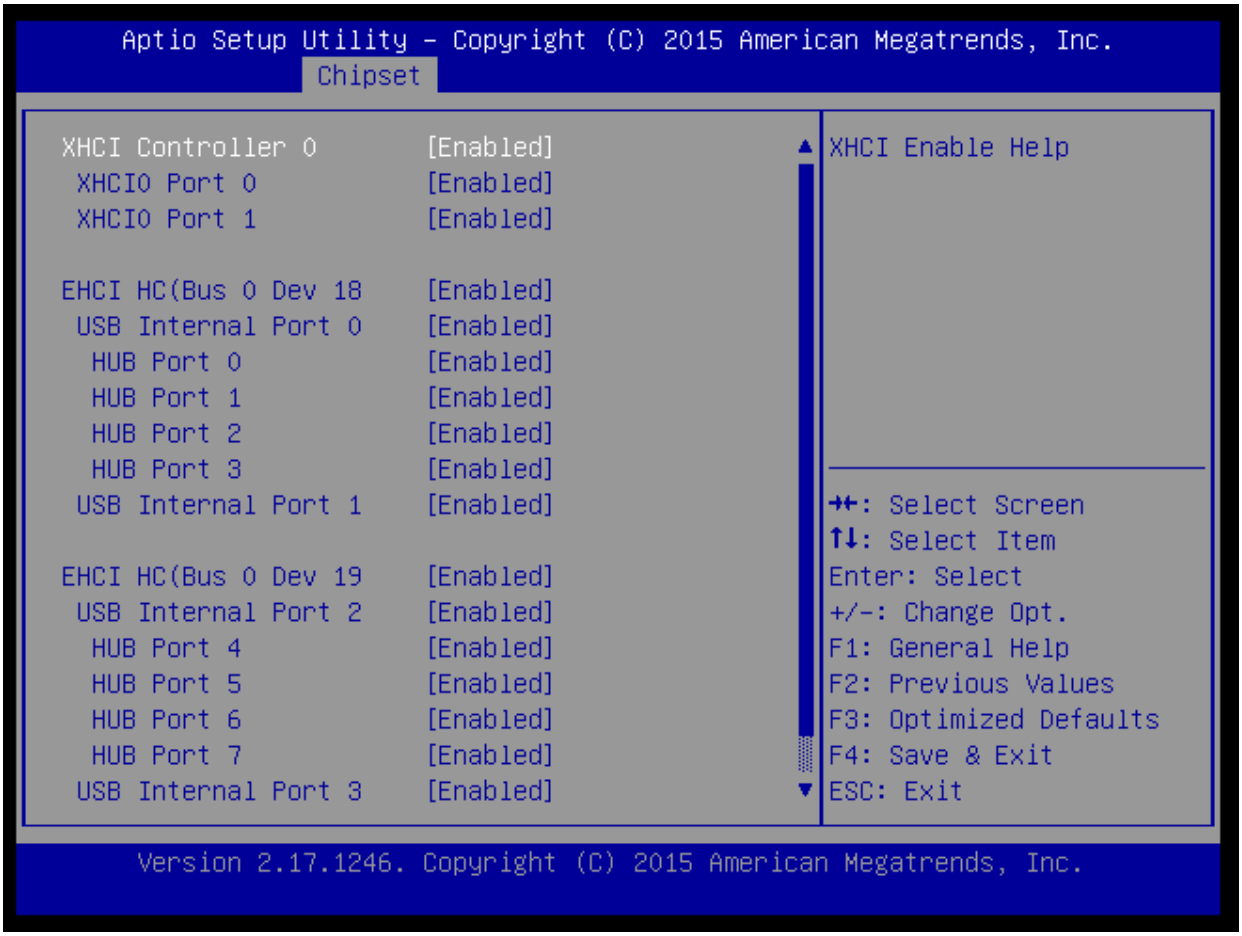


3.3.1.2 SB USB Configuration

South Bridge USB Configuration:

Description: Customer could enabled/disabled USB function here.

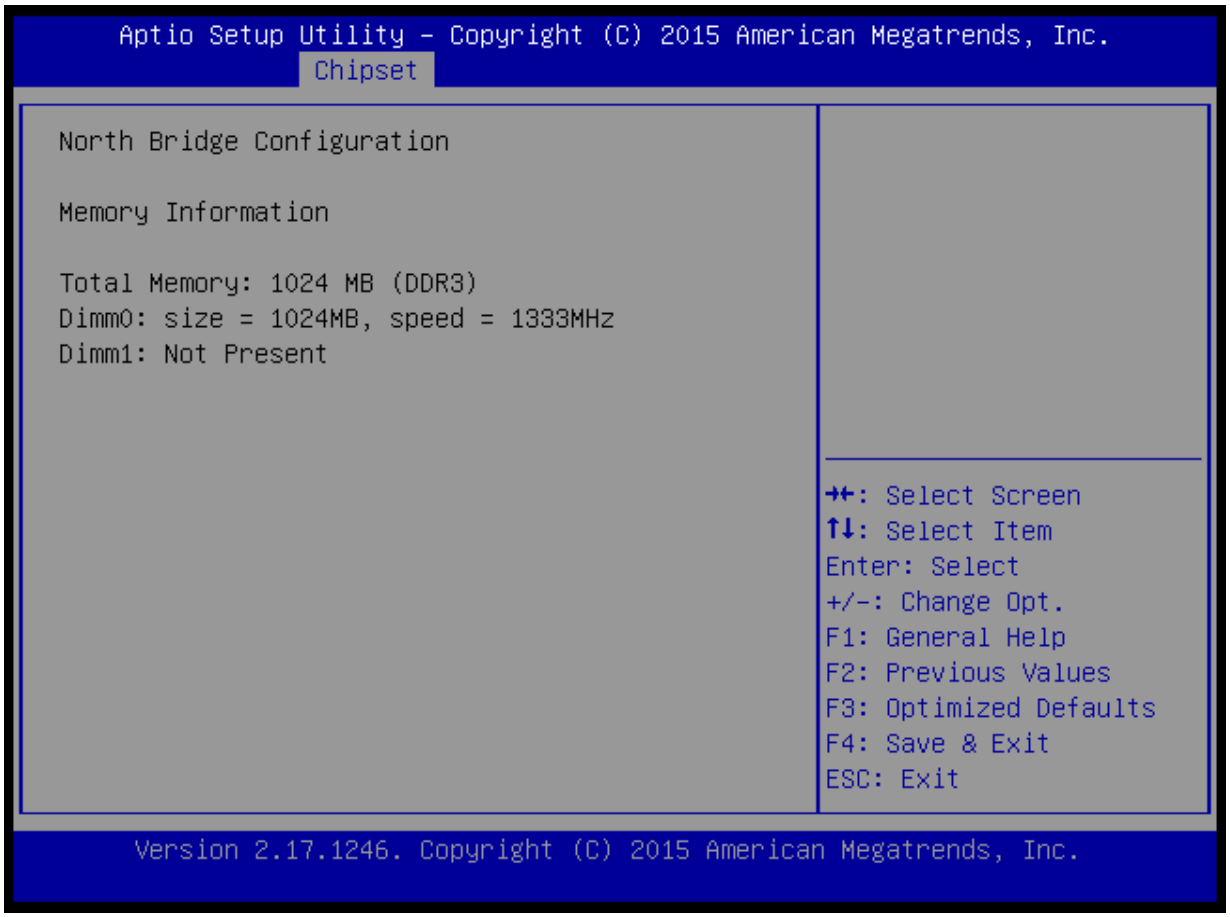
Default setting is <Enabled>



3.3.2 North Bridge Configuration

North Bridge Configuration:

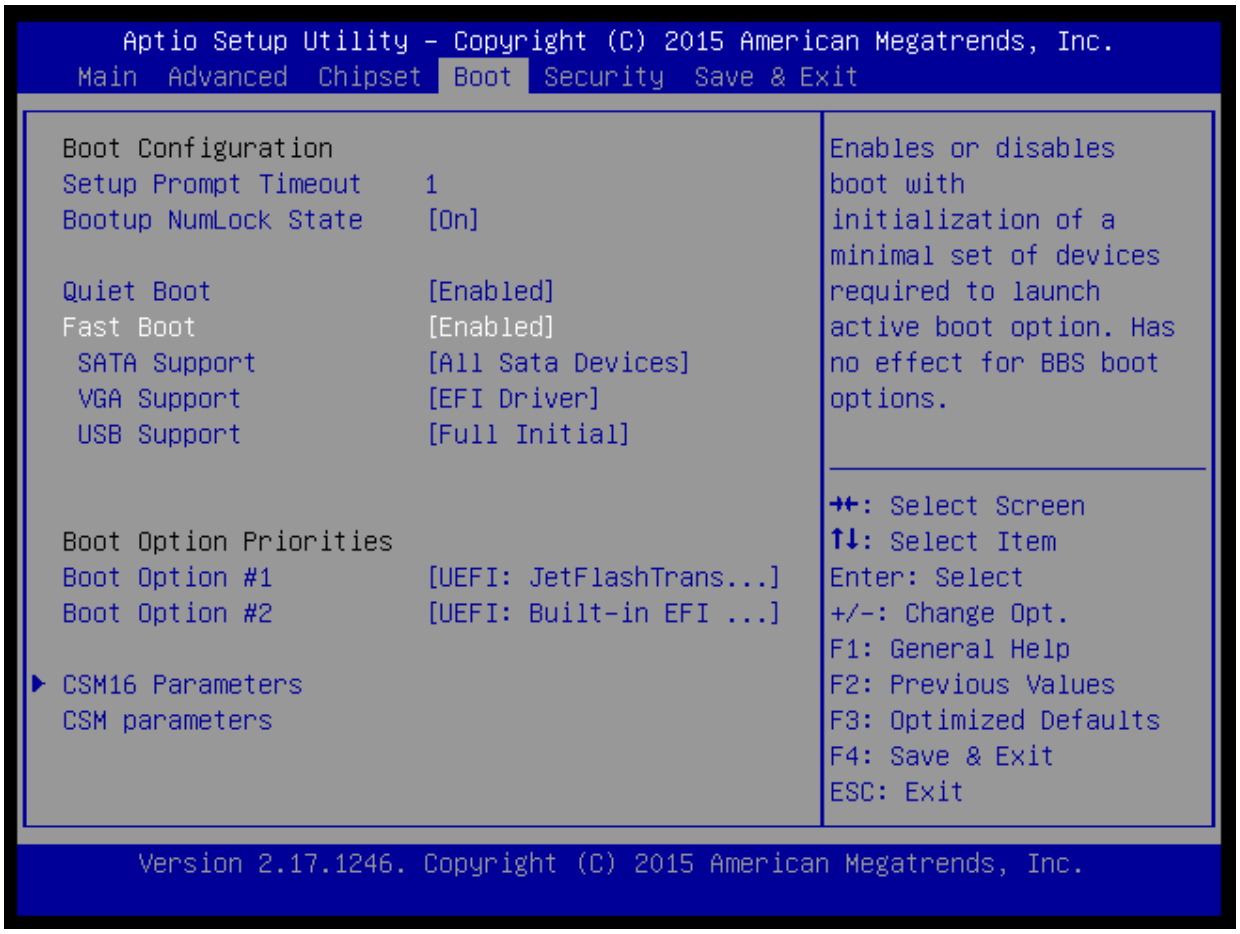
Description: Memory information can be found here



3.4 Boot Menu

Boot Configuration:

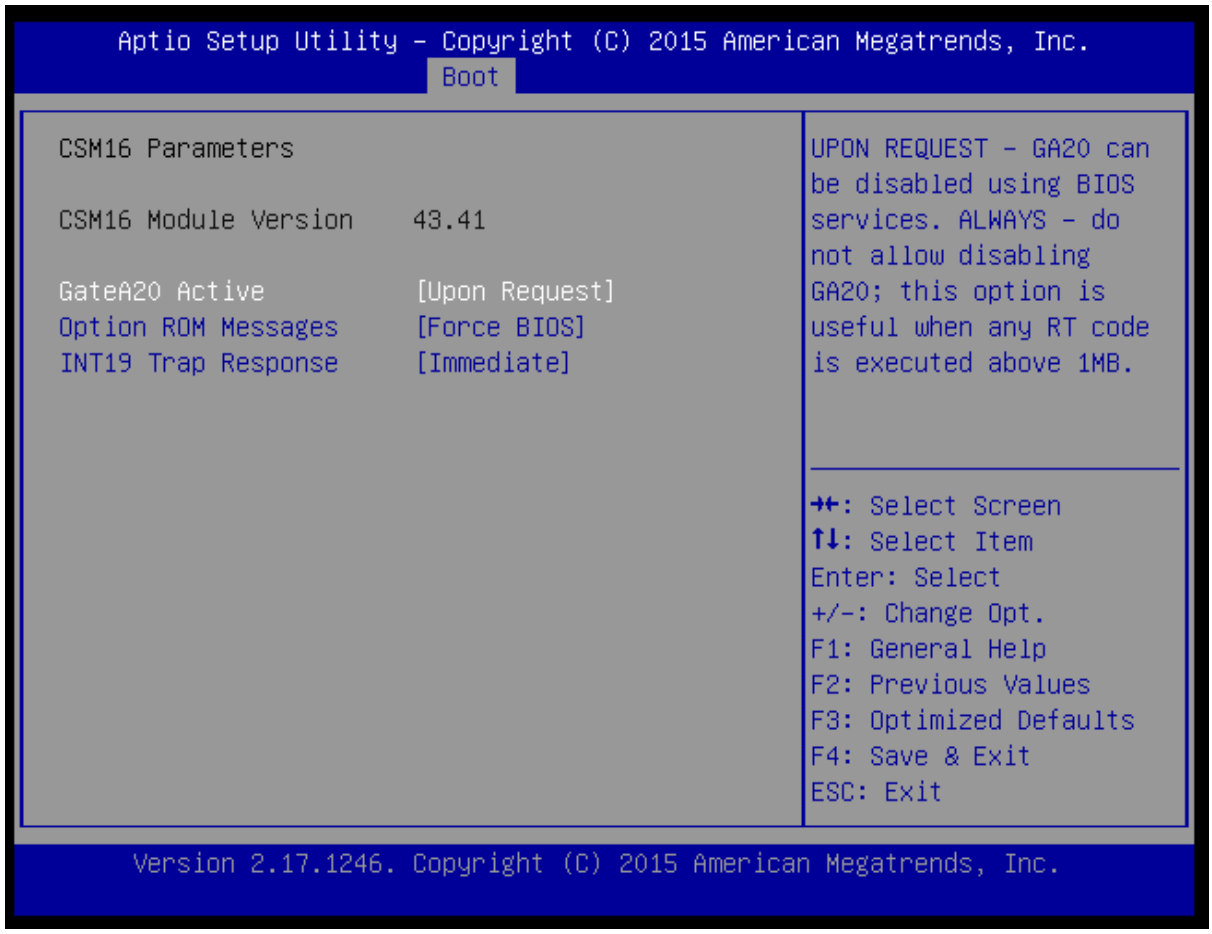
Description: This feature allows the user to specify which devices are boot devices and the order of priority from which the systems boots from during startup.

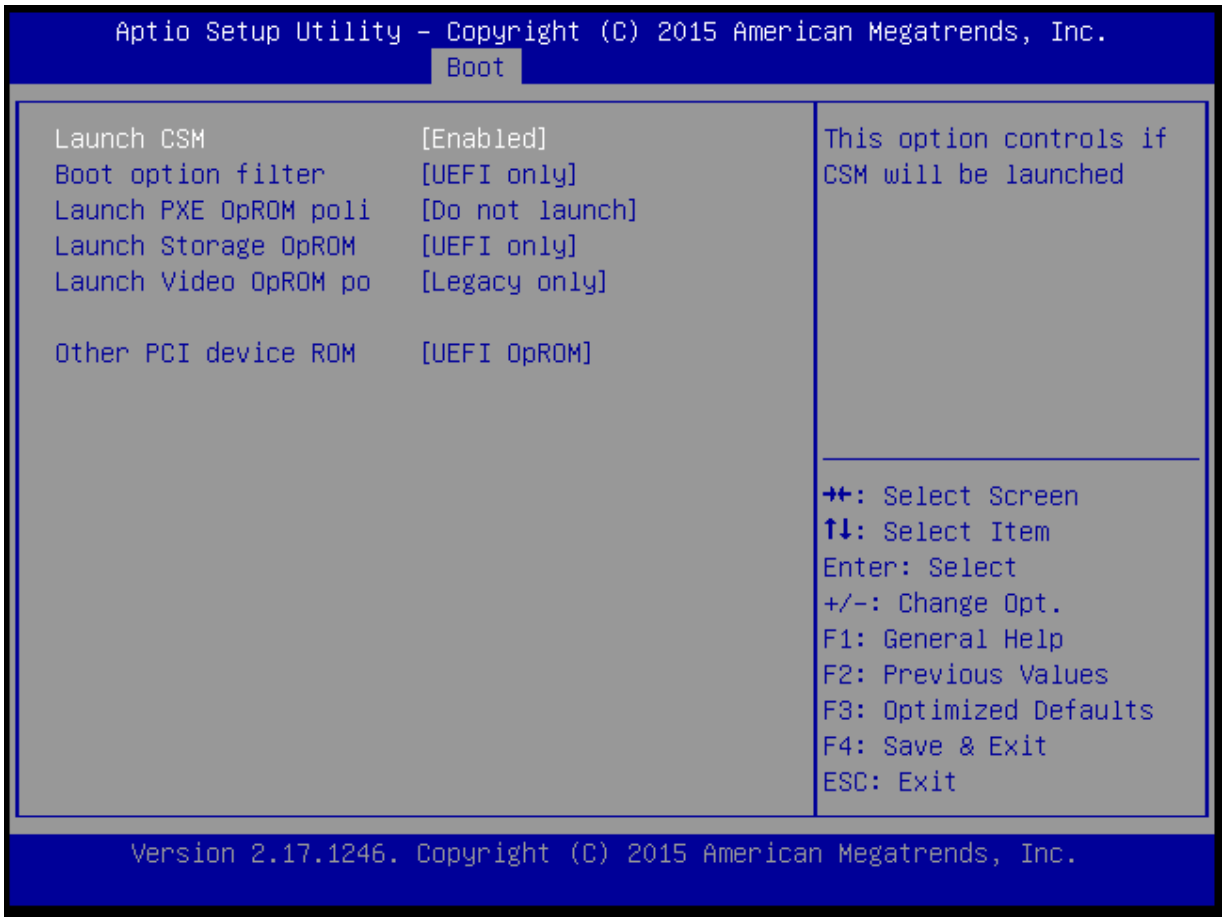


3.4.1 CSM16 Parameters

CSM16 Parameters:

Description: This feature allows the user to specify which devices are boot devices and the order of priority from which the systems boots from during startup.




Aptio Setup Utility – Copyright (C) 2015 American Megatrends, Inc.
Boot
Launch CSM [Enabled]
Boot option filter [UEFI only]
Launch PXE OpROM poli [Do not launch]
Launch Storage OpROM [UEFI only]
Launch Video OpROM po [Legacy only]
Other PCI device ROM [UEFI OpROM]
This option controls if CSM will be launched
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1246. Copyright (C) 2015 American Megatrends, Inc.

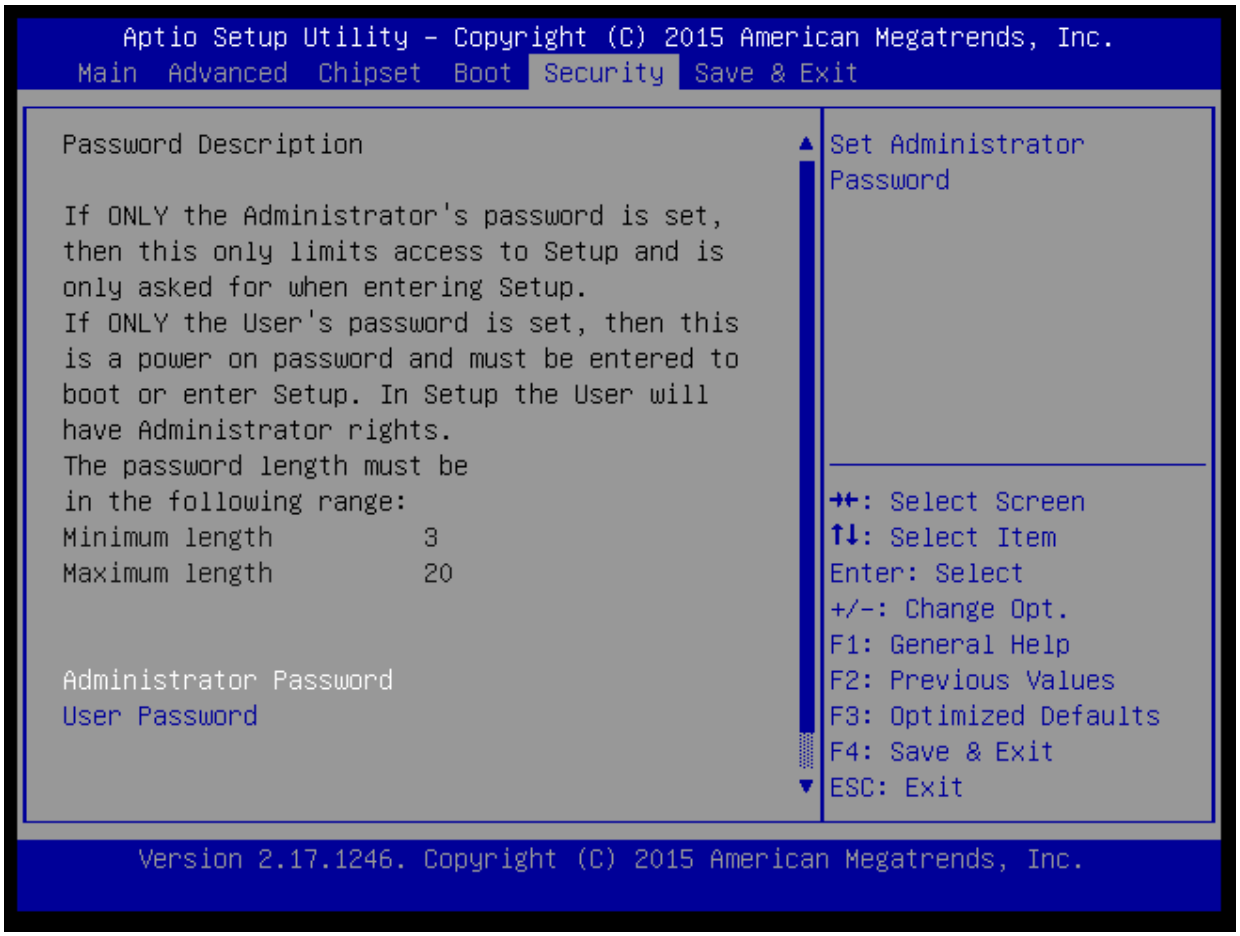
3.5 Security Menu

Password Description:

Description:

Administrator Password: Press Enter to create a new, or change an existing Administrator password.

User Password: Press Enter to create a new, or change an existing User password.



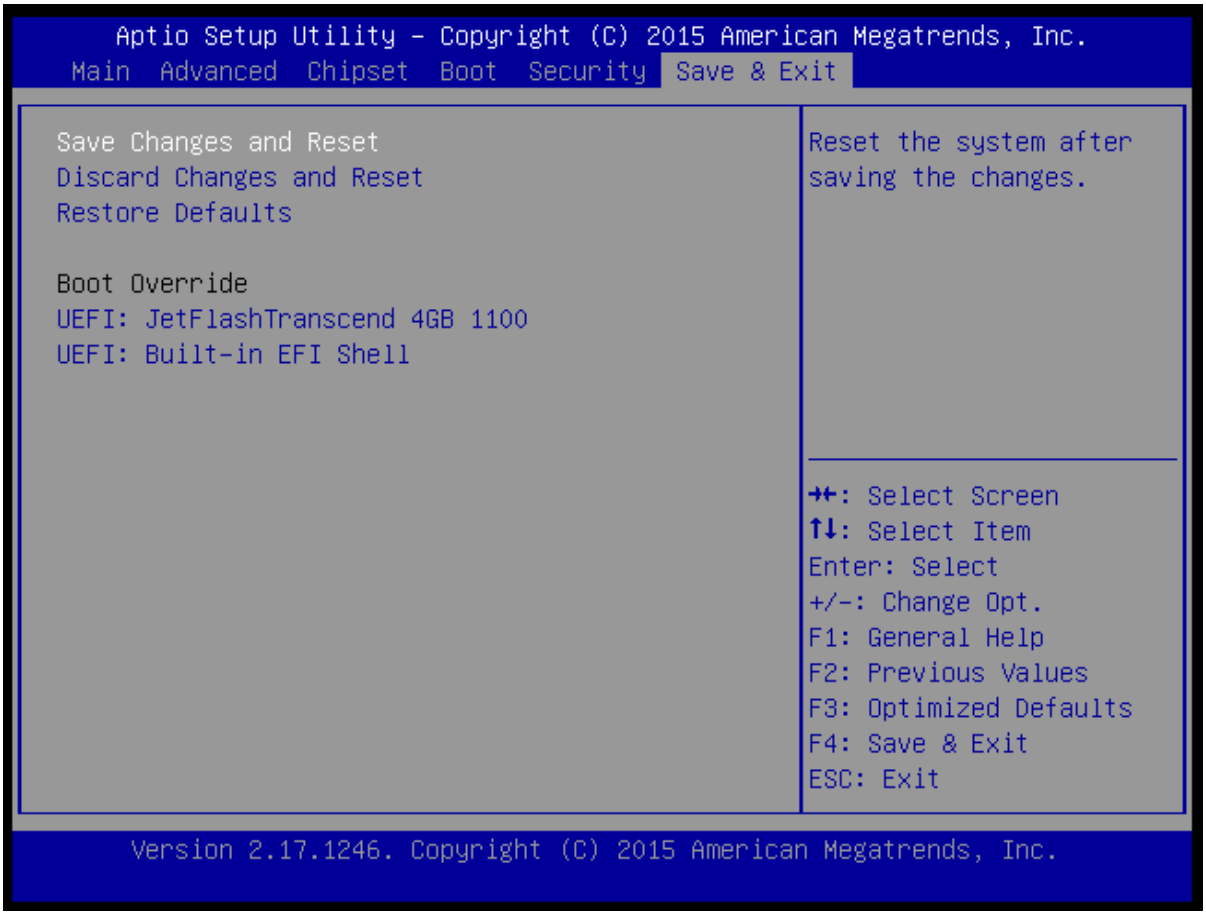
3.6 Save & Exit Menu

Description:

Save Change and Reset: When you have completed the system configuration changes, select this option to leave the BIOS Setup Utility and reboot the computer, so the new system configuration parameters can take effect. Select Save Changes and Exit from the Exit menu and press <Enter>

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

Restored Defaults: To set this feature, select Restore Defaults from the Exit menu and press <Enter>. These are factory settings designed for maximum system stability, but not for maximum performance.



4. Design Resources

4.1 System Resources

Resource	Share	Device Description
DMA 04	Exclusive	Direct memory access controller
IRQ 00	Exclusive	High precision event timer
IRQ 00	Exclusive	System timer
IRQ 03	Exclusive	Communications Port (COM2)
IRQ 04	Exclusive	Communications Port (COM1)
IRQ 07	Exclusive	Communications Port (COM4)
IRQ 08	Exclusive	High precision event timer
IRQ 10	Exclusive	Communications Port (COM6)
IRQ 100	Exclusive	Microsoft ACPI-Compliant System
IRQ 101	Exclusive	Microsoft ACPI-Compliant System
IRQ 102	Exclusive	Microsoft ACPI-Compliant System
IRQ 103	Exclusive	Microsoft ACPI-Compliant System
IRQ 104	Exclusive	Microsoft ACPI-Compliant System
IRQ 105	Exclusive	Microsoft ACPI-Compliant System
IRQ 106	Exclusive	Microsoft ACPI-Compliant System
IRQ 107	Exclusive	Microsoft ACPI-Compliant System
IRQ 108	Exclusive	Microsoft ACPI-Compliant System
IRQ 109	Exclusive	Microsoft ACPI-Compliant System
IRQ 11	Shared	Ethernet Controller
IRQ 11	Shared	Ethernet Controller
IRQ 11	Shared	Communications Port (COM3)
IRQ 11	Shared	Communications Port (COM5)
IRQ 110	Exclusive	Microsoft ACPI-Compliant System
IRQ 111	Exclusive	Microsoft ACPI-Compliant System
IRQ 112	Exclusive	Microsoft ACPI-Compliant System

IRQ 113	Exclusive	Microsoft ACPI-Compliant System
IRQ 114	Exclusive	Microsoft ACPI-Compliant System
IRQ 115	Exclusive	Microsoft ACPI-Compliant System
IRQ 116	Exclusive	Microsoft ACPI-Compliant System
IRQ 117	Exclusive	Microsoft ACPI-Compliant System
IRQ 118	Exclusive	Microsoft ACPI-Compliant System
IRQ 119	Exclusive	Microsoft ACPI-Compliant System
IRQ 120	Exclusive	Microsoft ACPI-Compliant System
IRQ 121	Exclusive	Microsoft ACPI-Compliant System
IRQ 122	Exclusive	Microsoft ACPI-Compliant System
IRQ 123	Exclusive	Microsoft ACPI-Compliant System
IRQ 124	Exclusive	Microsoft ACPI-Compliant System
IRQ 125	Exclusive	Microsoft ACPI-Compliant System
IRQ 126	Exclusive	Microsoft ACPI-Compliant System
IRQ 127	Exclusive	Microsoft ACPI-Compliant System
IRQ 128	Exclusive	Microsoft ACPI-Compliant System
IRQ 129	Exclusive	Microsoft ACPI-Compliant System
IRQ 13	Exclusive	Numeric data processor
IRQ 130	Exclusive	Microsoft ACPI-Compliant System
IRQ 131	Exclusive	Microsoft ACPI-Compliant System
IRQ 131071	Exclusive	PCI Express standard Root Port
IRQ 131071	Exclusive	PCI Express standard Root Port
IRQ 132	Exclusive	Microsoft ACPI-Compliant System
IRQ 133	Exclusive	Microsoft ACPI-Compliant System
IRQ 134	Exclusive	Microsoft ACPI-Compliant System
IRQ 135	Exclusive	Microsoft ACPI-Compliant System
IRQ 136	Exclusive	Microsoft ACPI-Compliant System
IRQ 137	Exclusive	Microsoft ACPI-Compliant System
IRQ 138	Exclusive	Microsoft ACPI-Compliant System
IRQ 139	Exclusive	Microsoft ACPI-Compliant System
IRQ 140	Exclusive	Microsoft ACPI-Compliant System
IRQ 141	Exclusive	Microsoft ACPI-Compliant System

IRQ 142	Exclusive	Microsoft ACPI-Compliant System
IRQ 143	Exclusive	Microsoft ACPI-Compliant System
IRQ 144	Exclusive	Microsoft ACPI-Compliant System
IRQ 145	Exclusive	Microsoft ACPI-Compliant System
IRQ 146	Exclusive	Microsoft ACPI-Compliant System
IRQ 147	Exclusive	Microsoft ACPI-Compliant System
IRQ 148	Exclusive	Microsoft ACPI-Compliant System
IRQ 149	Exclusive	Microsoft ACPI-Compliant System
IRQ 150	Exclusive	Microsoft ACPI-Compliant System
IRQ 151	Exclusive	Microsoft ACPI-Compliant System
IRQ 152	Exclusive	Microsoft ACPI-Compliant System
IRQ 153	Exclusive	Microsoft ACPI-Compliant System
IRQ 154	Exclusive	Microsoft ACPI-Compliant System
IRQ 155	Exclusive	Microsoft ACPI-Compliant System
IRQ 156	Exclusive	Microsoft ACPI-Compliant System
IRQ 157	Exclusive	Microsoft ACPI-Compliant System
IRQ 158	Exclusive	Microsoft ACPI-Compliant System
IRQ 159	Exclusive	Microsoft ACPI-Compliant System
IRQ 16	Shared	SDA Standard Compliant SD Host Controller
IRQ 16	Shared	High Definition Audio Controller
IRQ 160	Exclusive	Microsoft ACPI-Compliant System
IRQ 161	Exclusive	Microsoft ACPI-Compliant System
IRQ 162	Exclusive	Microsoft ACPI-Compliant System
IRQ 163	Exclusive	Microsoft ACPI-Compliant System
IRQ 164	Exclusive	Microsoft ACPI-Compliant System
IRQ 165	Exclusive	Microsoft ACPI-Compliant System
IRQ 166	Exclusive	Microsoft ACPI-Compliant System
IRQ 167	Exclusive	Microsoft ACPI-Compliant System
IRQ 168	Exclusive	Microsoft ACPI-Compliant System
IRQ 169	Exclusive	Microsoft ACPI-Compliant System
IRQ 170	Exclusive	Microsoft ACPI-Compliant System
IRQ 171	Exclusive	Microsoft ACPI-Compliant System

IRQ 172	Exclusive	Microsoft ACPI-Compliant System
IRQ 173	Exclusive	Microsoft ACPI-Compliant System
IRQ 174	Exclusive	Microsoft ACPI-Compliant System
IRQ 175	Exclusive	Microsoft ACPI-Compliant System
IRQ 176	Exclusive	Microsoft ACPI-Compliant System
IRQ 177	Exclusive	Microsoft ACPI-Compliant System
IRQ 178	Exclusive	Microsoft ACPI-Compliant System
IRQ 179	Exclusive	Microsoft ACPI-Compliant System
IRQ 18	Shared	Standard Enhanced PCI to USB Host Controller
IRQ 18	Shared	Standard Enhanced PCI to USB Host Controller
IRQ 180	Exclusive	Microsoft ACPI-Compliant System
IRQ 181	Exclusive	Microsoft ACPI-Compliant System
IRQ 182	Exclusive	Microsoft ACPI-Compliant System
IRQ 183	Exclusive	Microsoft ACPI-Compliant System
IRQ 184	Exclusive	Microsoft ACPI-Compliant System
IRQ 185	Exclusive	Microsoft ACPI-Compliant System
IRQ 186	Exclusive	Microsoft ACPI-Compliant System
IRQ 187	Exclusive	Microsoft ACPI-Compliant System
IRQ 188	Exclusive	Microsoft ACPI-Compliant System
IRQ 189	Exclusive	Microsoft ACPI-Compliant System
IRQ 19	Shared	AMD SATA Controller
IRQ 190	Exclusive	Microsoft ACPI-Compliant System
IRQ 45	Shared	High Definition Audio Controller
IRQ 65536	Exclusive	AMD PSP 1.0 Device
IRQ 65536	Exclusive	AMD PSP 1.0 Device
IRQ 65536	Exclusive	AMD USB 3.0 Host Controller
IRQ 65536	Exclusive	AMD USB 3.0 Host Controller
IRQ 65536	Exclusive	AMD USB 3.0 Host Controller
IRQ 65536	Exclusive	AMD USB 3.0 Host Controller
IRQ 65536	Exclusive	AMD USB 3.0 Host Controller
IRQ 65536	Exclusive	AMD USB 3.0 Host Controller
IRQ 65536	Exclusive	AMD USB 3.0 Host Controller

IRQ 65536	Exclusive	AMD USB 3.0 Host Controller
IRQ 81	Exclusive	Microsoft ACPI-Compliant System
IRQ 82	Exclusive	Microsoft ACPI-Compliant System
IRQ 83	Exclusive	Microsoft ACPI-Compliant System
IRQ 84	Exclusive	Microsoft ACPI-Compliant System
IRQ 85	Exclusive	Microsoft ACPI-Compliant System
IRQ 86	Exclusive	Microsoft ACPI-Compliant System
IRQ 87	Exclusive	Microsoft ACPI-Compliant System
IRQ 88	Exclusive	Microsoft ACPI-Compliant System
IRQ 89	Exclusive	Microsoft ACPI-Compliant System
IRQ 90	Exclusive	Microsoft ACPI-Compliant System
IRQ 91	Exclusive	Microsoft ACPI-Compliant System
IRQ 92	Exclusive	Microsoft ACPI-Compliant System
IRQ 93	Exclusive	Microsoft ACPI-Compliant System
IRQ 94	Exclusive	Microsoft ACPI-Compliant System
IRQ 95	Exclusive	Microsoft ACPI-Compliant System
IRQ 96	Exclusive	Microsoft ACPI-Compliant System
IRQ 97	Exclusive	Microsoft ACPI-Compliant System
IRQ 98	Exclusive	Microsoft ACPI-Compliant System
IRQ 99	Exclusive	Microsoft ACPI-Compliant System
Memory 000A0000-000BFFFF	Shared	Pci Bus
Memory 000C0000-000DFFFF	Shared	Pci Bus
Memory 37000000-3EFFFFFF	Exclusive	Motherboard resources
Memory E0000000-EFFFFFFF	Exclusive	System board
Memory F0000000-FFFFFFFF	Shared	Pci Bus
Memory F8800000-F881FFFF	Exclusive	AMD PSP 1.0 Device
Memory FE700000-FE7FFFFF	Exclusive	AMD PSP 1.0 Device
Memory FE800000-FE81FFFF	Exclusive	Ethernet Controller
Memory FE800000-FE8FFFFF	Exclusive	PCI Express standard Root Port
Memory FE820000-FE823FFF	Exclusive	Ethernet Controller
Memory FE900000-FE91FFFF	Exclusive	Ethernet Controller
Memory FE900000-FE9FFFFF	Exclusive	PCI Express standard Root Port

Memory FE920000-FE923FFF	Exclusive	Ethernet Controller
Memory FEA60000-FEA63FFF	Exclusive	High Definition Audio Controller
Memory FEA64000-FEA67FFF	Exclusive	High Definition Audio Controller
Memory FEA68000-FEA69FFF	Exclusive	AMD USB 3.0 Host Controller
Memory FEA6A000-FEA6BFFF	Exclusive	AMD PSP 1.0 Device
Memory FEA6C000-FEA6C0FF	Exclusive	SDA Standard Compliant SD Host Controller
Memory FEA6D000-FEA6D0FF	Exclusive	Standard Enhanced PCI to USB Host Controller
Memory FEA6E000-FEA6E0FF	Exclusive	Standard Enhanced PCI to USB Host Controller
Memory FEA6F000-FEA6F3FF	Exclusive	AMD SATA Controller
Memory FEA70000-FEA70FFF	Exclusive	AMD PSP 1.0 Device
Memory FEC00000-FEC00FFF	Exclusive	Motherboard resources
Memory FEC10000-FEC10FFF	Exclusive	Motherboard resources
Memory FED00000-FED003FF	Exclusive	High precision event timer
Memory FED61000-FED70FFF	Exclusive	Motherboard resources
Memory FED80000-FED8FFFF	Exclusive	Motherboard resources
Memory FEE00000-FEE00FFF	Exclusive	Motherboard resources
Memory FF000000-FFFFFFFF	Exclusive	Motherboard resources
Port 0000-000F	Exclusive	Direct memory access controller
Port 0000-000F	Exclusive	Motherboard resources
Port 0000-03AF	Shared	Pci Bus
Port 0010-001F	Exclusive	Motherboard resources
Port 0010-001F	Exclusive	Motherboard resources
Port 0020-0021	Exclusive	Programmable interrupt controller
Port 0022-003F	Exclusive	Motherboard resources
Port 0022-003F	Exclusive	Motherboard resources
Port 0040-0043	Exclusive	System timer
Port 0044-005F	Exclusive	Motherboard resources
Port 0061-0061	Exclusive	System speaker
Port 0063-0063	Exclusive	Motherboard resources
Port 0065-0065	Exclusive	Motherboard resources
Port 0067-006F	Exclusive	Motherboard resources
Port 0070-0071	Exclusive	System CMOS/real time clock

Port 0072-007F	Exclusive	Motherboard resources
Port 0072-007F	Exclusive	Motherboard resources
Port 0080-0080	Exclusive	Motherboard resources
Port 0080-0080	Exclusive	Motherboard resources
Port 0081-0083	Exclusive	Direct memory access controller
Port 0084-0086	Exclusive	Motherboard resources
Port 0084-0086	Exclusive	Motherboard resources
Port 0087-0087	Exclusive	Direct memory access controller
Port 0088-0088	Exclusive	Motherboard resources
Port 0088-0088	Exclusive	Motherboard resources
Port 0089-008B	Exclusive	Direct memory access controller
Port 008C-008E	Exclusive	Motherboard resources
Port 008C-008E	Exclusive	Motherboard resources
Port 008F-008F	Exclusive	Direct memory access controller
Port 0090-009F	Exclusive	Motherboard resources
Port 0090-009F	Exclusive	Motherboard resources
Port 00A0-00A1	Exclusive	Programmable interrupt controller
Port 00A2-00BF	Exclusive	Motherboard resources
Port 00A2-00BF	Exclusive	Motherboard resources
Port 00B1-00B1	Exclusive	Motherboard resources
Port 00C0-00DF	Exclusive	Direct memory access controller
Port 00E0-00EF	Exclusive	Motherboard resources
Port 00E0-00EF	Exclusive	Motherboard resources
Port 00F0-00FF	Exclusive	Numeric data processor
Port 0200-020F	Exclusive	Motherboard resources
Port 02E0-02E7	Exclusive	Communications Port (COM6)
Port 02E8-02EF	Exclusive	Communications Port (COM4)
Port 02F0-02F7	Exclusive	Communications Port (COM5)
Port 02F8-02FF	Exclusive	Communications Port (COM2)
Port 03B0-03DF	Shared	Pci Bus
Port 03E0-0CF7	Shared	Pci Bus
Port 03E8-03EF	Exclusive	Communications Port (COM3)

Port 03F8-03FF	Exclusive	Communications Port (COM1)
Port 040B-040B	Exclusive	Motherboard resources
Port 04D0-04D1	Exclusive	Motherboard resources
Port 04D0-04D1	Exclusive	Motherboard resources
Port 04D6-04D6	Exclusive	Motherboard resources
Port 0800-089F	Exclusive	Motherboard resources
Port 0900-090F	Exclusive	Motherboard resources
Port 0910-091F	Exclusive	Motherboard resources
Port 0A00-0A0F	Exclusive	Motherboard resources
Port 0A10-0A1F	Exclusive	Motherboard resources
Port 0B20-0B3F	Exclusive	Motherboard resources
Port 0C00-0C01	Exclusive	Motherboard resources
Port 0C14-0C14	Exclusive	Motherboard resources
Port 0C50-0C51	Exclusive	Motherboard resources
Port 0C52-0C52	Exclusive	Motherboard resources
Port 0C6C-0C6C	Exclusive	Motherboard resources
Port 0C6F-0C6F	Exclusive	Motherboard resources
Port 0CD0-0CD1	Exclusive	Motherboard resources
Port 0CD2-0CD3	Exclusive	Motherboard resources
Port 0CD4-0CD5	Exclusive	Motherboard resources
Port 0CD6-0CD7	Exclusive	Motherboard resources
Port 0CD8-0CDF	Exclusive	Motherboard resources
Port 0D00-FFFF	Shared	Pci Bus
Port D000-D01F	Exclusive	Ethernet Controller
Port D000-DFFF	Exclusive	PCI Express standard Root Port
Port E000-E01F	Exclusive	Ethernet Controller
Port E000-EFFF	Exclusive	PCI Express standard Root Port
Port F100-F10F	Exclusive	AMD SATA Controller
Port F110-F113	Exclusive	AMD SATA Controller
Port F120-F127	Exclusive	AMD SATA Controller
Port F130-F133	Exclusive	AMD SATA Controller
Port F140-F147	Exclusive	AMD SATA Controller

Port FE00-FEFE Exclusive Motherboard resources

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