

User's Manual



MB-73400

Thin Mini-ITX with Intel® Atom™ Braswell SOC, DDR3L up to 8GB, 2 HDMI, LVDS, 2 GLAN, 6 COM, 6 USB, 2 Mini-PCIe, DC 12V input

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

Packing list

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

- 1 x MB-73400 motherboard
- 1 x CPU cooler
- 1 x SATA cable, L/ 200mm
- 1 x CD Utility

(P/N: CB-F00085-00)

(P/N: CB-SATA19-00)




CB-SATA19-00

Model Name Description

MB-7340A	Mini-ITX board, Intel Braswell Q/C N3700 2.4GHz, DDR3L, 2x HDMI, 2x LAN
MB-7340B	Mini-ITX board, Intel Braswell Q/C N3150 2.0GHz, DDR3L, 2x HDMI, 2x LAN
MB-7340C	Mini-ITX board, Intel Braswell D/C N3000 2.0GHz, DDR3L, 2x HDMI, 2x LAN

* If any items are missing or damaged contact your sales representative or distributor.

Optional Accessories:

Photo	Model Name	
	P/N:	TBD
	Dual USB3.0 port cable, L/ 350mm, with bracket	
	P/N:	CB-COM38-00
	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.

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1. General Information

1.1 Introduction

MB-73400 is a Mini-ITX motherboard support Intel® Atom Braswell SOC that integrates the next generation Intel® processor core, Graphics, Memory Controller, and I/O interfaces into a single system-on-chip solution. MB-73400 also integrated 2 x DDR3L, two SO-DIMM supports a maximum of 8GB DDR3L 1600. Integrated graphics include 2 x HDMI + 1 x internal LVDS 24bit dual channel.

On the I/O ports, the MB-73400 provides plenty of connectivity with 2 x Intel® i211AT GbE LAN controller, 6 x RS232, 4 x USB3.0 + 2 x USB2.0, HD Audio, 1 x SATA, 8-bit GPIO, optional TPM 1.2 function. The MB-73400 support single 12V DC input suitable for a variety of applications in digital signage, POS, kiosks and gaming.

Besides rich I/O interfaces, WIN's Mini-ITX delivers 2 x Mini-PCIe socket for various applications.

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

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Email: sales@win-ent.com TEL: +1 (978) 688-2000

1.2 Specifications

System

Form Factor	Thin Mini-ITX board
CPU	Onboard
Chipset	SoC
Memory	2x DDR3L SO-DIMM 1066/1600 MHz up to 8GB, w/o ECC support
BIOS	AMI SPI BIOS
SSD	1 x Half-Size Mini-PCle supports mSATA
Watchdog timer	255 levels, 1 ~ 255 sec
Expansion	1 x Full-size Mini-PCle socket with PCIe X1 & USB signal, SIM Holder 1 x Half-size Mini-PCle socket with PCIe X1 & USB signal. mSATA
Board Size	170mm x 170mm
Operating Temp.	0°C~60°C
Storage Temp.	.-20°C~80°C
Operating Hum.	10%~90% (non-condensing)
Display	
Chipset	Intel® Atom SOC Integrated
Display interface	2 x external HDMI 1.4a (Connector with lockable), 4K display 1 x internal 24-bit Dual Channel LVDS. (12V/5V/3.3V power select by jumper), 1920 x 1080
I/O	
Series Port	1 x RS232/422/485, 5 x RS232 (Pin-header)
SATA	1 x SATAIII
USB	2 x USB3.0(on rear IO) + 2 x internal USB 3.0 + 2 x internal USB2.0
Ethernet	2 x Intel® I211AT Gigabit Ethernet controller
Audio	1 x Line-Out. 1 x onboard Pin-Header (Line-In/Out , Mic-In)
Digital I/O	8-bit GPIO interface

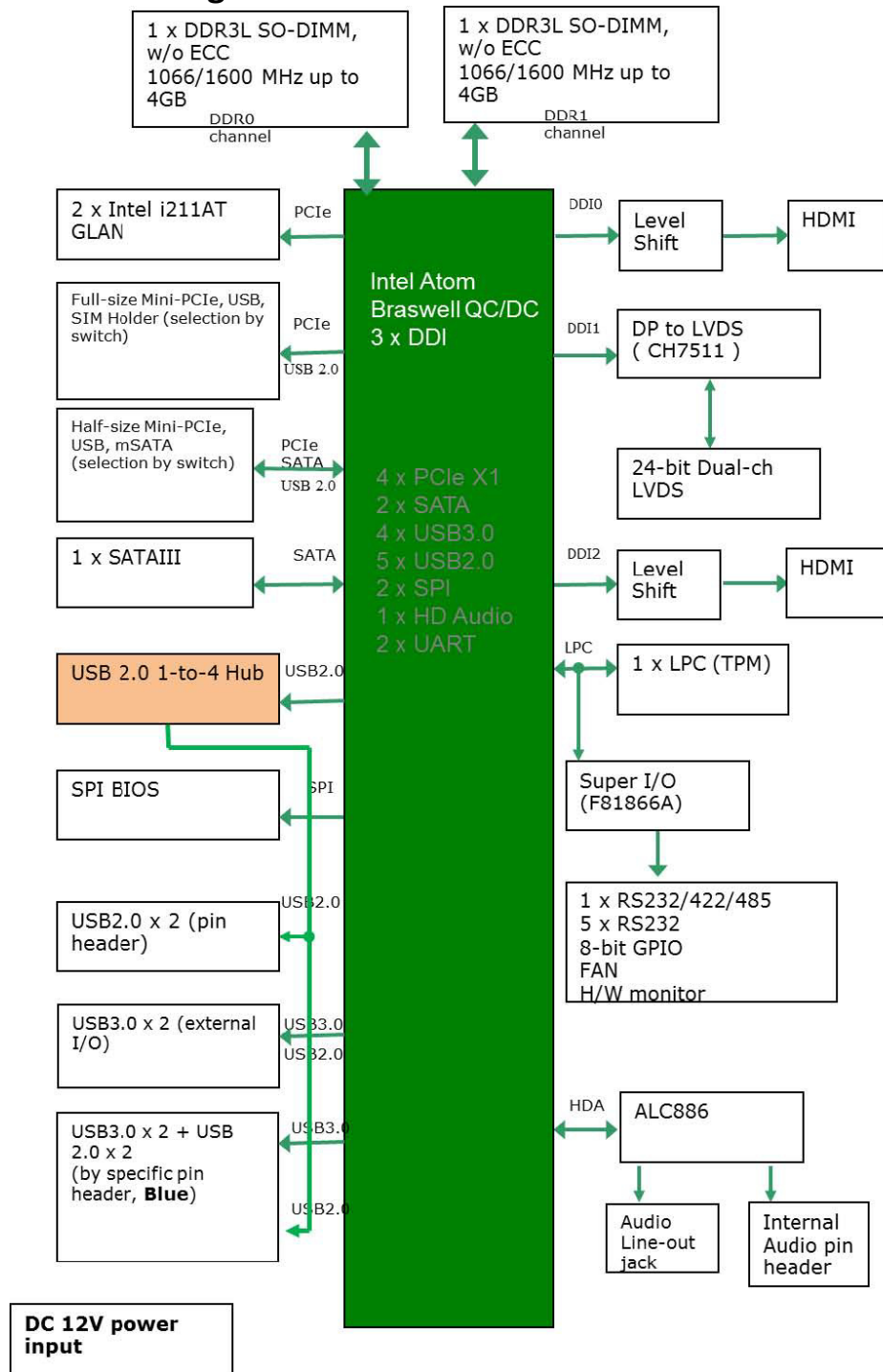
LPC	1 x LPC header for Optional TPM module	
Others	1 x 4-pin 12V/5V SATA power connector 1 x LVDS backlight header	1 x SMBus pin header.

Power

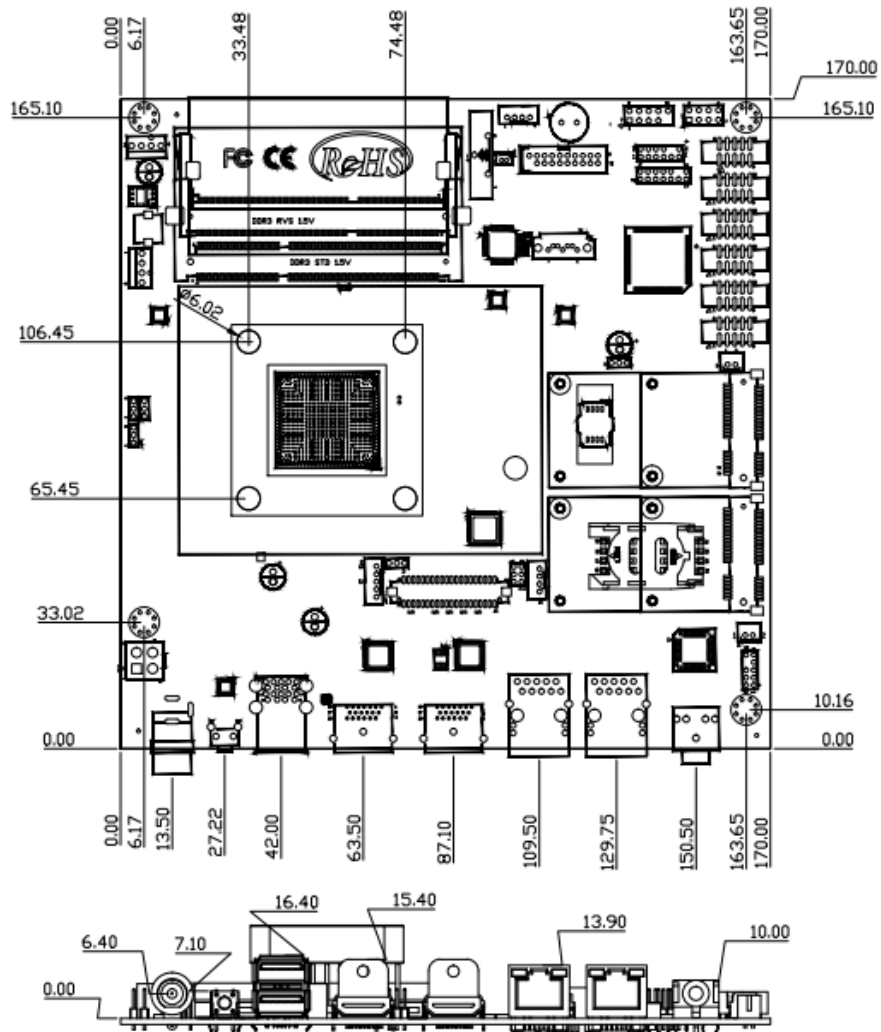
Power in DC 12V input (AT/ATX mode by jumper select).
DC Jack connector & P4 4-pin .

Note: Specifications and photos subject to change without prior notice.

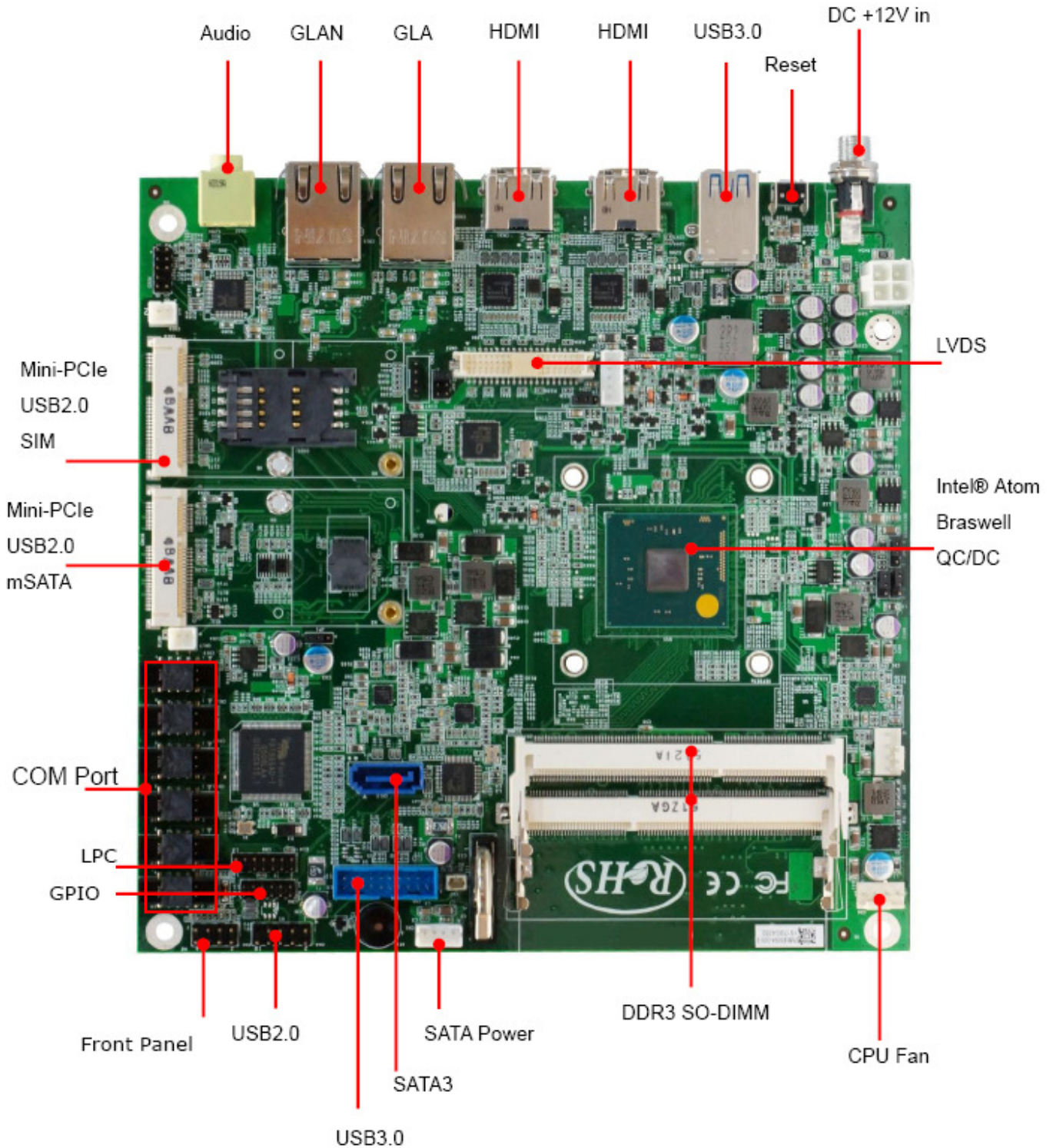
1.3 Block Diagram

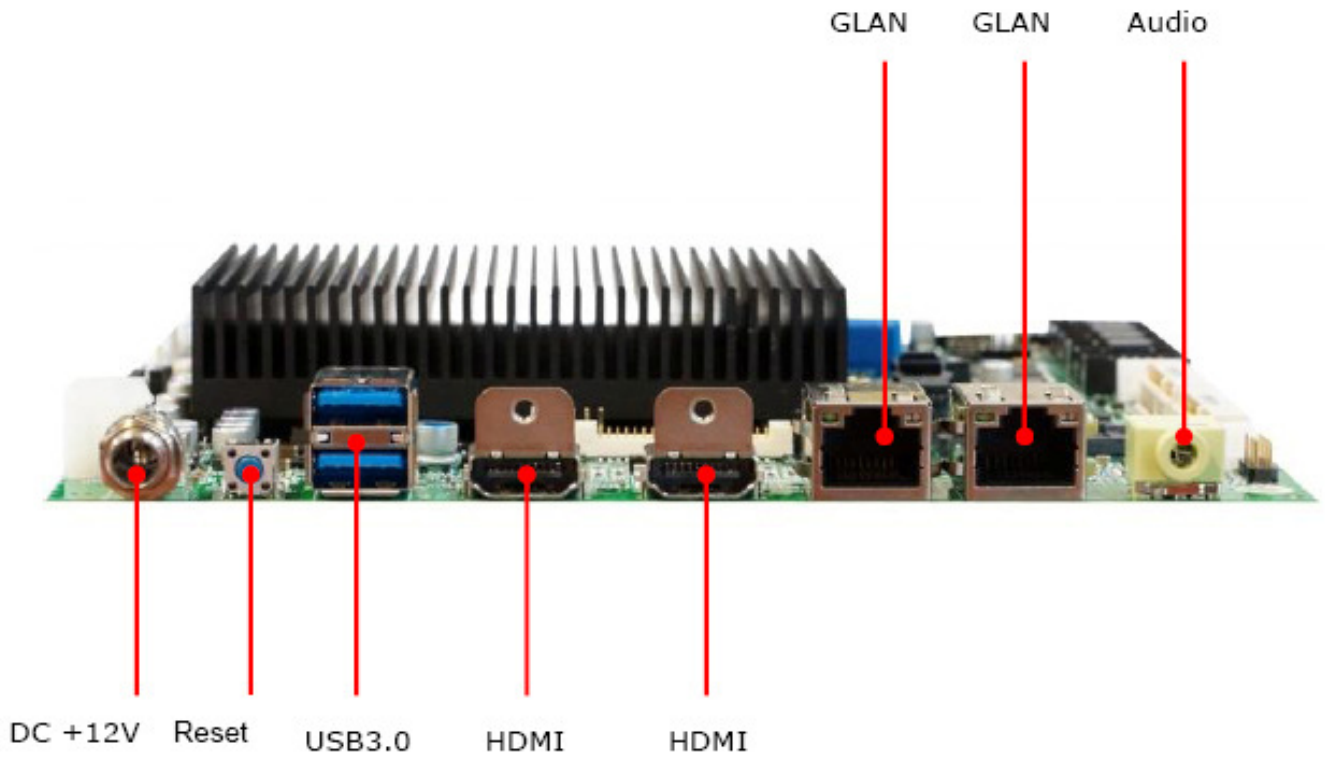


1.4 Board Layout Dimensions



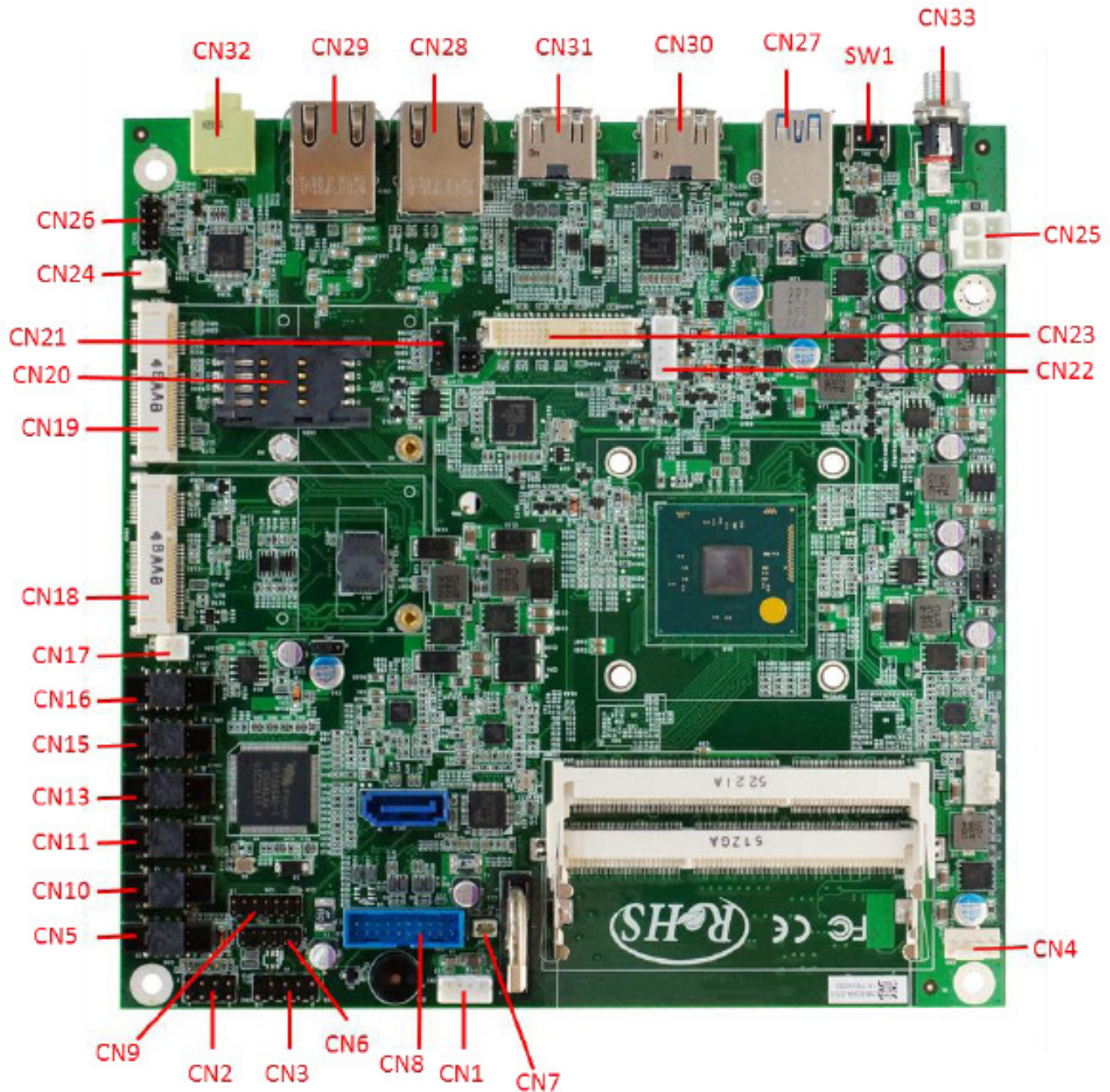
1.5 IO ports





2. Hardware installation

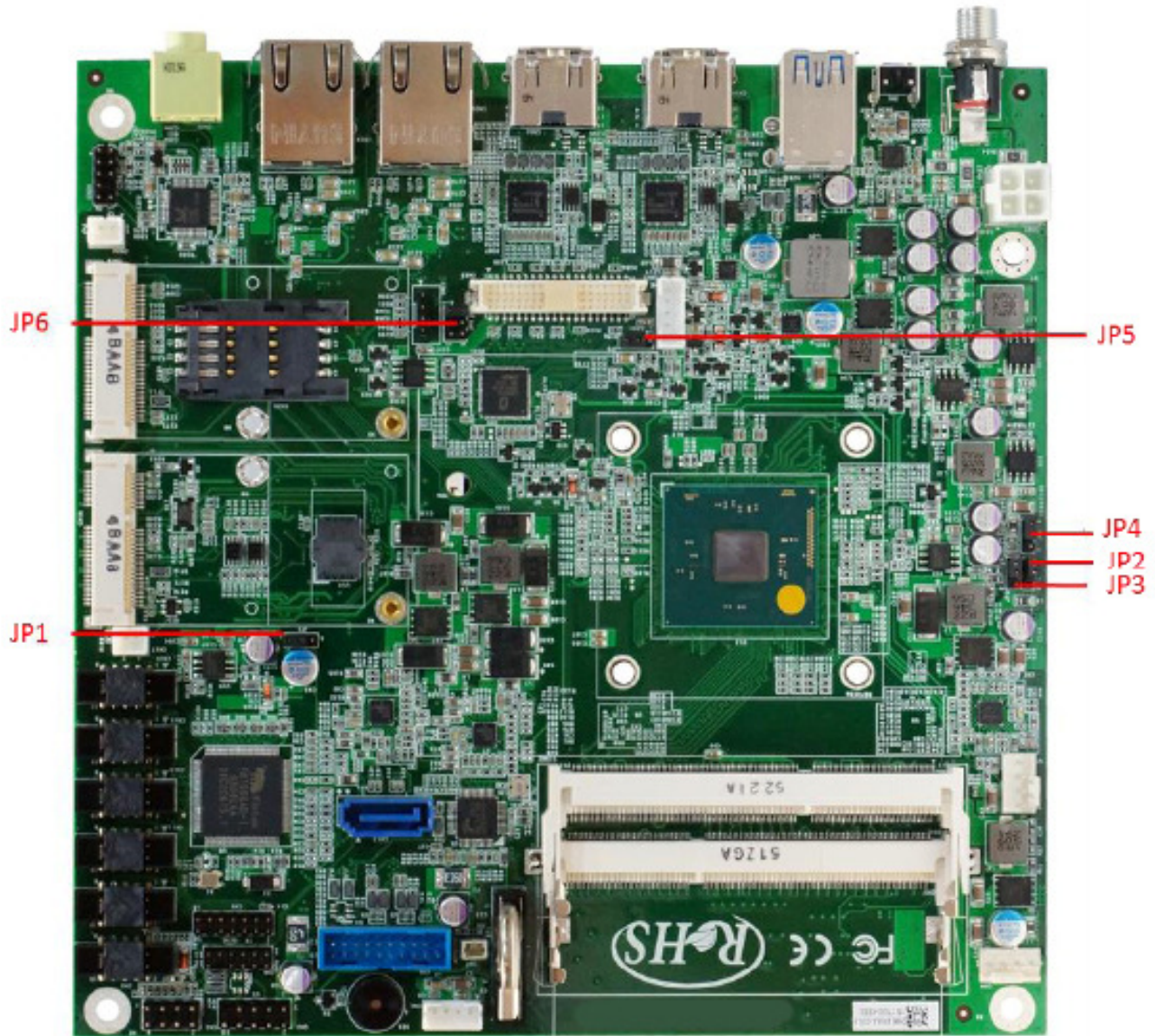
2.1 The location of onboard connectors



CN1	SATA Power Connector
CN2	Front Panel Pin Header
CN3	USB 2.0 Pin Header
CN4	System FAN Connector
CN5	COM6 Pin Header
CN6	GPIO Pin Header
CN7	External Battery Connector
CN8	USB 3.0 Pin Header
CN9	LPC Pin Header
CN10	COM5 Pin Header
CN11	COM4 Pin Header
CN12	SATA Connector
CN13	COM3 Pin Header
CN14	CPU FAN Connector
CN15	COM2 Pin Header
CN16	COM1 Pin Header
CN17	WLAN LED Connector (For CN18)
CN18	MINI-PCIE Socket.(Half Size)
CN19	MINI-PCIE Socket.(Full Size)
CN20	SIM Socket
CN21	LVDS Panel Backlight Adjustment Connector
CN22	LVDS Panel Inverter Power Connector
CN23	LVDS Panel Connector
CN24	WLAN LED Connector (For CN19)
CN25	DC-IN Power Connector
CN26	AUDIO Connector (Front Side)
CN27	USB 3.0 Connector
CN28	LAN1 Connector
CN29	LAN2 Connector
CN30	HDMI1 Connector
CN31	HDMI2 Connector
CN32	AUDIO Connector (Rear Side)
CN33	DC-IN Power Jack

SW1 RESET Button

2.2 The location of onboard jumpers setting



2.3 The function list of onboard jumpers settings

JP1

AT/ATX MODE SELECT (1-2 short : AT ; 2-3 short : ATX)

JP4 Clear CMOS (1-2 short : Hold CMOS ; 2-3 short : Clear CMOS)

JP5 LVDS Panel Backlight Control Mode Select (1-2 short : PWM Mode ; 2-3 short : DC Mode)

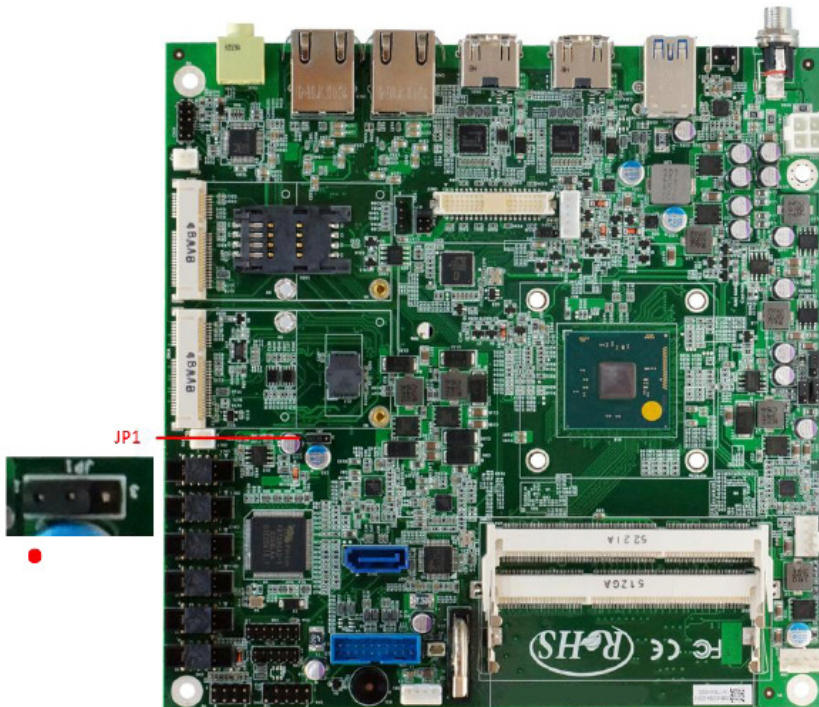
JP6 LVDS Panel Power Level Select (1-2 short : +3.3V ; 3-4 short : +5V ; 5-6 short : +12V)

2.3.1 JP1 : ATX & AT Power SELECT

JP2

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

* Default setting

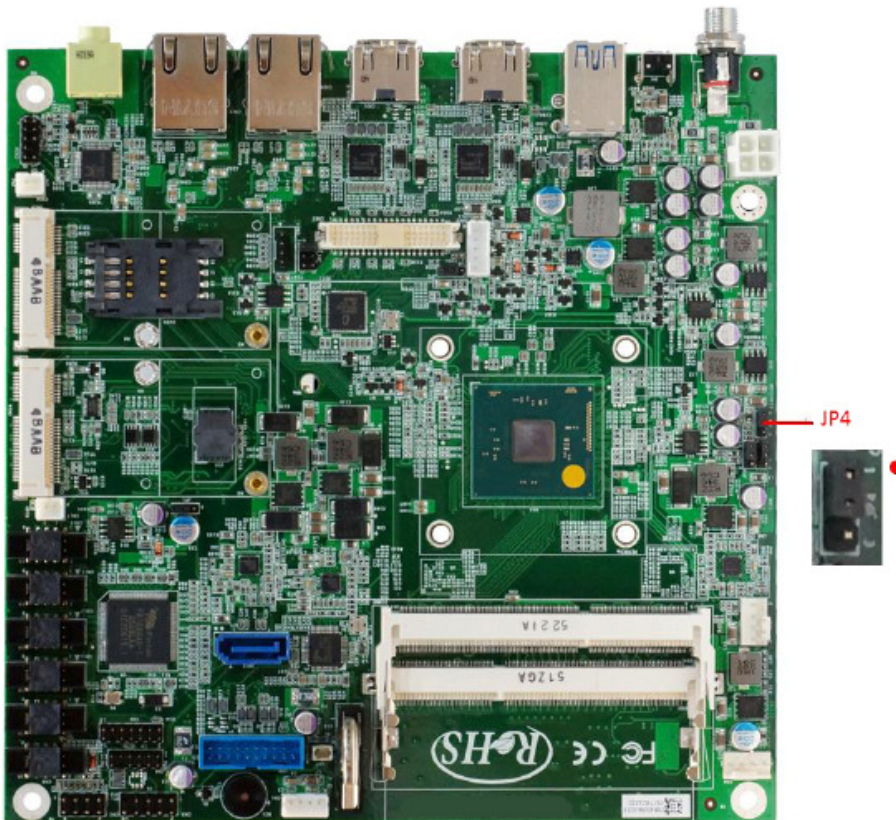


2.3.2 JP4 : CLEAR CMOS

JP4

Closed Pin	Result
1-2*	For normal
2-3	For clear cmos

* Default setting



2.3.3 JP5 : CLEAR CMOS

JP5

Closed Pin	Result
1-2	PWM Mode

2-3* DC Mode

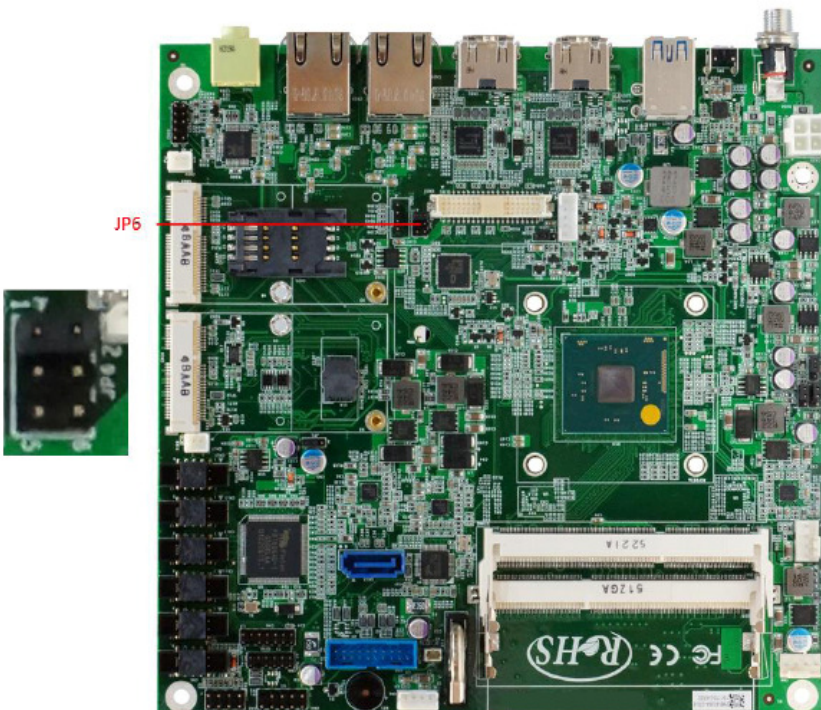
* Default setting

2.3.4 JP6 : LVDS Panel Power Level Select

JP6

Closed Pin	Result
1-2	+3.3V
3-4*	+5V
5-6	+12V

* Default setting



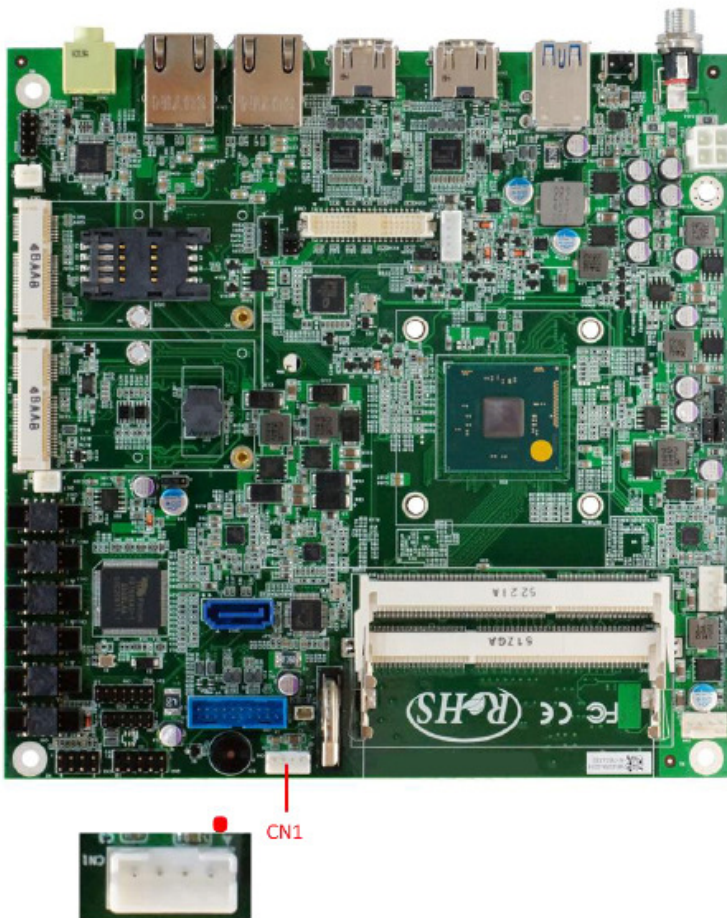
2.4 The function list of onboard connectors

2.4.1 : CN1 for SATA power

4-pin wafer for SATA power connector

Pin	Signal	Pin	Signal
1	+12V	2	GND
3	GND	4	+5V

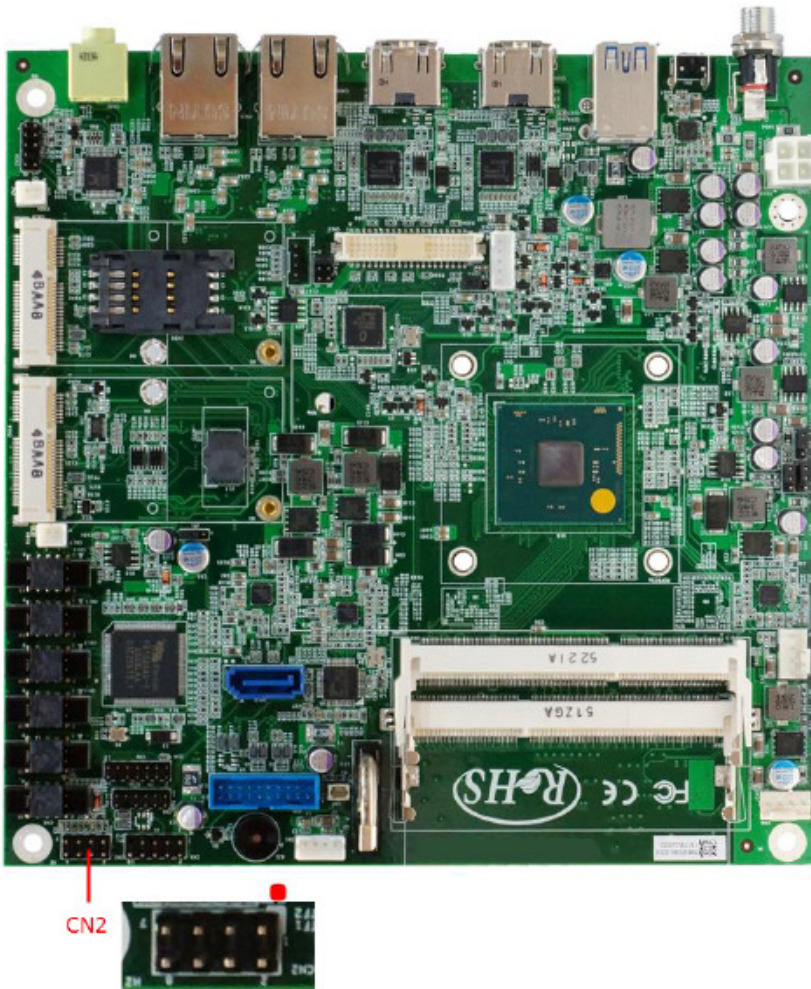
Note: Maximum output current 12V/1A, 5V/1A



2.4.2 : CN2 for front Panel pin header

2 x 4 header

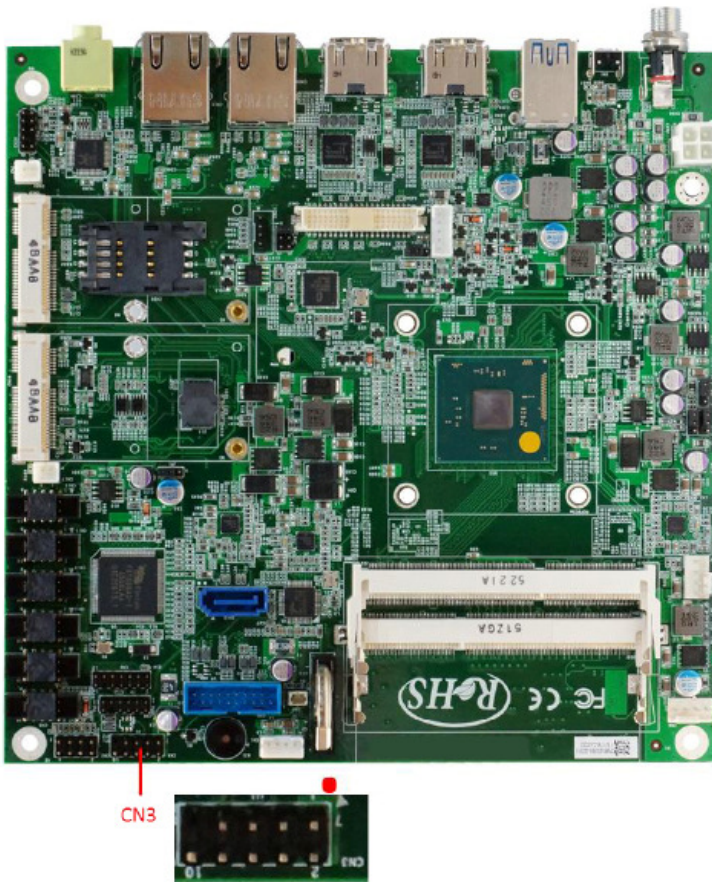
Pin	Signal	Pin	Signal
1	Power_LED+	2	GND
3	HDD_LED+	4	HDD_LED-
5	GND	6	Power on/off
7	RESET	8	GND



2.4.3 : CN3 for USB2.0

2 x 5 header

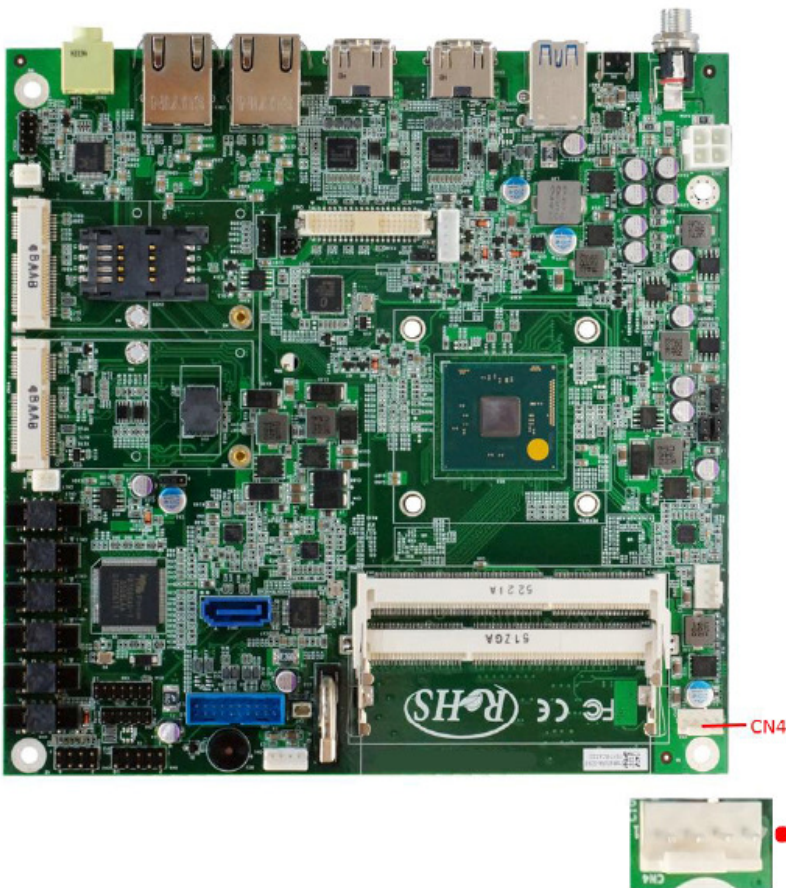
Pin	Signal	Pin	Signal
1	+5V	2	+5V
3	USB_data-	4	USB_data-
5	USB_data+	6	USB_data+
7	GND	8	GND
9	Key	10	GND



2.4.4 : CN4 for System Fan connector

1 x 4 wafer

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

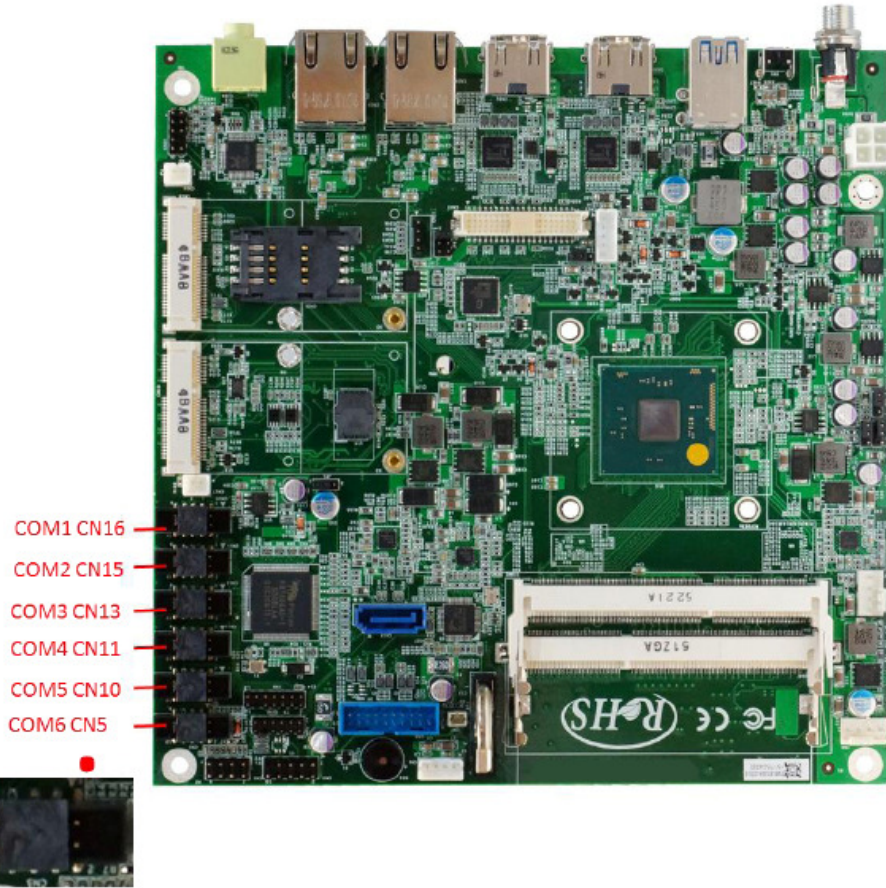


2.4.5 : CN5, 10, 11, 13, 15, 16 for COM6, COM5, COM4, COM3, COM2, COM1port pin header

2 x 4 header

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 |



2.4.6 : CN6 for 8-bit GPIO

2 x 6 header

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



■ CN6



2.4.7 : CN7 for external Battery

1 x 2 wafer

Pin Signal Pin Signal

1 +3.3V 2 GND



■ CN6



2.4.8 : CN8 for USB3.0

CN8: 2 x 10 box header

Pin	Signal	Pin	Signal
1	+5V	11	USB1+
2	USB3_RX0_-	12	USB1-
3	USB3_RX0_+	13	GND



Custom Embedded Solutions

4	GND	14	USB3_TX1_+
5	USB3_TX0_-	15	USB3_TX1_-
6	USB3_TX0_+	16	GND
7	GND	17	USB3_RX1_+
8	USB0-	18	USB3_RX1_-
9	USB0+	19	+5V
10	N/C	20	Key



2.4.9 : CN9 for Low Pin Count pin-header

2 x 7 header

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



CN9



2.4.12 : CN12 for standard SATA connector

Standard SATA Connector

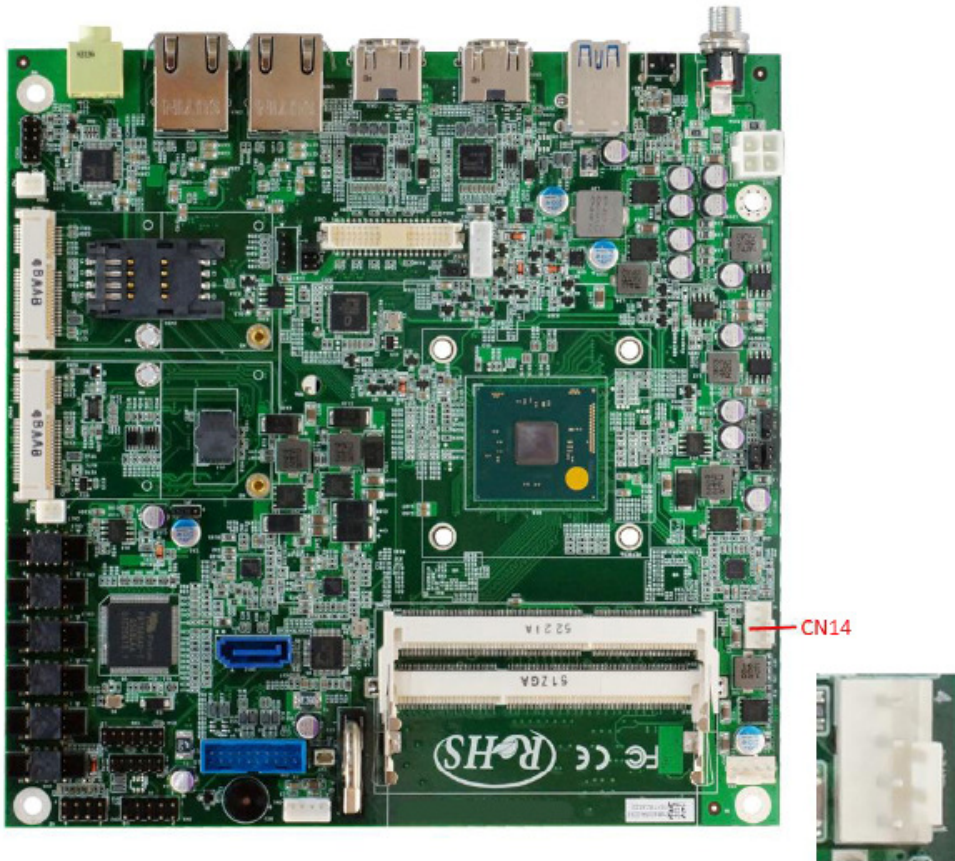
Pin	Signal	Pin	Signal
1	GND	2	SATA_TX1+
3	SATA_TX1-	4	GND
5	SATA_RX1-	6	SATA_RX1+
7	GND		



2.4.13 : CN14 for CPU Fan connector

1 x 4 wafer

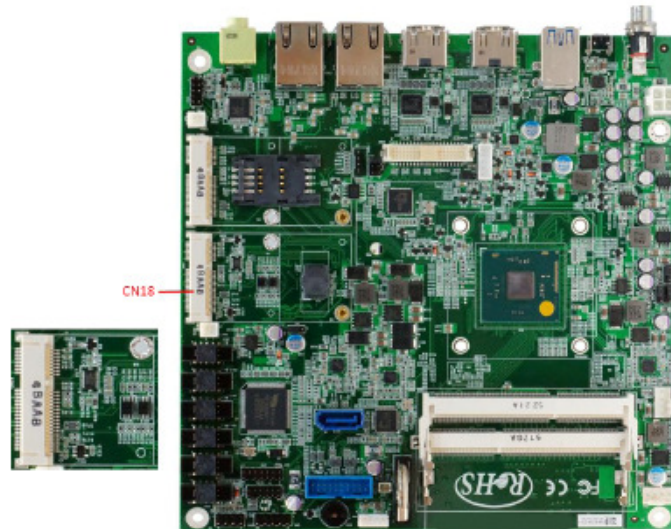
Pin	Signal	Pin	Signal
1	GND	2	+12V
3	Sense	4	Control



CN14



2.4.14 : CN18 for Half-size Mini-PCle socket



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

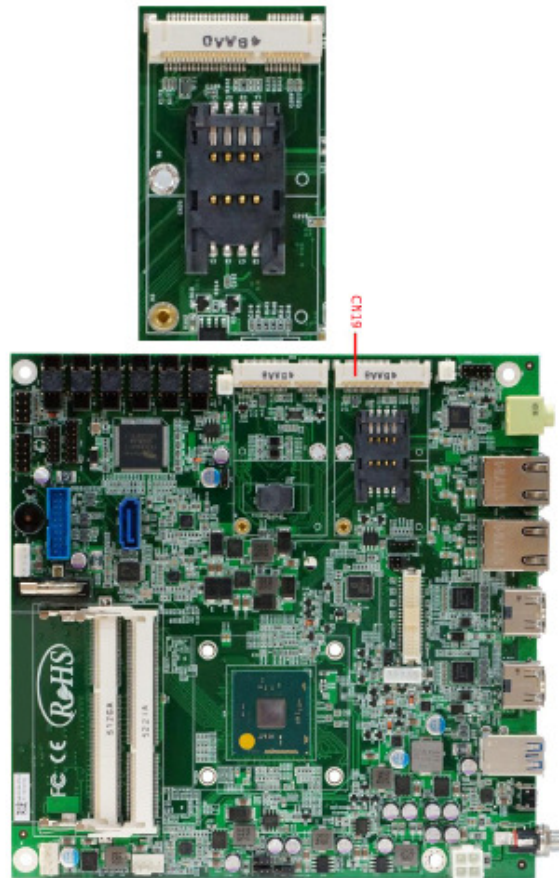
Pin	Signal	Pin	Signal
1	N/A	27	GND
2	+3.3V AUX	28	+1.5V
3	N/A	29	GND
4	GND	30	SMBCLK
5	N/A	31	SATA TX-
6	+1.5V	32	SMBDATA
7	N/A	33	SATA TX+
8	Reserved	34	GND
9	GND	35	GND
10	N/C	36	USB_D-
11	N/A	37	GND
12	N/C	38	USB_D+
13	N/A	39	3.3V
14	N/C	40	GND



Custom Embedded Solutions

	GND		3.3V
15	N/C	41	LED_WWAN
16	N/A	42	GND
17	GND	43	LED_WLAN
18	N/A	44	N/C
19	Reserved	45	N/C
20	GND	46	N/C
21	PERST	47	+1.5V
22	STAT RX+	48	N/C
23	+3.3V AUX	49	GND
24	SATA RX-	50	N/C
25	GND	51	+3.3V
26		52	

2.4.15 : CN19 for Full-size Mini-PCle socket



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

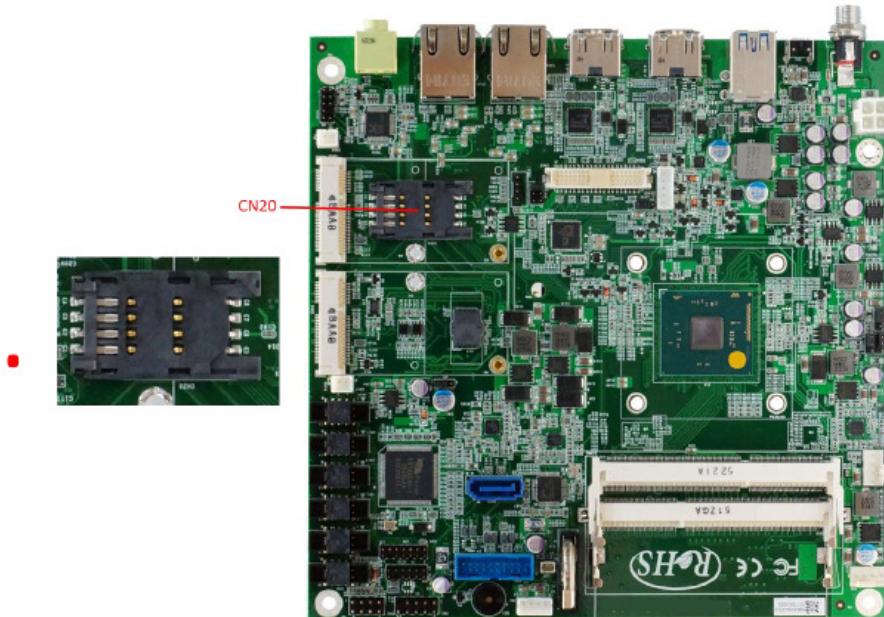
Pin	Signal	Pin	Signal
1	WAKE	27	GND
2	+3.3V AUX	28	+1.5V
3	N/C	29	GND
4	GND	30	SMBCLK
5	N/C	31	PETN0
6	+1.5V	32	SMBDATA
7	CLKREQ	33	PETP0
8	UIM_PWR	34	GND
9	GND	35	GND
10	UIM_DATA	36	USB_D-

	REFCLK-		GND
11	UIM_CLK	37	USB_D+
12	REFCLK+	38	+3.3V AUX
13	UIM_RESET	39	GND
14	GND	40	+3.3V AUX
15	UIM_VPP	41	LED_WWAN
16	UIM_C8	42	GND
17	GND	43	LED_WLAN
18	UIM_C4	44	N/C
19	W_Disable	45	N/C
20	GND	46	N/C
21	PERST	47	+1.5V
22	PERN0	48	N/C
23	+3.3V AUX	49	GND
24	PERP0	50	N/C
25	GND	51	+3.3V AUX
26		52	

2.4.16 : CN20 for SIM Card Holder

CN26 : SIM card holder

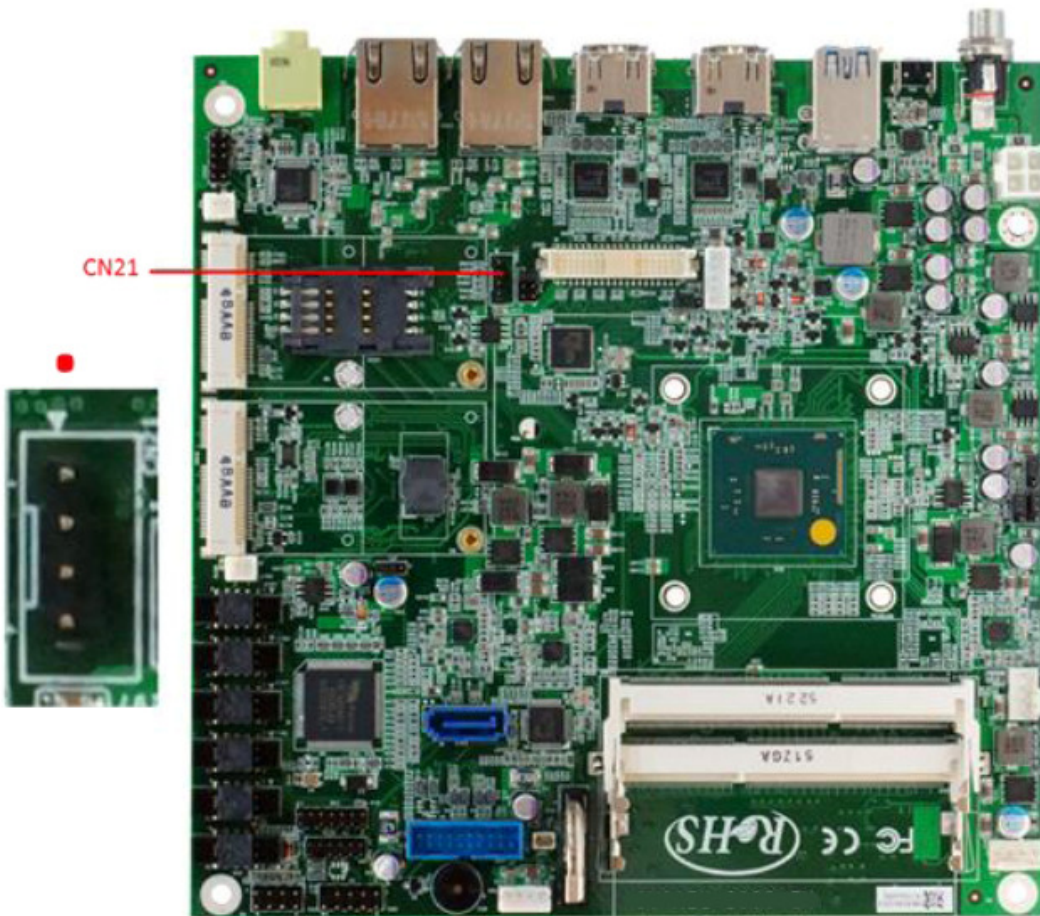
Pin	Signal	Pin	Signal
C1	VCC	C2	RESET
C3	CLOCK	C4	Reserved
C5	GND	C6	VPP
C7	I/O	C8	Reserved



2.4.17 : CN21 for LVDS Panel Backlight Adjustment Connector

1 x 4 Header

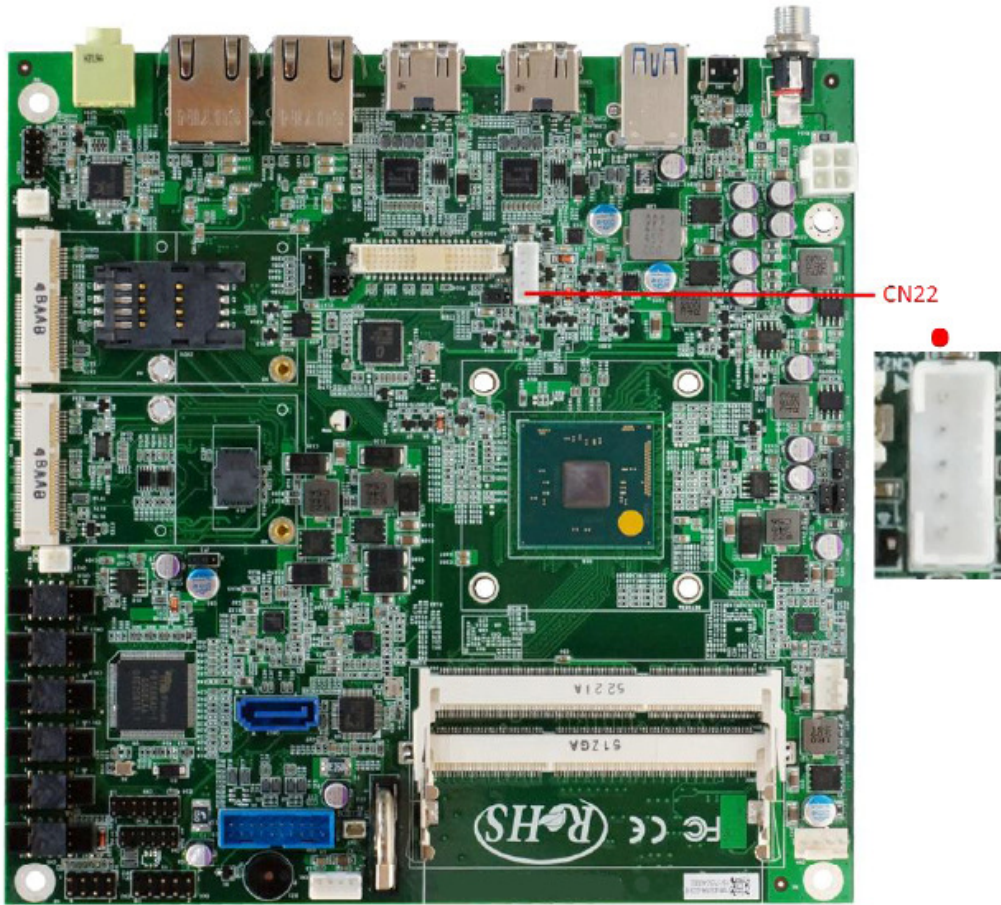
Pin	Signal	Pin	Signal
1	Backlight Turn Up	2	GND
3	GND	4	Backlight Turn Down



2.4.18 : CN22 for LVDS Pannel Inverter Power Connector

1 x 5 wafer

Pin	Signal	Pin	Signal
1	+12V	2	GND
3	LVDS Backlight Enable	4	Backlight Invert Control
5	+5V		

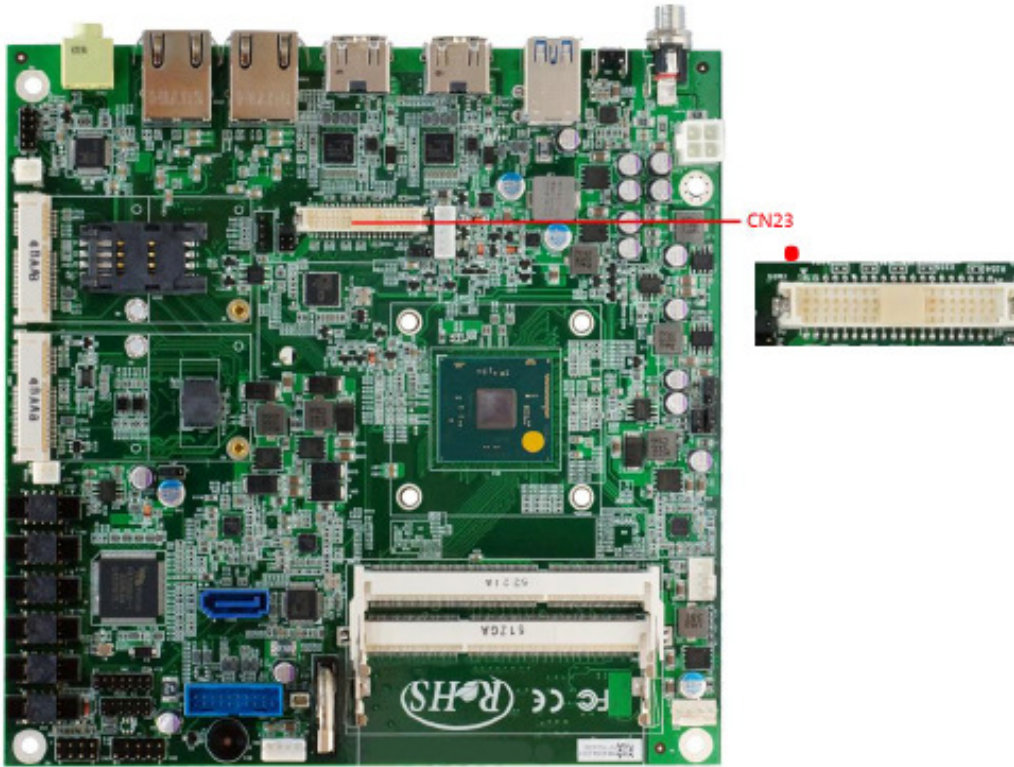


2.4.19 : CN23 for LVDS Panel Connector

CN23 : connector type : DF13A-40DP-1.25V

Pin	Signal	Pin	Signal	Pin	Signal
1	LVDS_VCC	15	LVDSA_1+	29	GND
2	LVDS_VCC	16	LVDSB_1+	30	GND
3	LVDS_VCC	17	GND	31	DDC_Clock
4	LVDS_VCC	18	GND	32	DDC_Data
5	GND	19	LVDSA_2-	33	GND
6	GND	20	LVDSB_2-	34	GND
7	LVDSA_0-	21	LVDSA_2+	35	LVDSA_3-
8	LVDSB_0-	22	LVDSB_2+	36	LVDSB_3-
9	LVDSA_0+	23	GND	37	LVDSA_3+
10	LVDSB_0+	24	GND	38	LVDSB_3+
11	GND	25	LVDSA_Clock-	39	SMB_Clock
12	GND	26	LVDSB_Clock-	40	SMB_Data

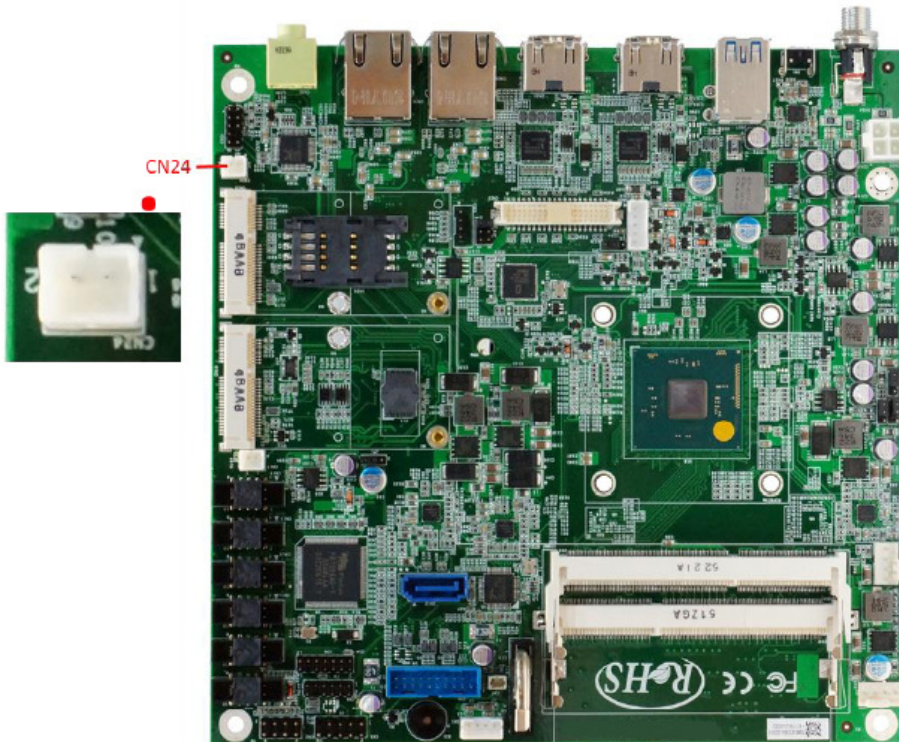
13 LVDSA_1- 27 LVDSA_Clock+
14 LVDSB_1- 28 LVDSB_Clock+



2.4.20 : CN24 for WLAN LED

1 x 2 wafer

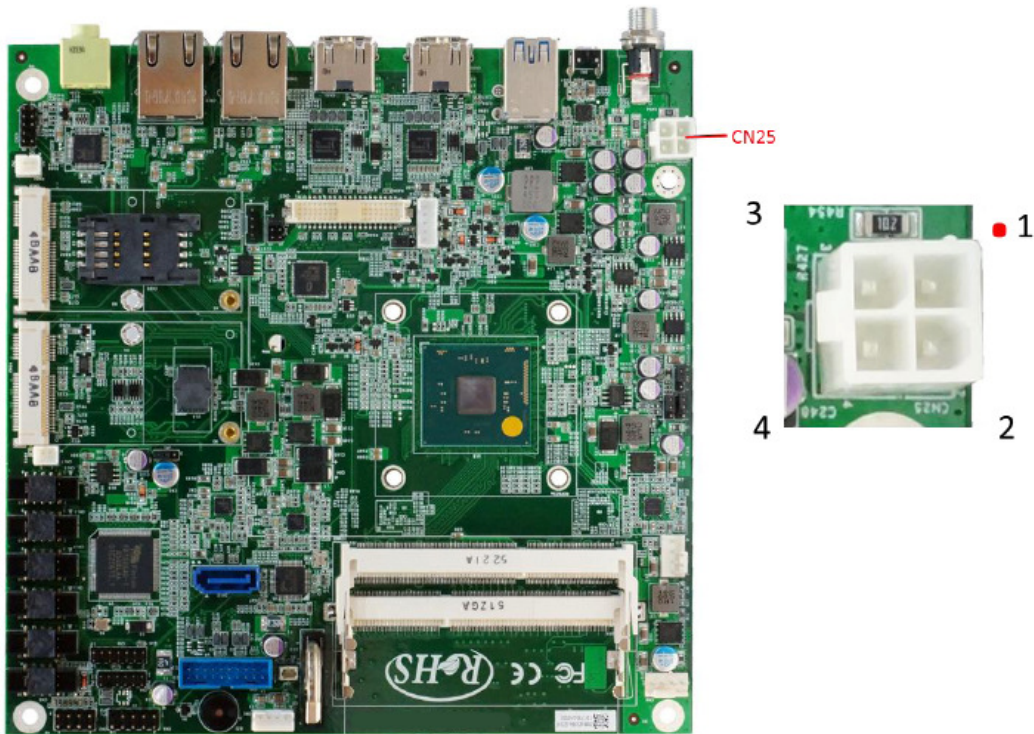
Pin	Signal	Pin	Signal
1	LED-	2	+3.3V



2.4.21 : CN25 for 4-pin 12V power input

ATX 2 x 2

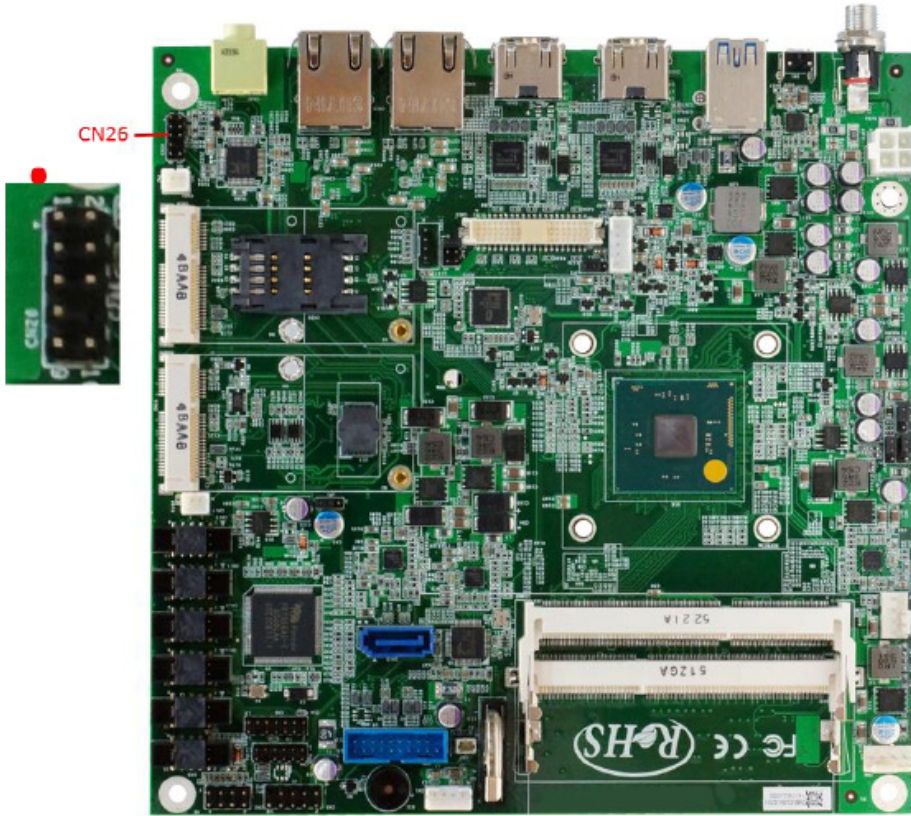
Pin	Signal	Pin	Signal
1	GND	2	GND
3	12V	4	12V



2.4.22 : CN26 for Audio pin header

2 x 5 header

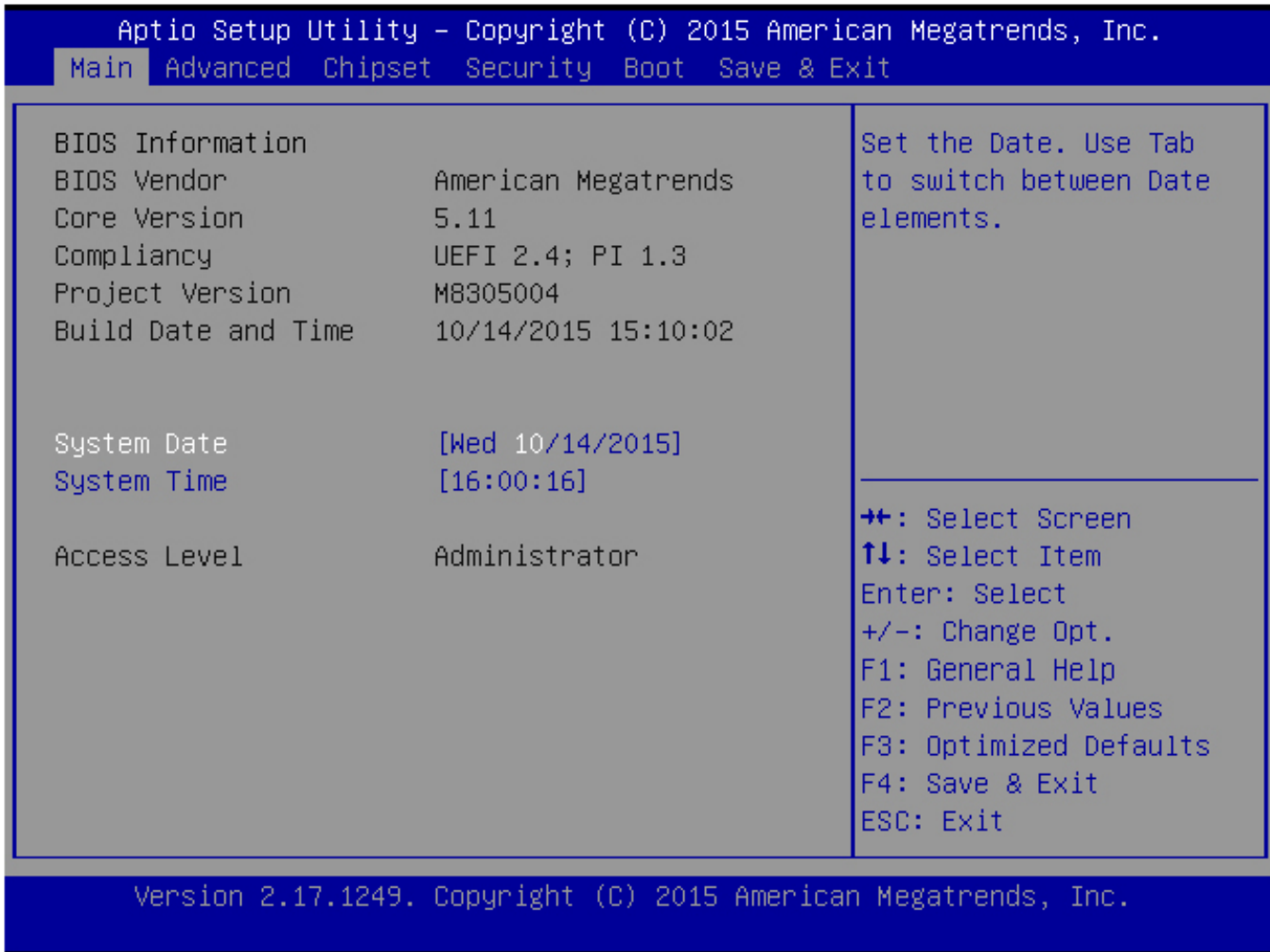
Pin	Signal	Pin	Signal
1	MIC2-L	2	LINE1-R
3	MIC2-R	4	GND
5	LINE2-R	6	MIC2_JD
7	GND	8	GND
9	LINE2-L	10	LINE2_JD



3. BIOS Menu Setting

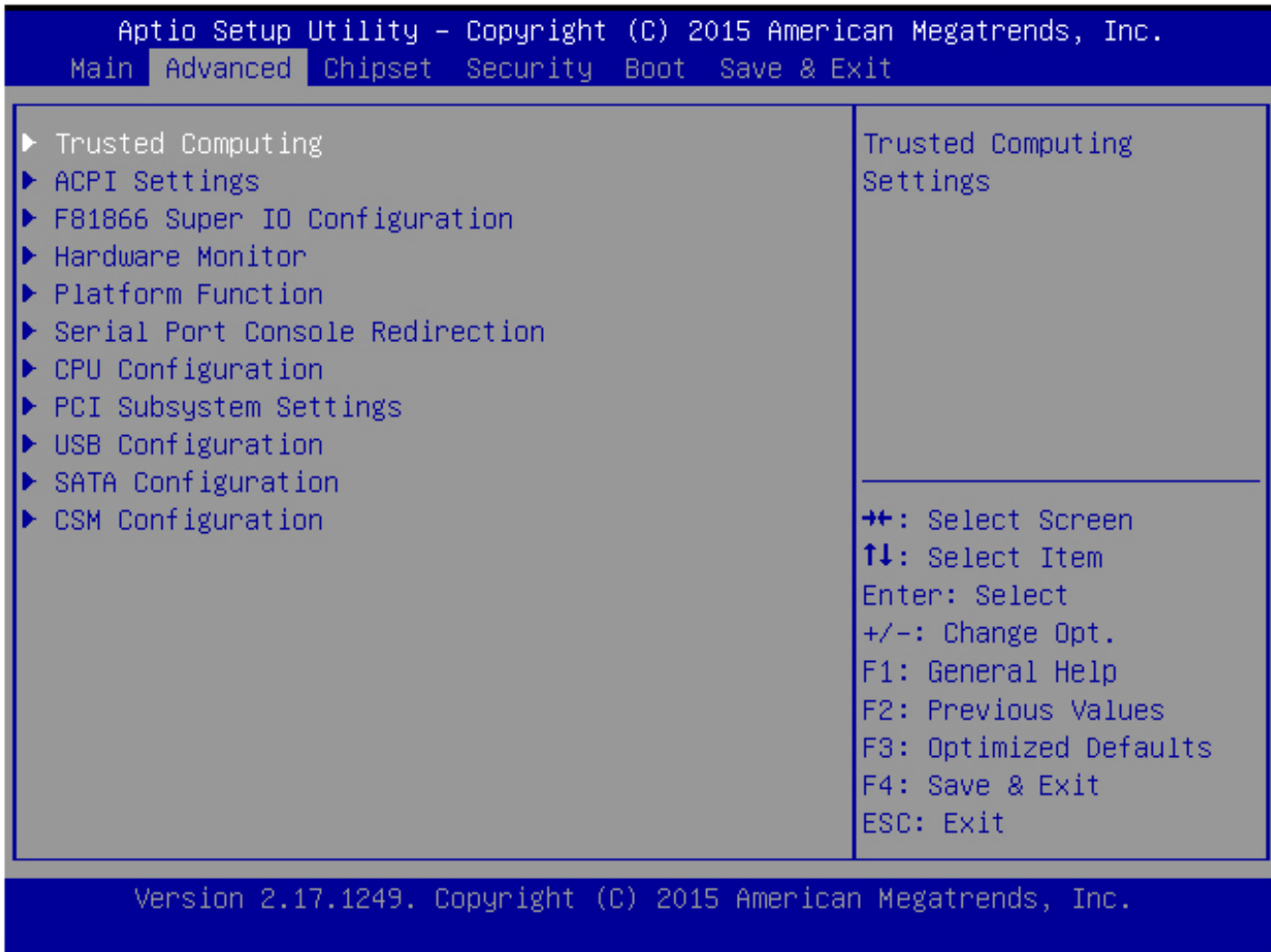
3.1 Main Menu

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



3.2 Advanced Menu

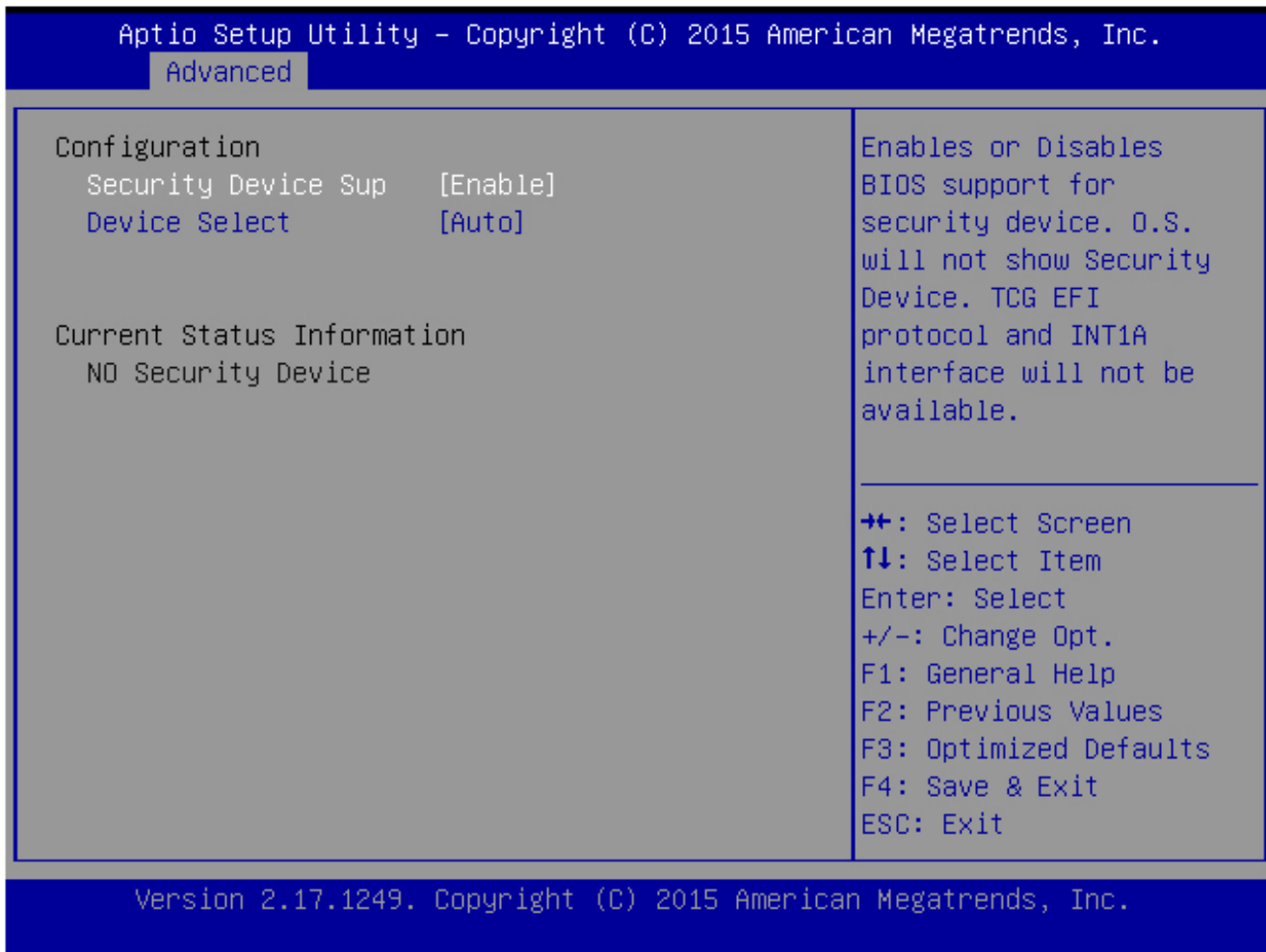
The Advanced Menu of BIOS Setup Utility allows users to configure advanced system settings.



3.2.1 Trusted Computing

Trusted 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. >

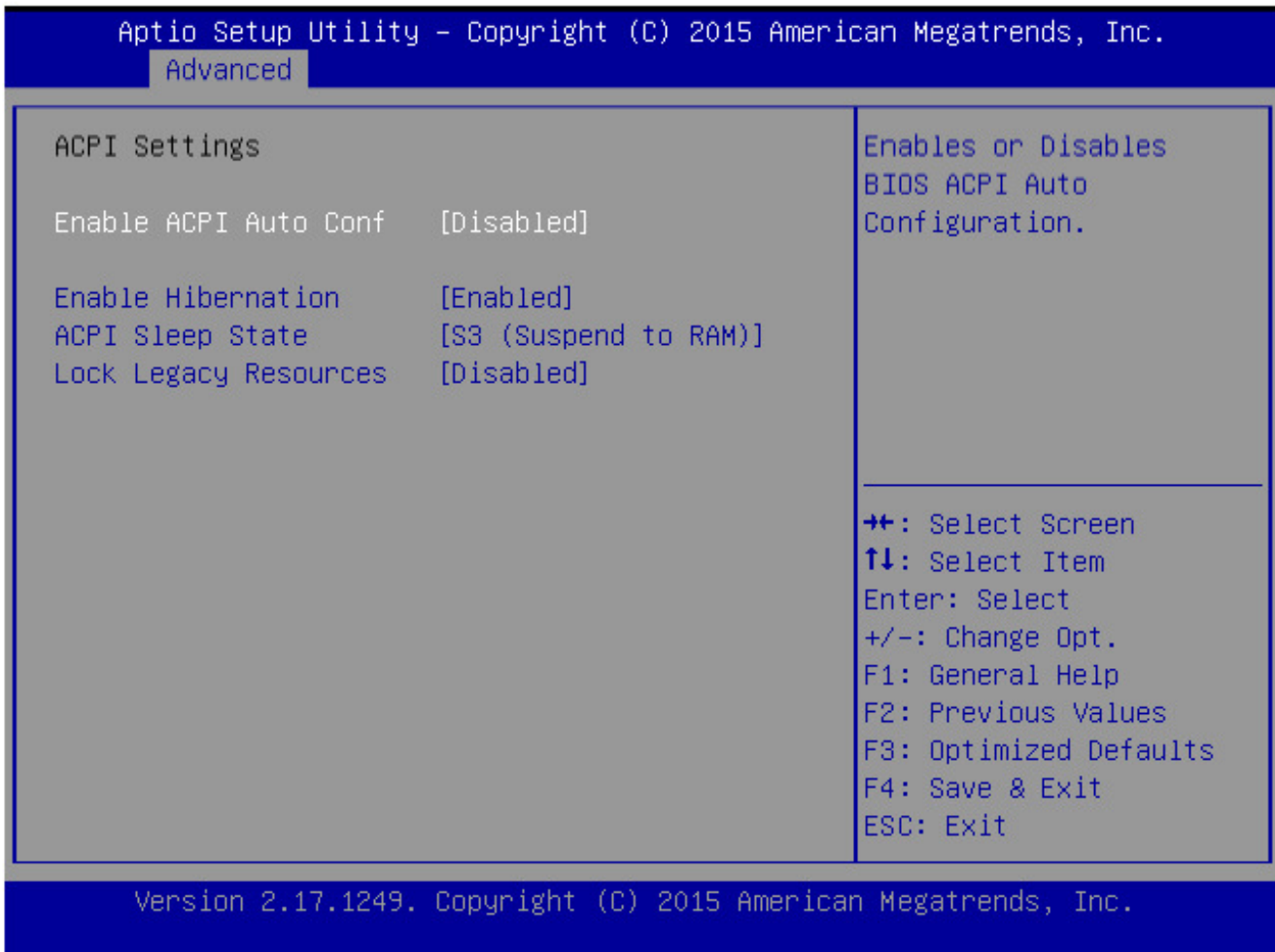


3.2.2 ACPI Settings

ACPI Setting:

Enable ACPI Auto Configuration < Enable >

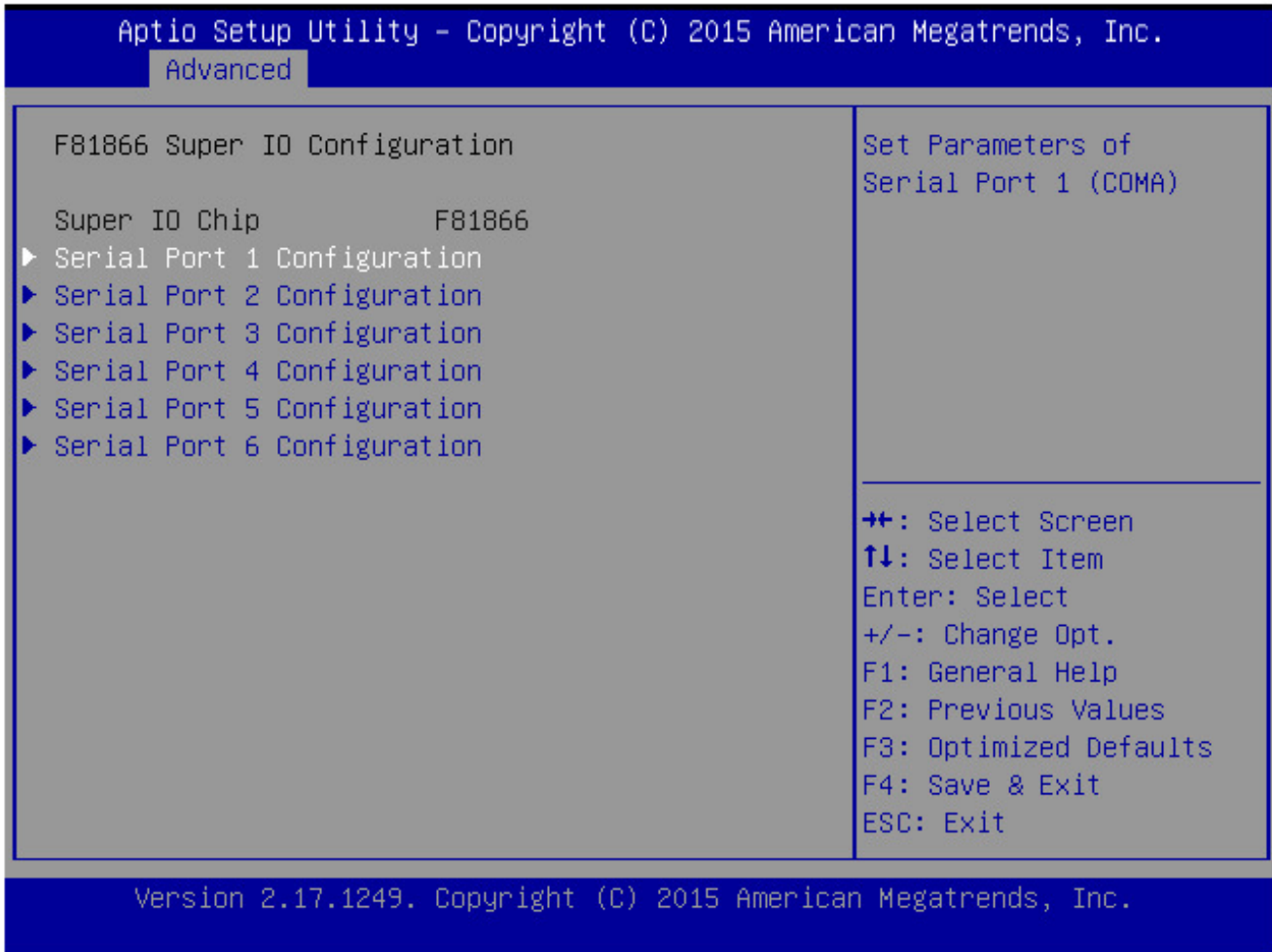
Description : Use this feature to configure Advanced Configuration and Power Interface (ACPI) power management settings for your system.



3.2.3 F81866 Super IO Configuration

F81866 Super IO Configuration:

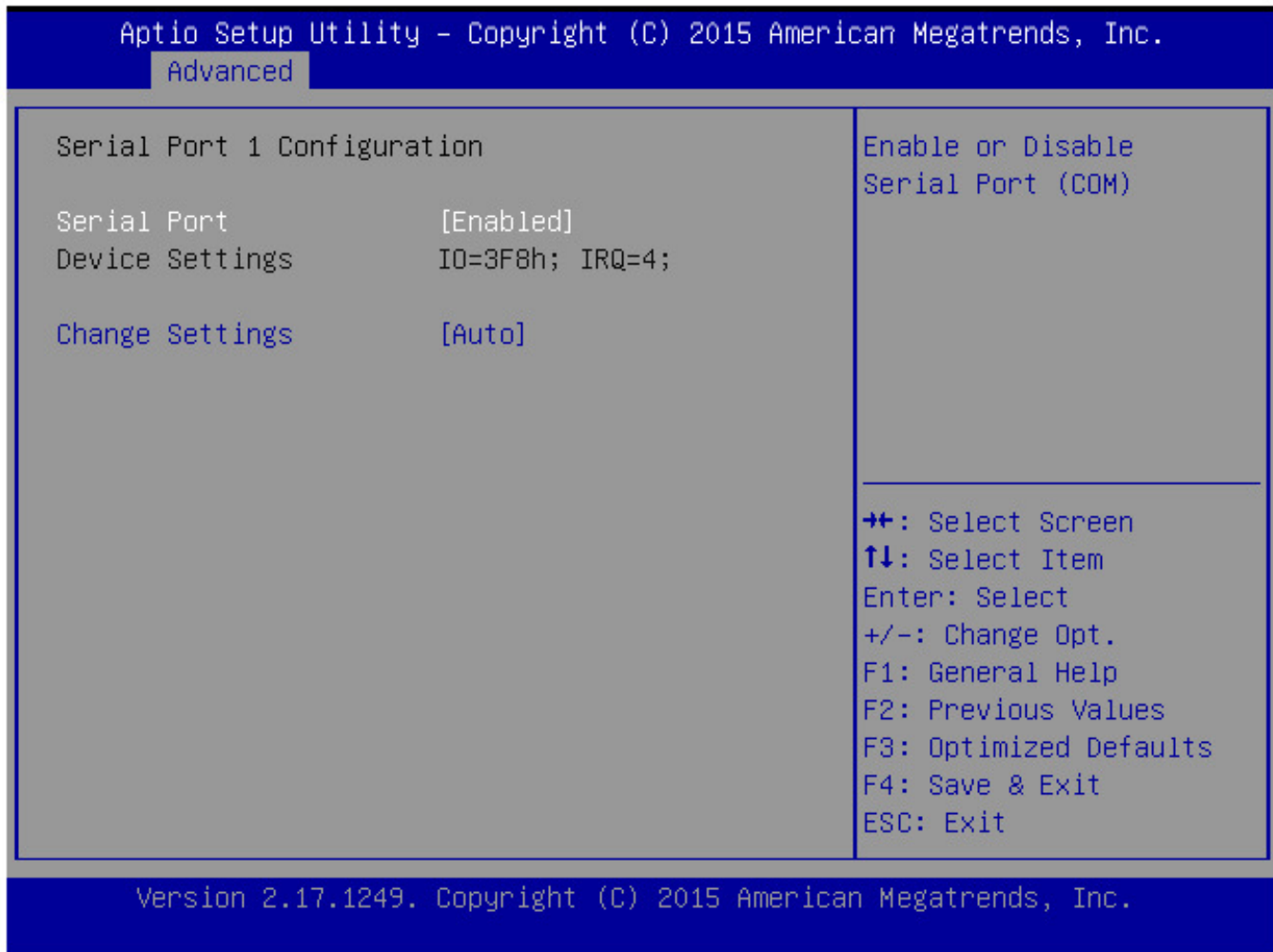
Description : Select Enabled to enable the onboard serial port. The options are Enabled and Disabled.



3.2.3.1 – 3.2.3.6 Serial Port 1, 2, 3, 4, 5, 6 Configuration

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

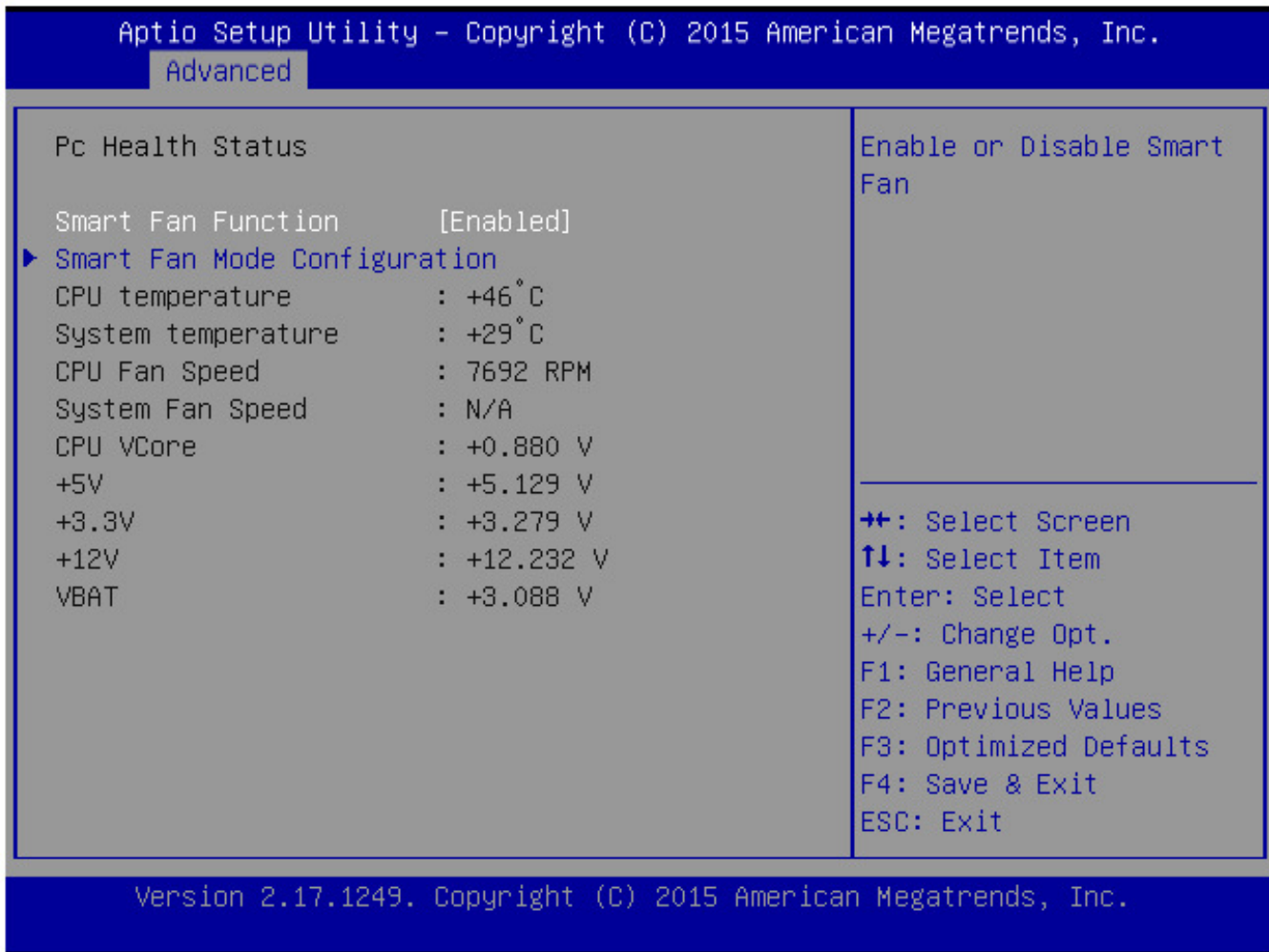
Description : Enable user to setup address and IRQ for serial Port.



3.2.4 F81866 H/W Monitor

Hardware Monitor

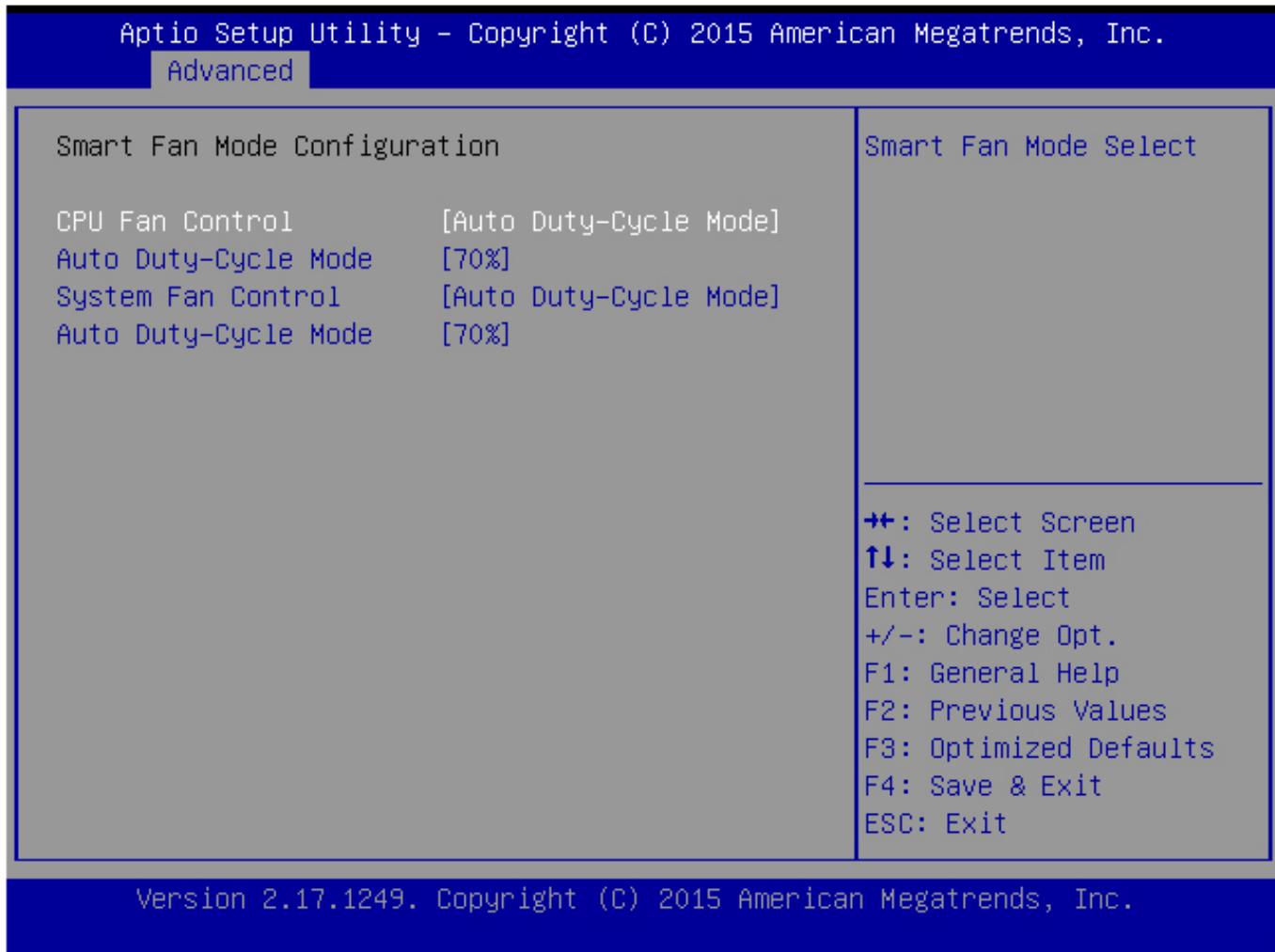
Description : Enable user to monitor processor and system status, smart FAN can be controlled by this menu.



3.2.4.1 Smart Fan Mode Configuration

Smart Fan Mode Configuration

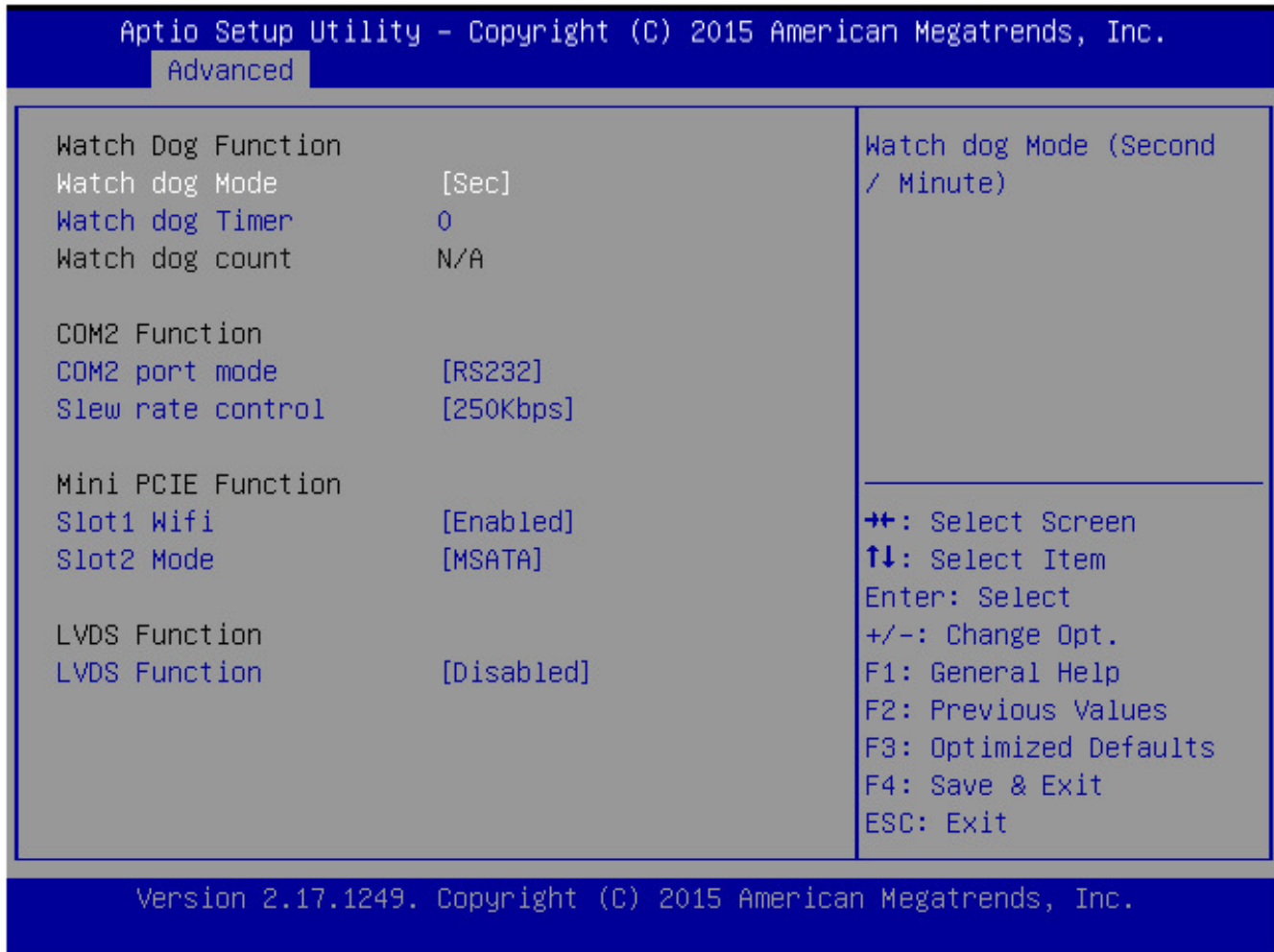
Description : Enable user to monitor processor and system status, smart FAN can be controlled by this menu.



3.2.5 Platform Function

Platform Function

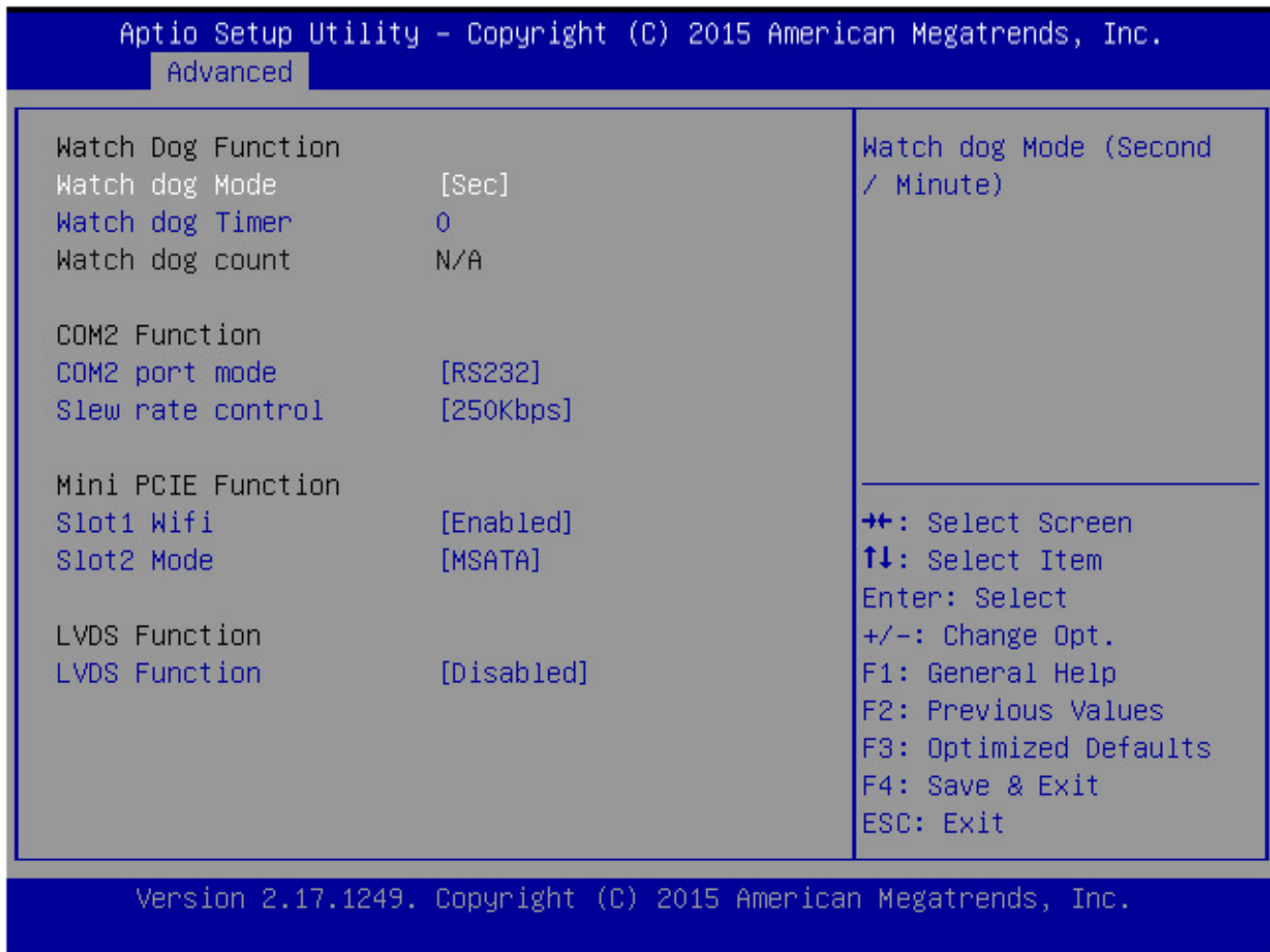
Description : Enable user to configure WatchDog Timer.



3.2.6 Serial Port Console Redirection

Serial Port Console Redirection

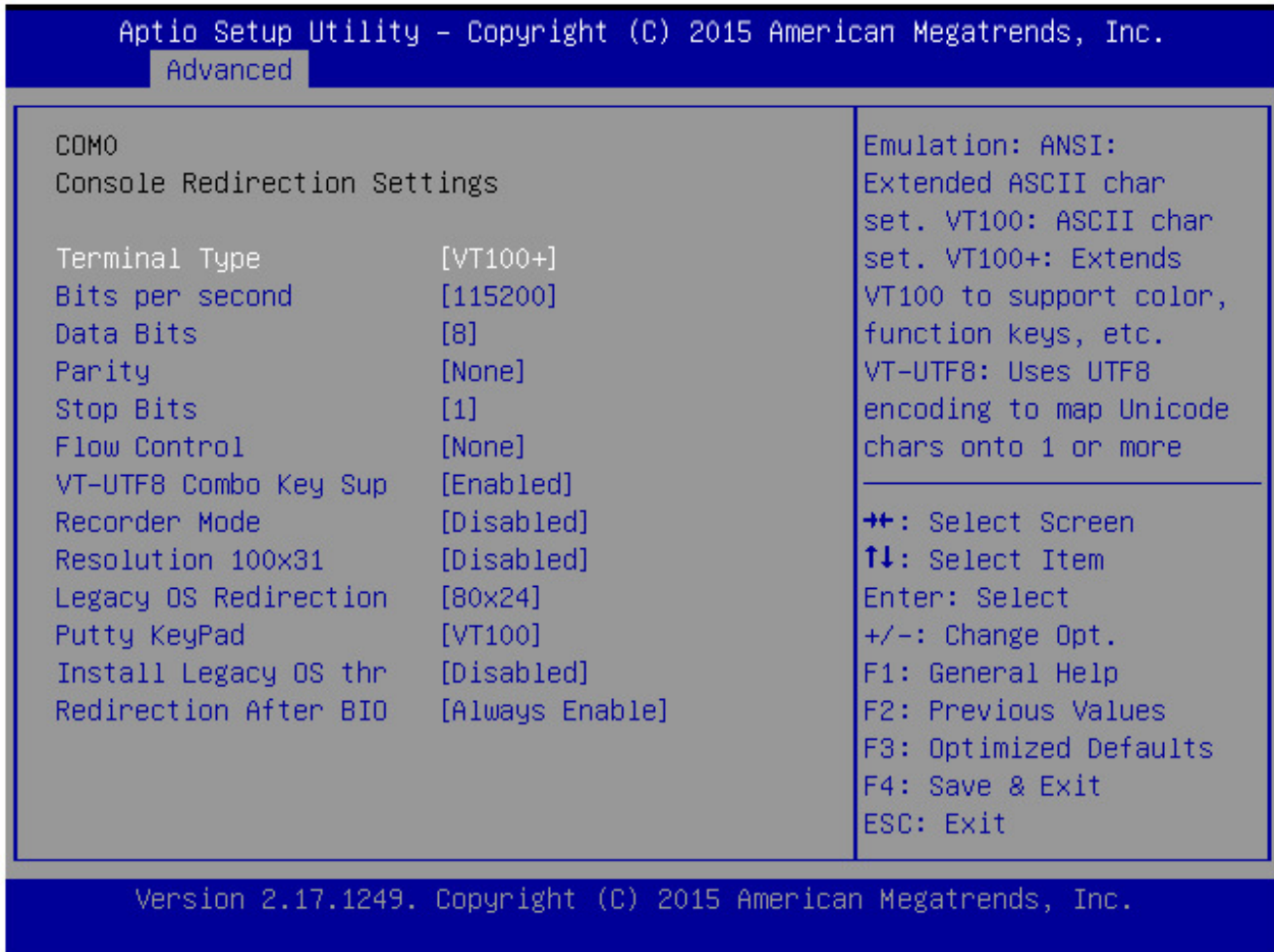
Description : Enable user to redirection console port.



3.2.6.1 COM0 Setting

COM0 Setting

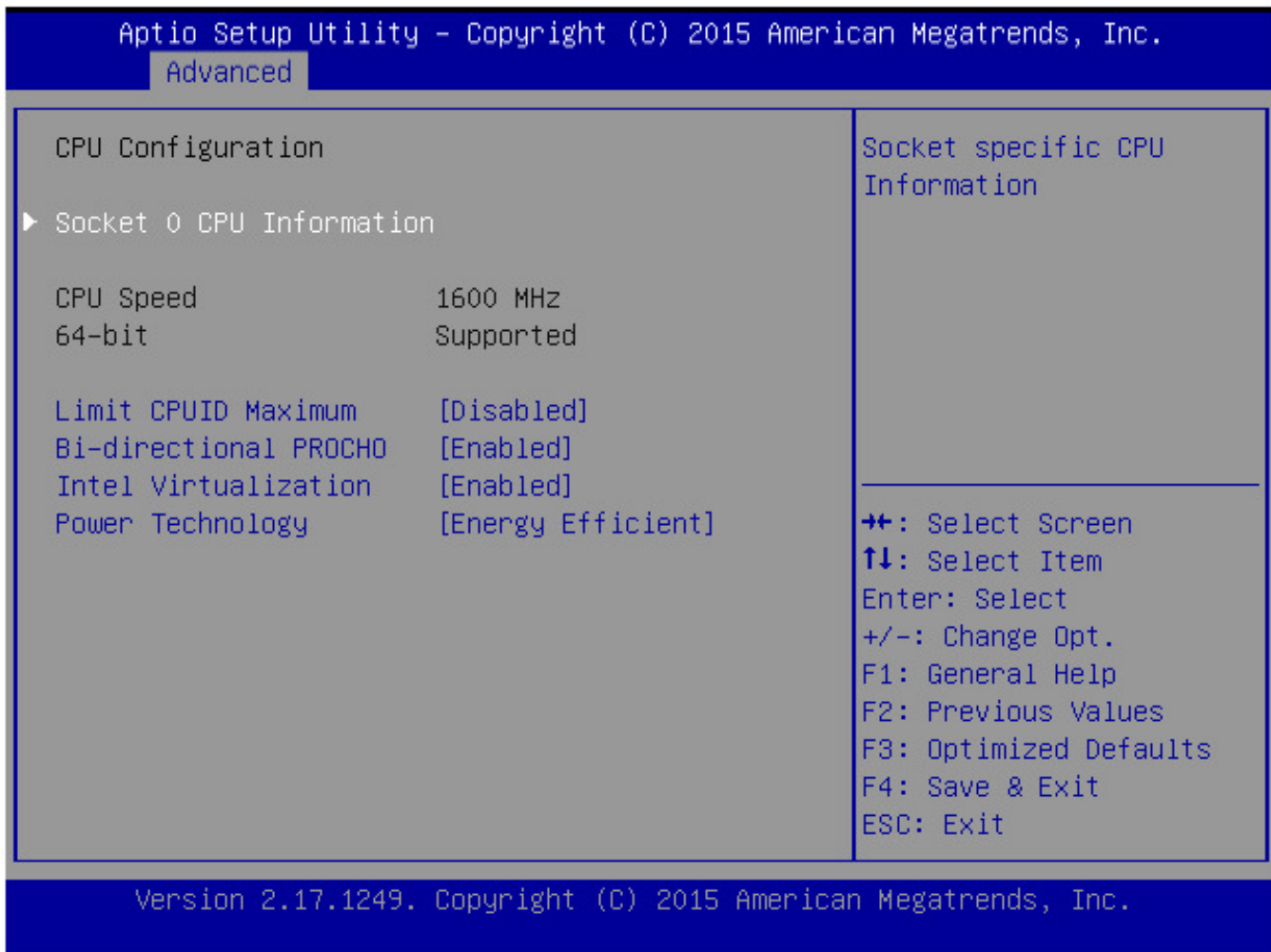
Description : Enable user to configure the setting for the console.



3.2.7 CPU Configuration

CPU Configuration

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



3.2.7.1 CPU Information

CPU Information

Description : CPU processor information can be found here

```

Aptio Setup Utility - Copyright (C) 2015 American Megatrends, Inc.
  Advanced
Socket 0 CPU Information

Intel(R) Celeron(R) CPU N3150 @ 1.60GHz
CPU Signature           406c3
Microcode Patch        353
Max CPU Speed           1600 MHz
Min CPU Speed           480 MHz
Processor Cores         4
Intel HT Technology     Not Supported
Intel VT-x Technology   Supported

L1 Data Cache           24 kB x 4
L1 Code Cache           32 kB x 4
L2 Cache                1024 kB x 2
L3 Cache                Not Present

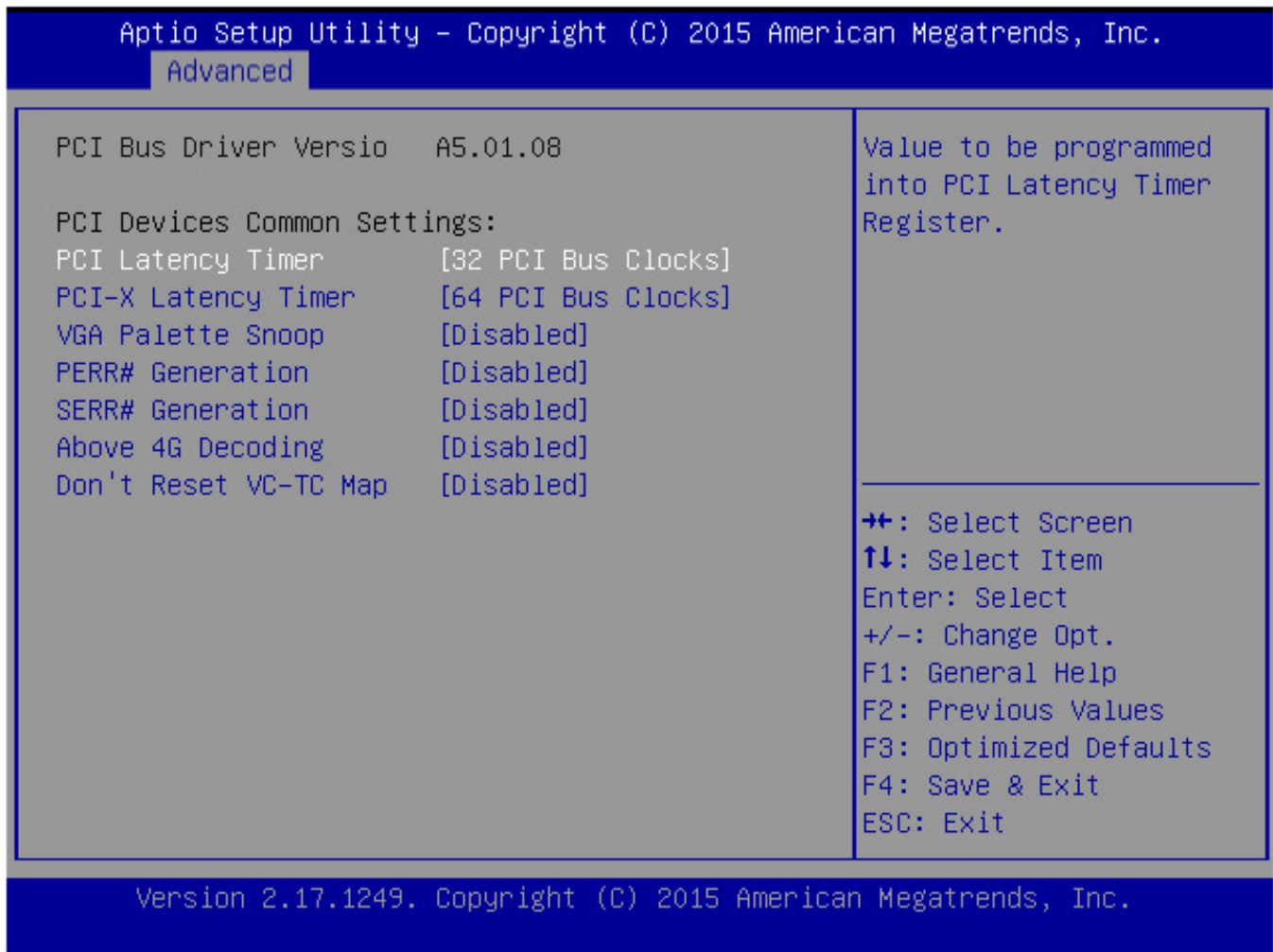
++: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.
  
```

3.2.8 PCI Subsystem Settings

PCI Subsystem Settings:

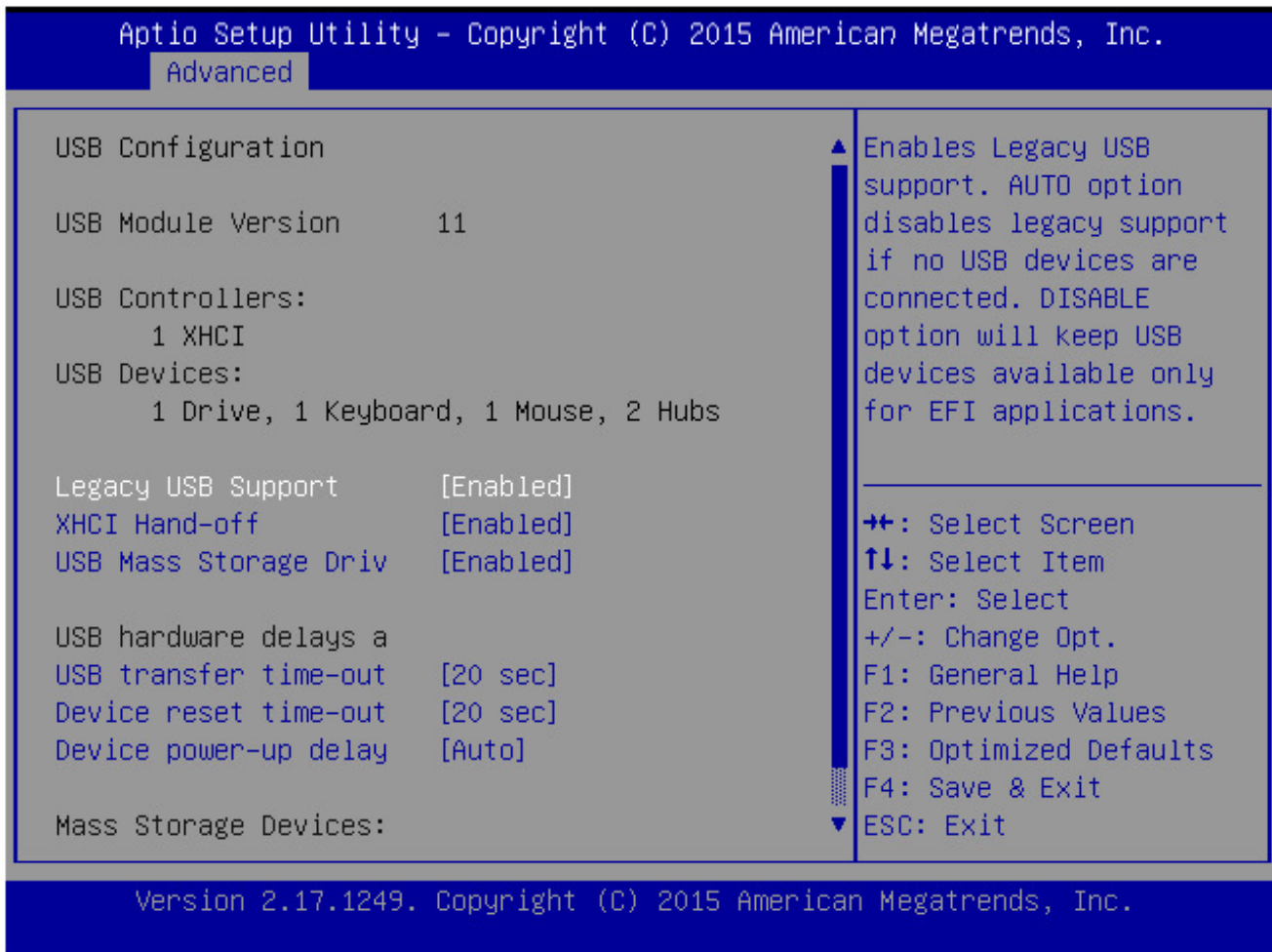
Description : Use this PCI sub-menu to configure relevant PCI setting



3.2.9 USB Configuration

USB Configuration:

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



Aptio Setup Utility - Copyright (C) 2015 American Megatrends, Inc.

Advanced

<pre> USB Module Version 11 USB Controllers: 1 XHCI USB Devices: 1 Drive, 1 Keyboard, 1 Mouse, 2 Hubs Legacy USB Support [Enabled] XHCI Hand-off [Enabled] USB Mass Storage Driv [Enabled] USB hardware delays a USB transfer time-out [20 sec] Device reset time-out [20 sec] Device power-up delay [Auto] Mass Storage Devices: JetFlashTS512MJF110 0 [Auto] </pre>	<p>▲ 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</p> <hr/> <p> ⇐: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ▼ ESC: Exit </p>
--	---

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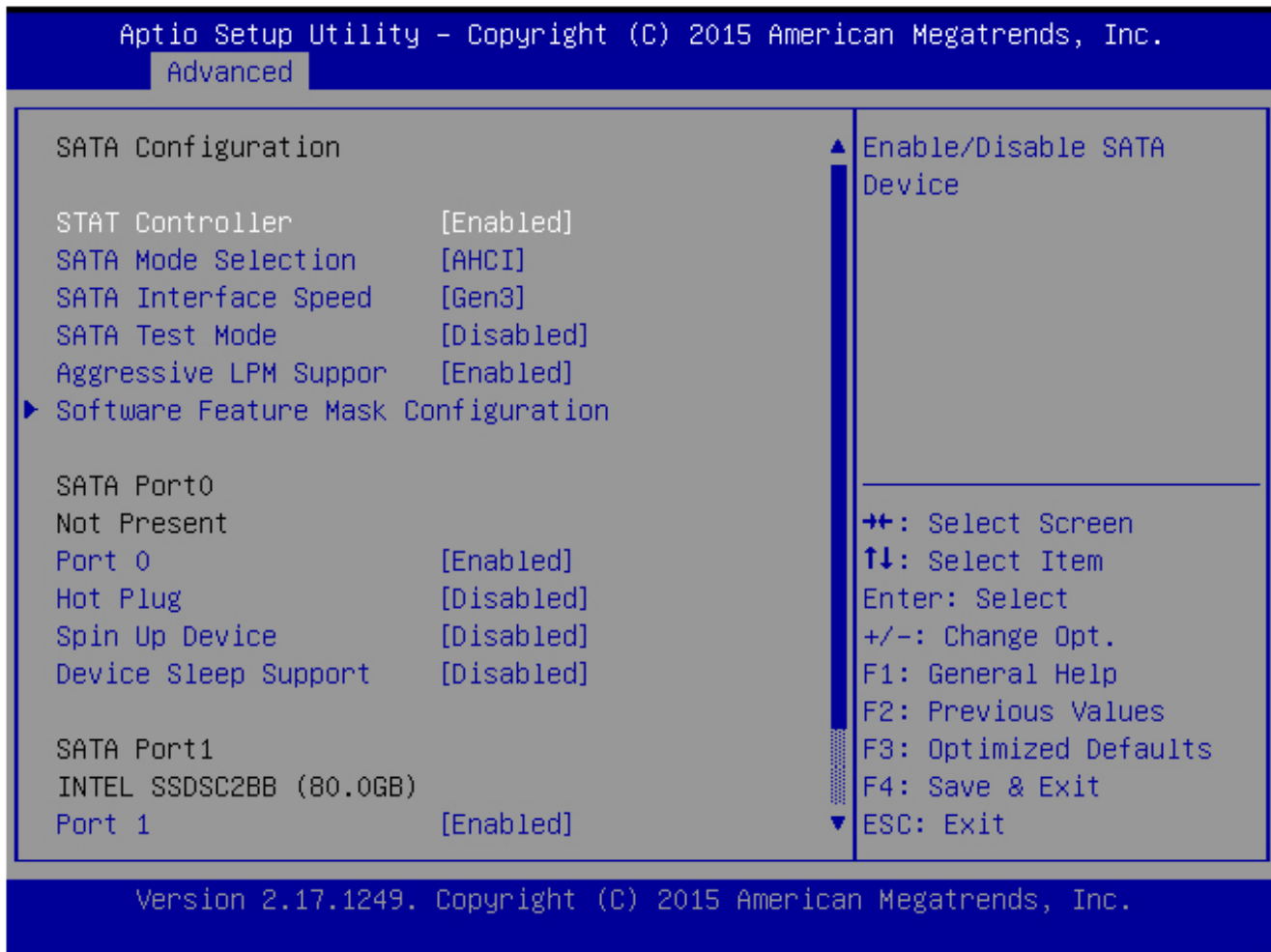
3.2.10 SATA Configuration

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>



```

Aptio Setup Utility - Copyright (C) 2015 American Megatrends, Inc.
  Advanced
SATA Mode Selection      [AHCI]
SATA Interface Speed     [Gen3]
SATA Test Mode           [Disabled]
Aggressive LPM Support   [Enabled]
▶ Software Feature Mask Configuration

SATA Port0
Not Present
Port 0                   [Enabled]
Hot Plug                 [Disabled]
Spin Up Device           [Disabled]
Device Sleep Support     [Disabled]

SATA Port1
INTEL SSDSC2BB (80.0GB)
Port 1                   [Enabled]
Hot Plug                 [Disabled]
Spin Up Device           [Disabled]
Device Sleep Support     [Disabled]
  
```

▲ Enable/Disable Device Sleep Support on that port.

⇐: Select Screen
 ↑↓: Select Item
 Enter: Select
 +/-: Change Opt.
 F1: General Help
 F2: Previous Values
 F3: Optimized Defaults
 F4: Save & Exit
 ▼ ESC: Exit

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Aptio Setup Utility - Copyright (C) 2015 American Megatrends, Inc.

Advanced

HDD Unlock	[Enabled]	If enable, indicates that the HDD password unlock in the OS is enable.
LED Locate	[Enabled]	

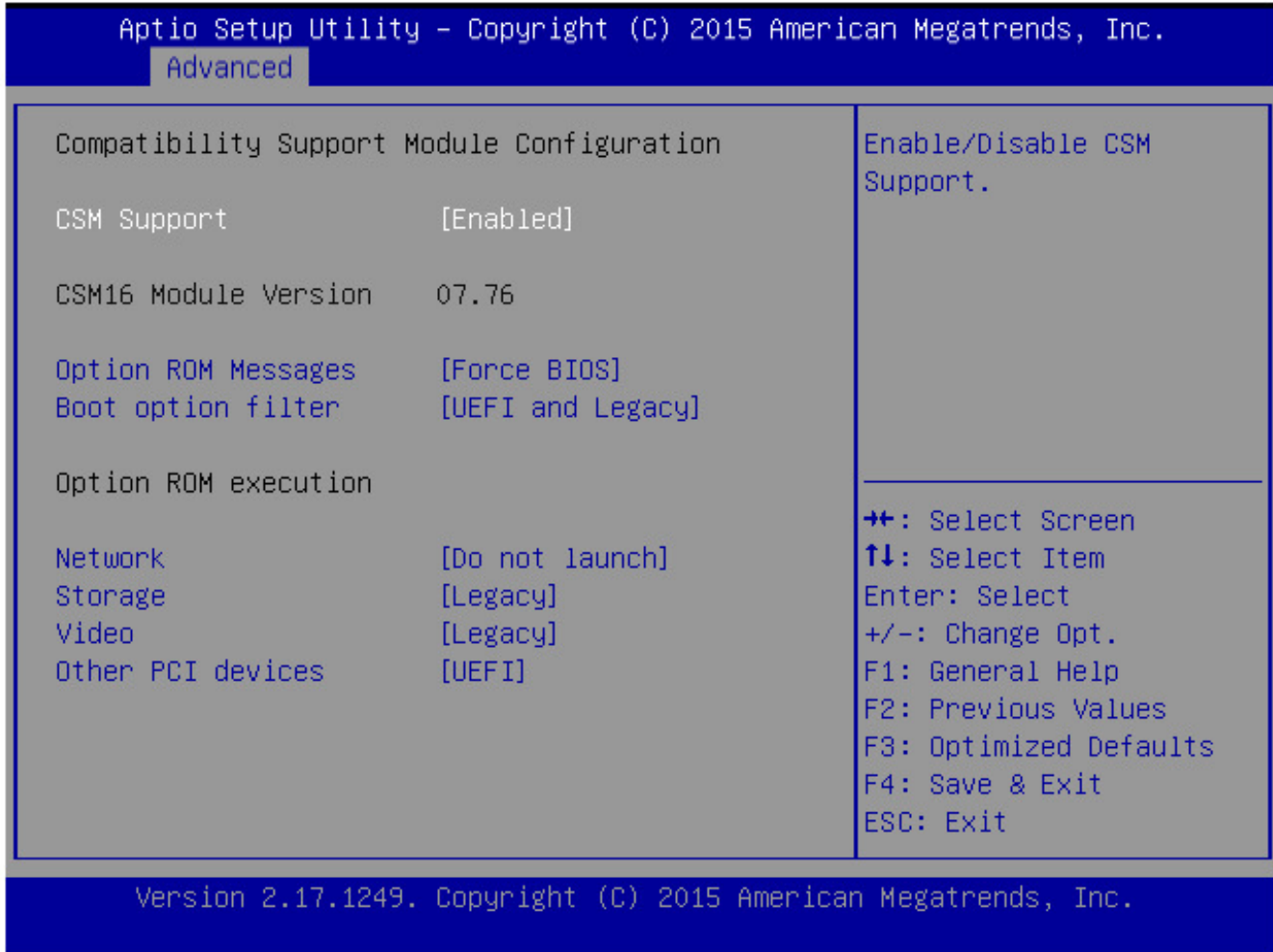
++: Select Screen
 ↑↓: Select Item
 Enter: Select
 +/-: Change Opt.
 F1: General Help
 F2: Previous Values
 F3: Optimized Defaults
 F4: Save & Exit
 ESC: Exit

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3.2.11 CSM Parameters

CSM Parameters:

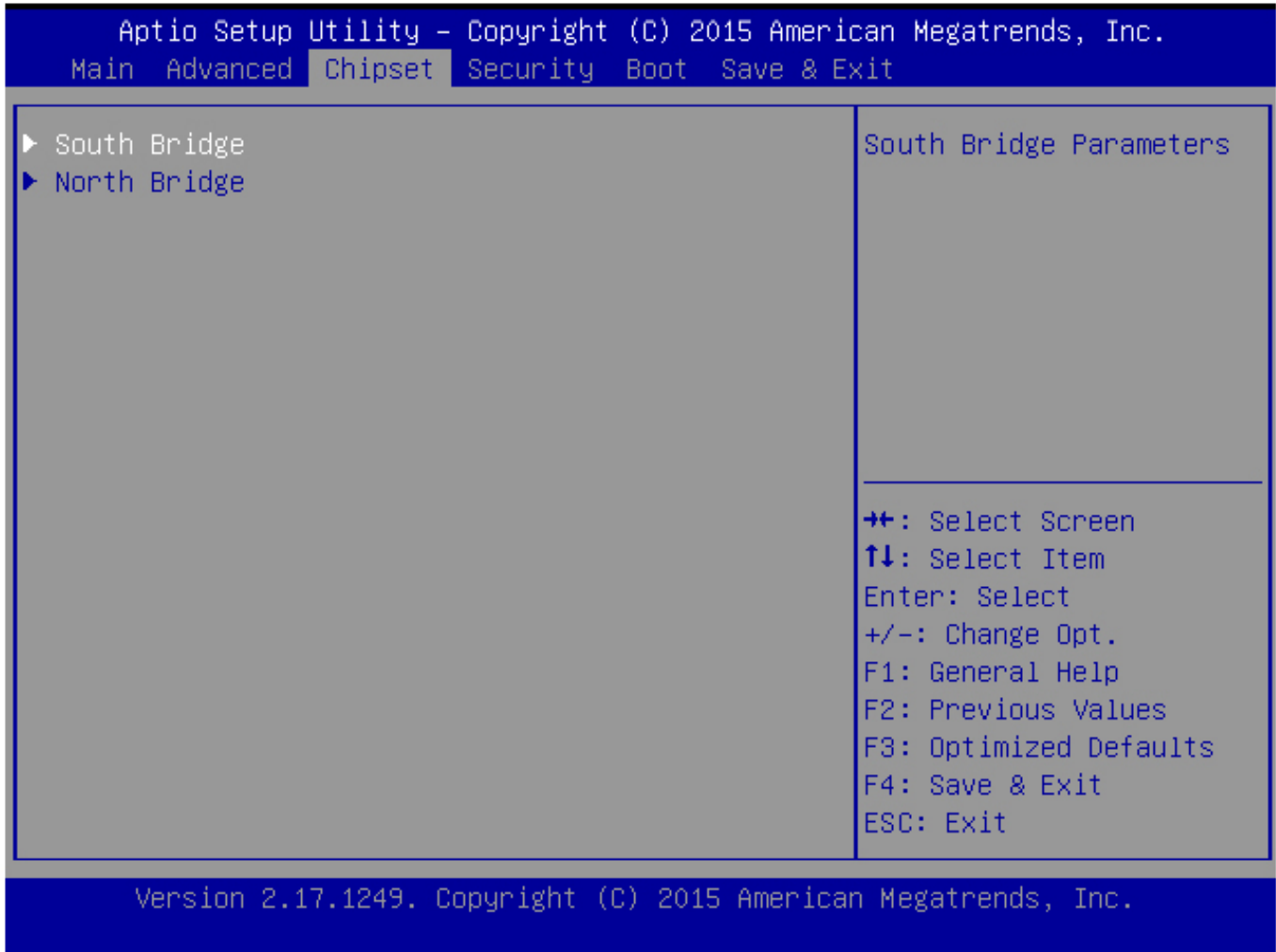
Description: This feature allows the user to specify which devices are boot devices and the order of priority from which the systems boots from during startup.



3.3 Chipset Menu

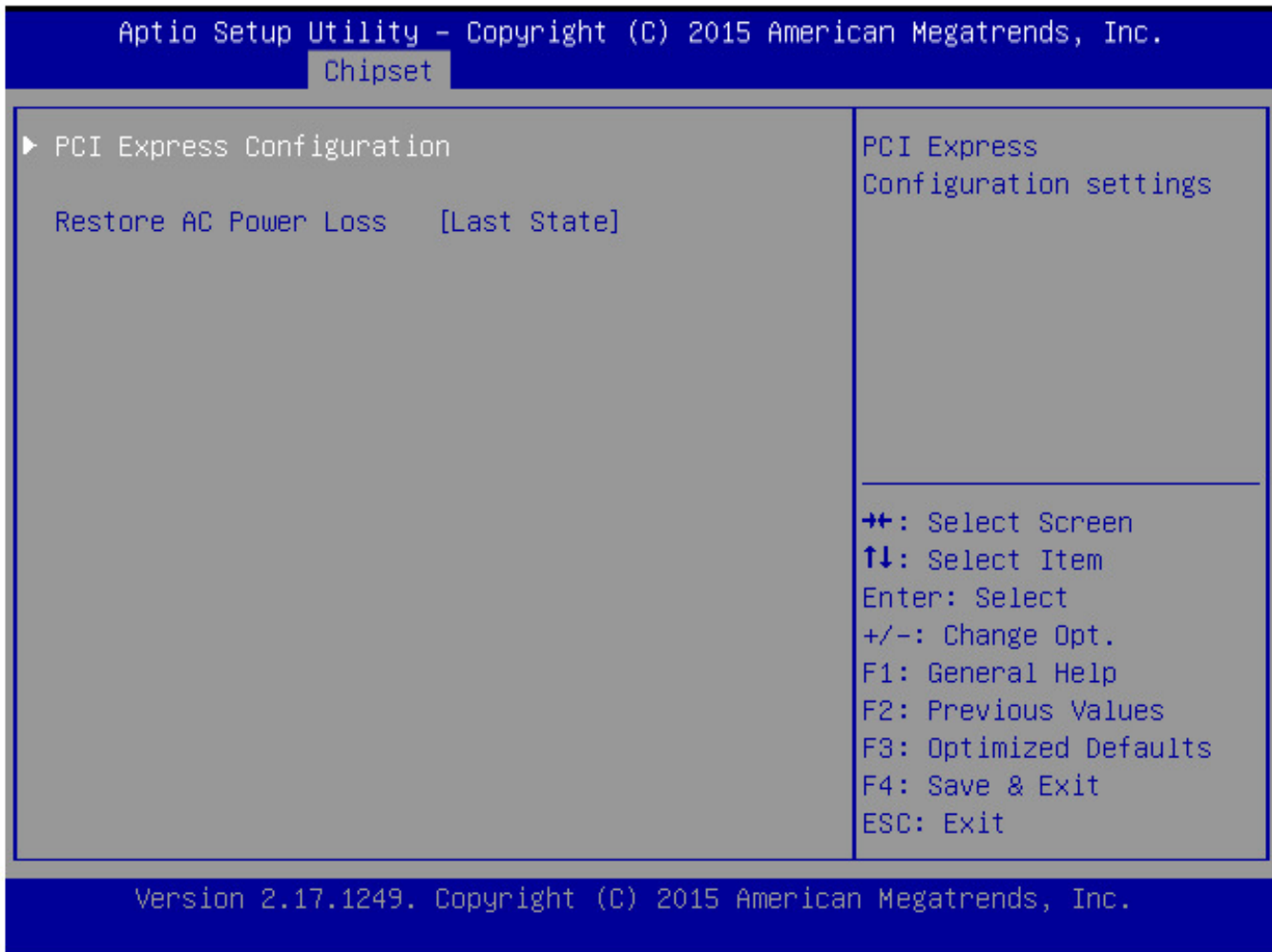
Chipset:

Description : South Bridge & North Bridge Setting



3.3.1 South Bridge

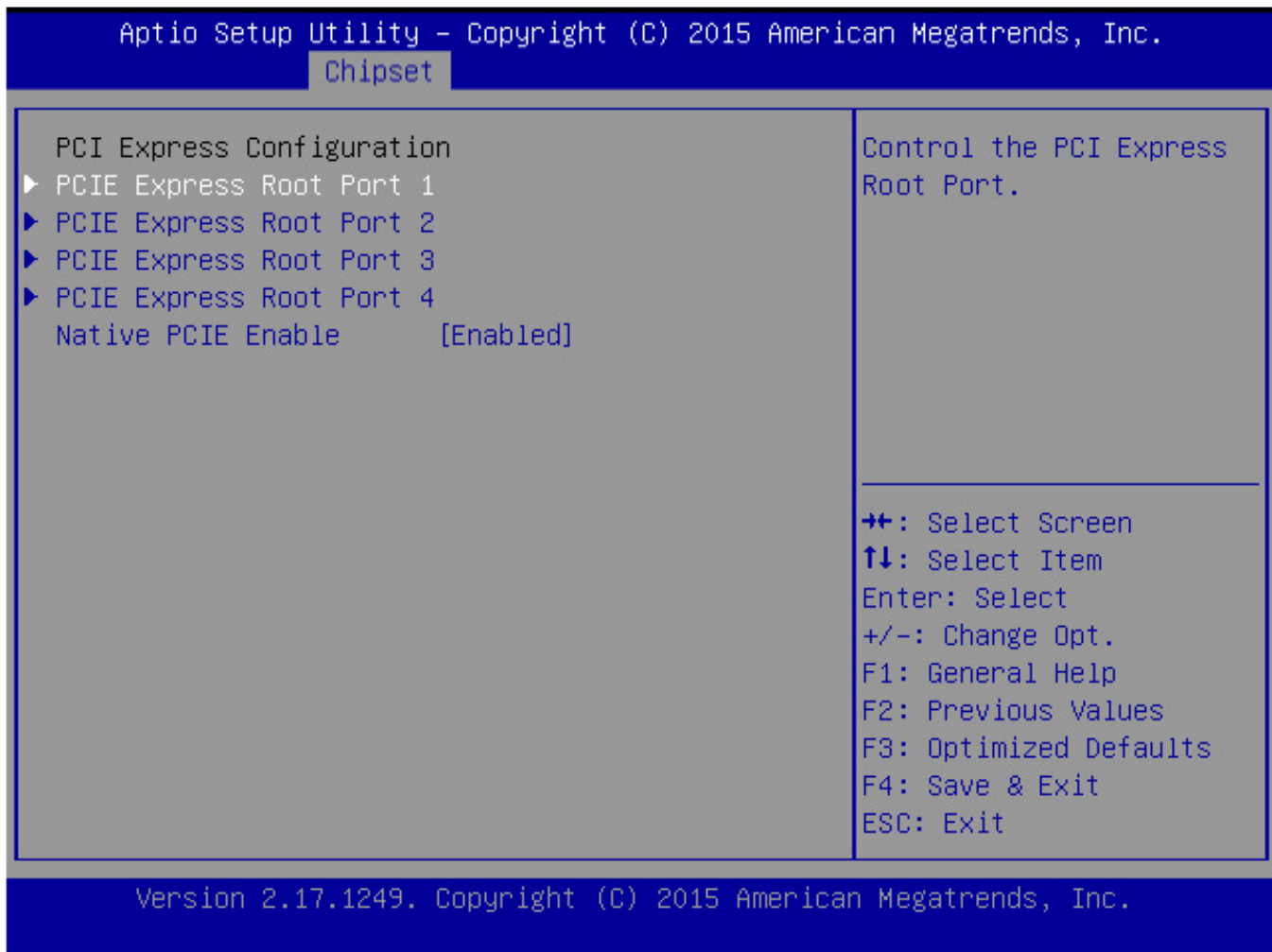
Description: Enable user to configure SATA & USB of south bridge.



3.3.1.1 PCI Express Settings

PCI Express Settings

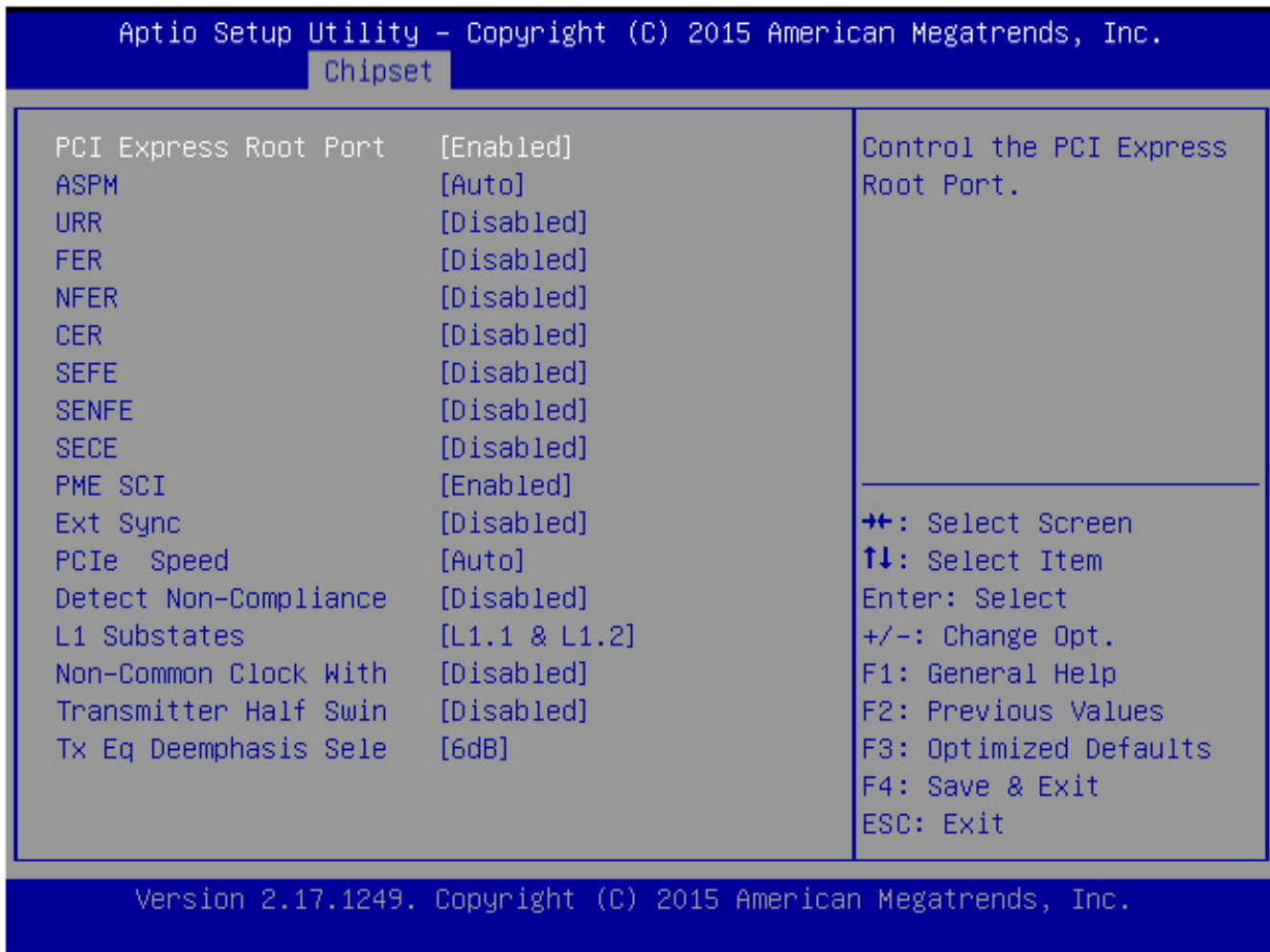
Description : This menu allow user to configure the PCI Express relevant parameter.



3.3.1.1.1 – 3.3.1.1.4 PCI Express Root Port Settings

PCI Express Root Port Settings

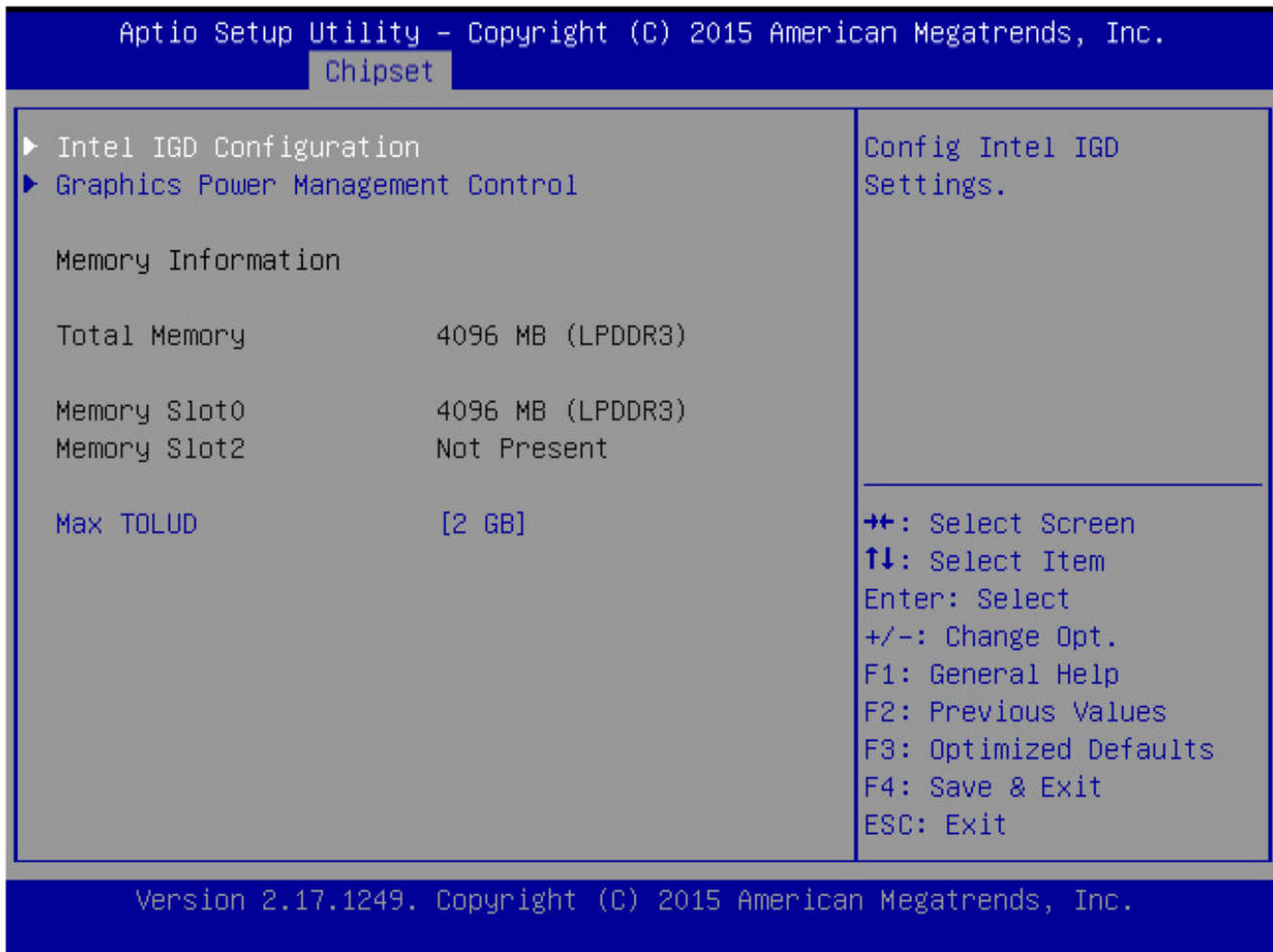
Description : This menu allow user to configure the PCI Express Root Port relevant parameter.



3.3.2 North Bridge Configuration

North Bridge Configuration:

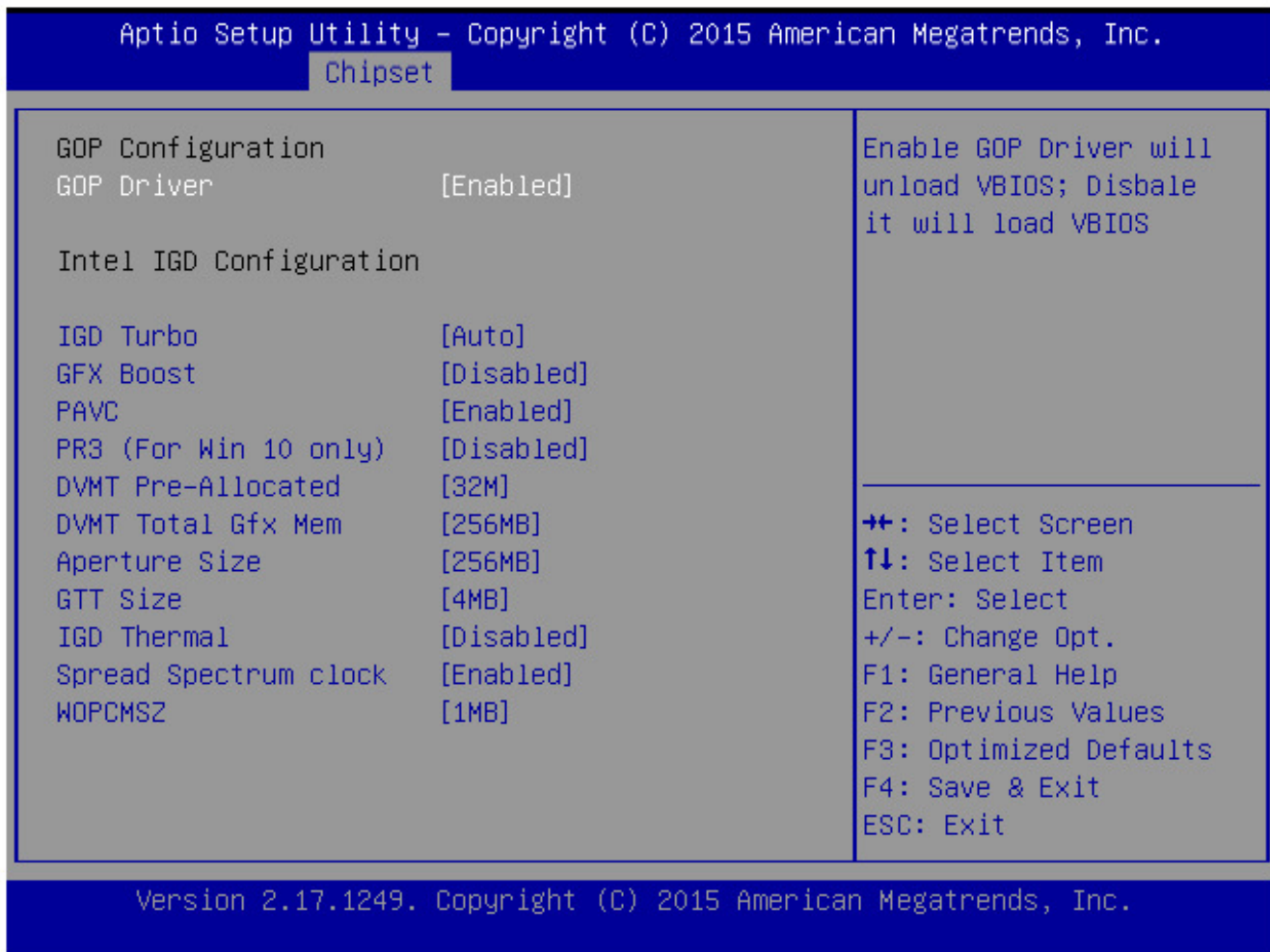
Description: Memory information can be found here



3.3.2.1 Intel IGD Configuration

Intel IGD Configuration:

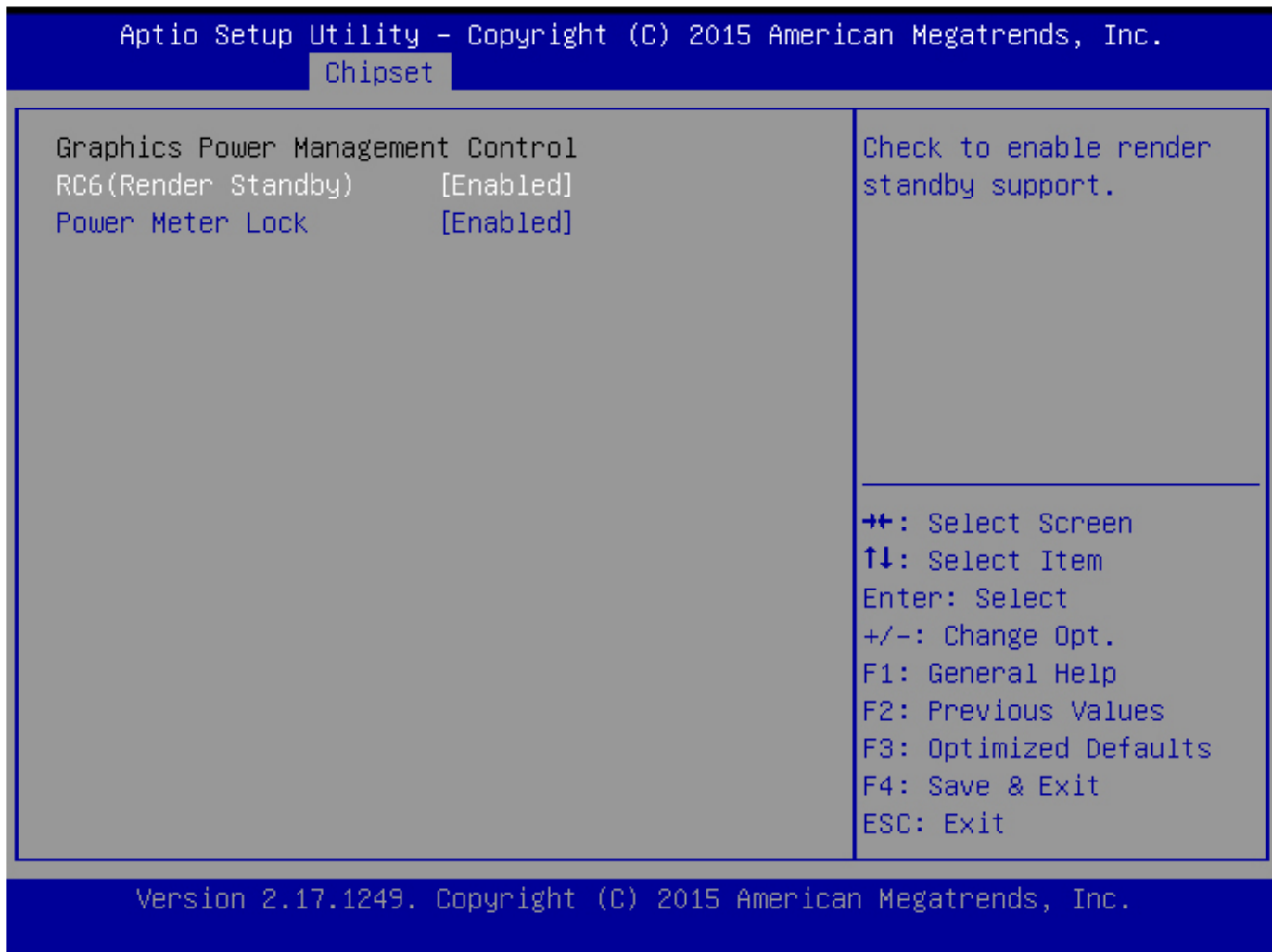
Description: This menu allow user to configure the IGD relevant parameter.



3.3.2.2 Graphics Power Management

Graphics Power Management:

Description: This menu allow user to configure the Graphics Power Management relevant parameter.



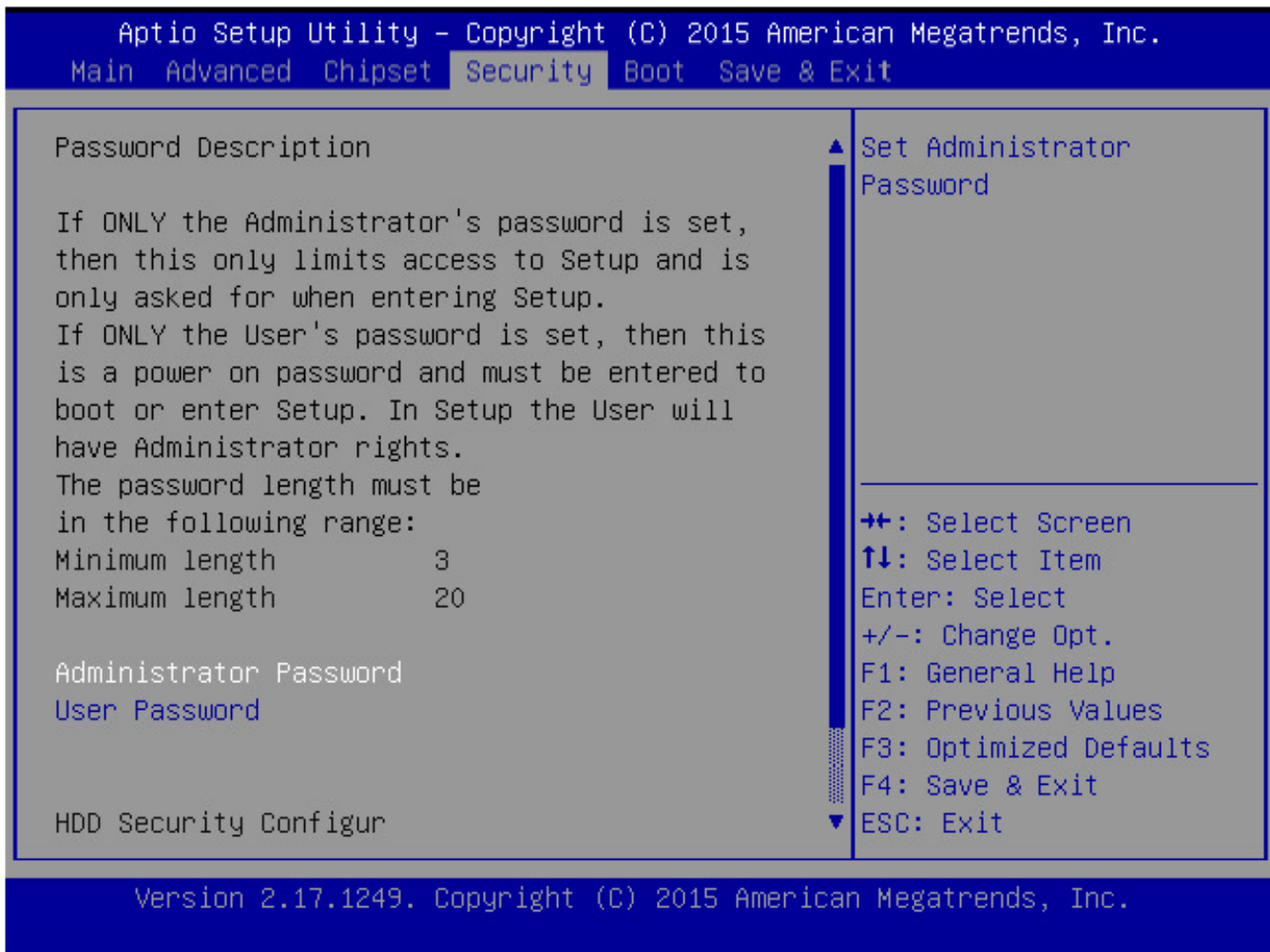
3.4 Security Menu

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.




```
Aptio Setup Utility - Copyright (C) 2015 American Megatrends, Inc.
Main  Advanced  Chipset  Security  Boot  Save & Exit

then this only limits access to Setup and is
only asked for when entering Setup.
If ONLY the User's password is set, then this
is a power on password and must be entered to
boot or enter Setup. In Setup the User will
have Administrator rights.
The password length must be
in the following range:
Minimum length          3
Maximum length          20

Administrator Password
User Password

HDD Security Configur
P1:INTEL SSDSC2

▶ Secure Boot menu

Customizable Secure
Boot settings

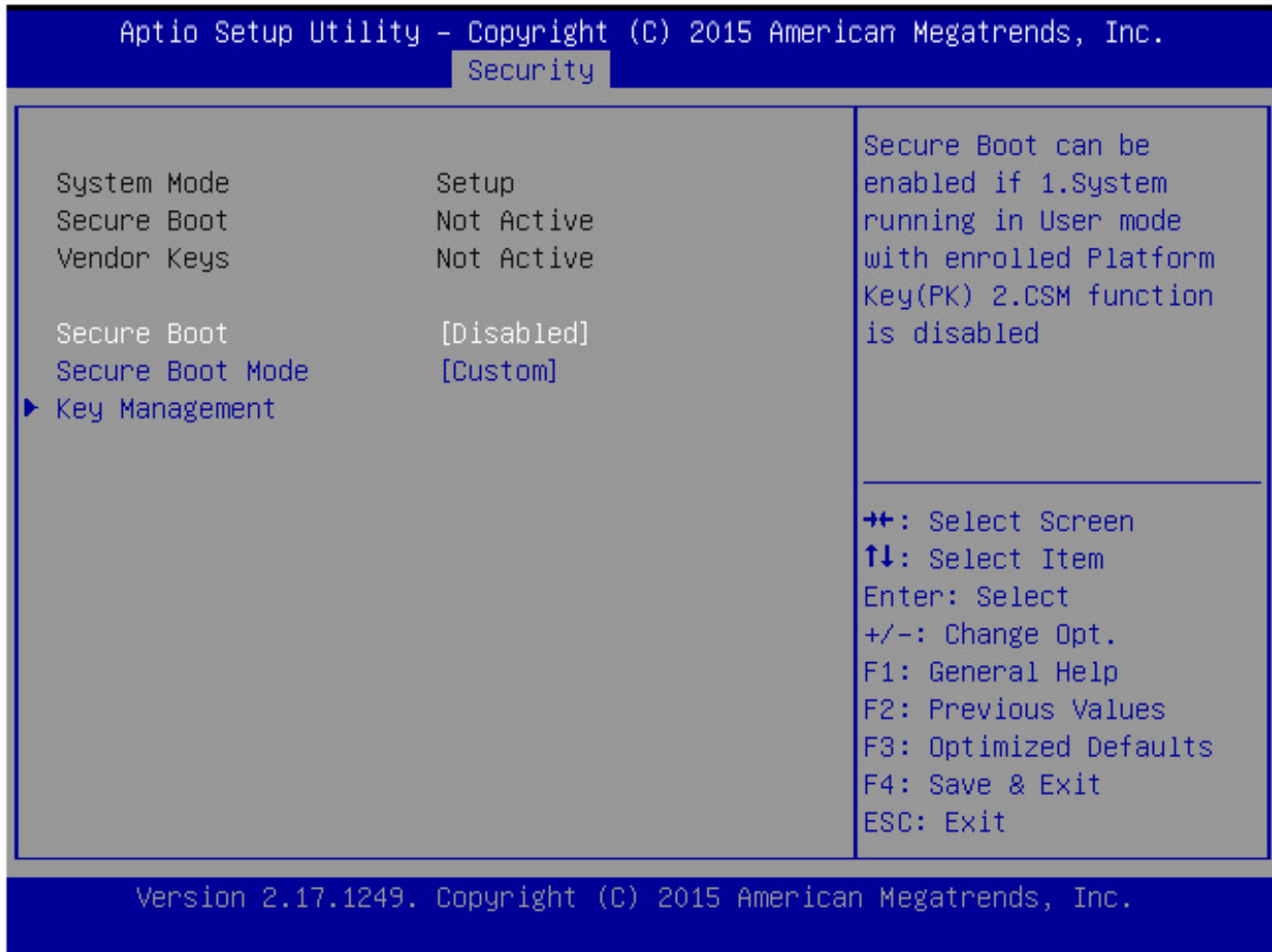
++: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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```

3.4.1 Security Boot setup menu

Security Boot setup menu:

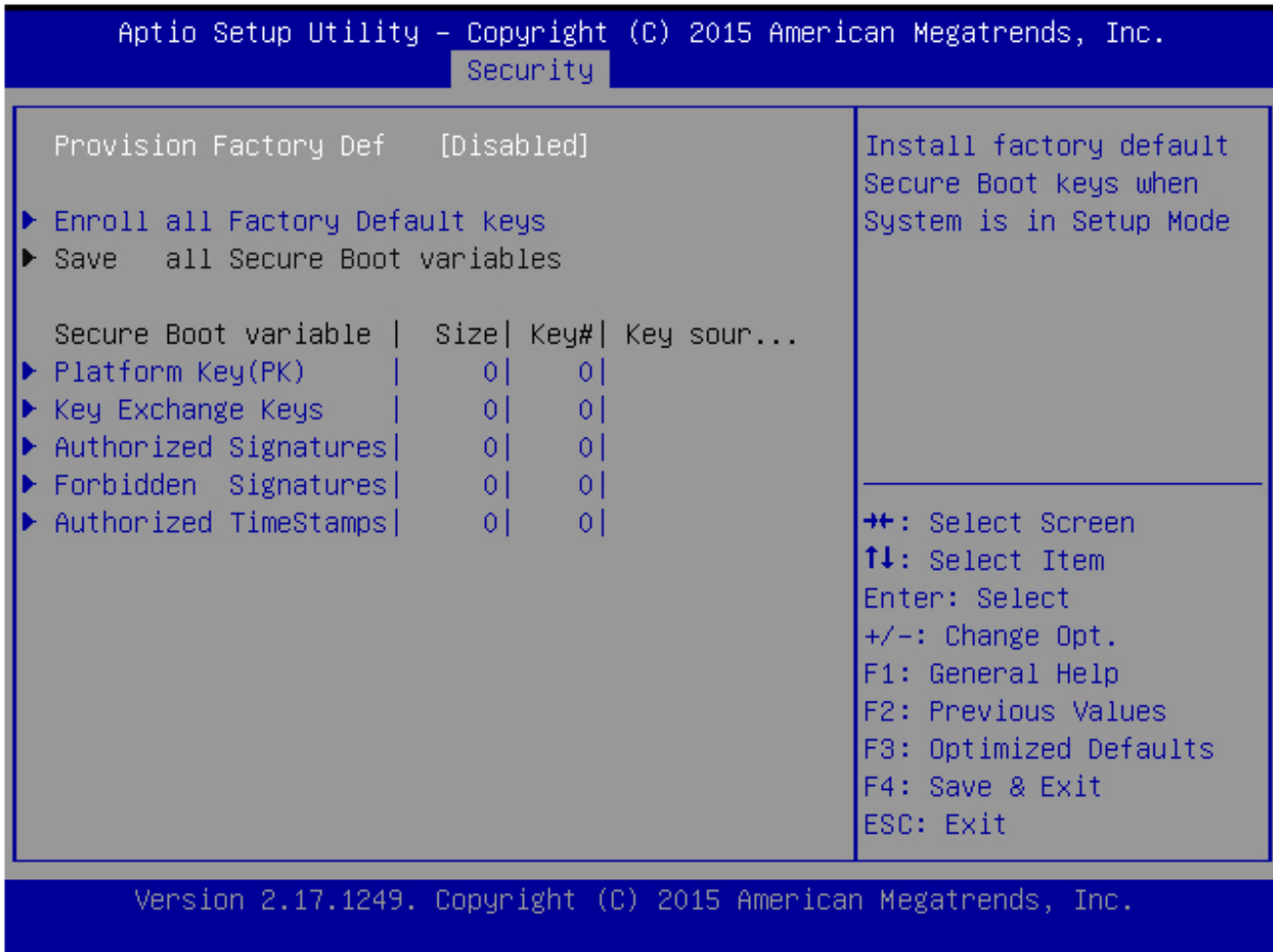
Description: This menu allow user to configure the Security Boot setup menu relevant parameter.



3.4.1.1 Key Management

Key Management:

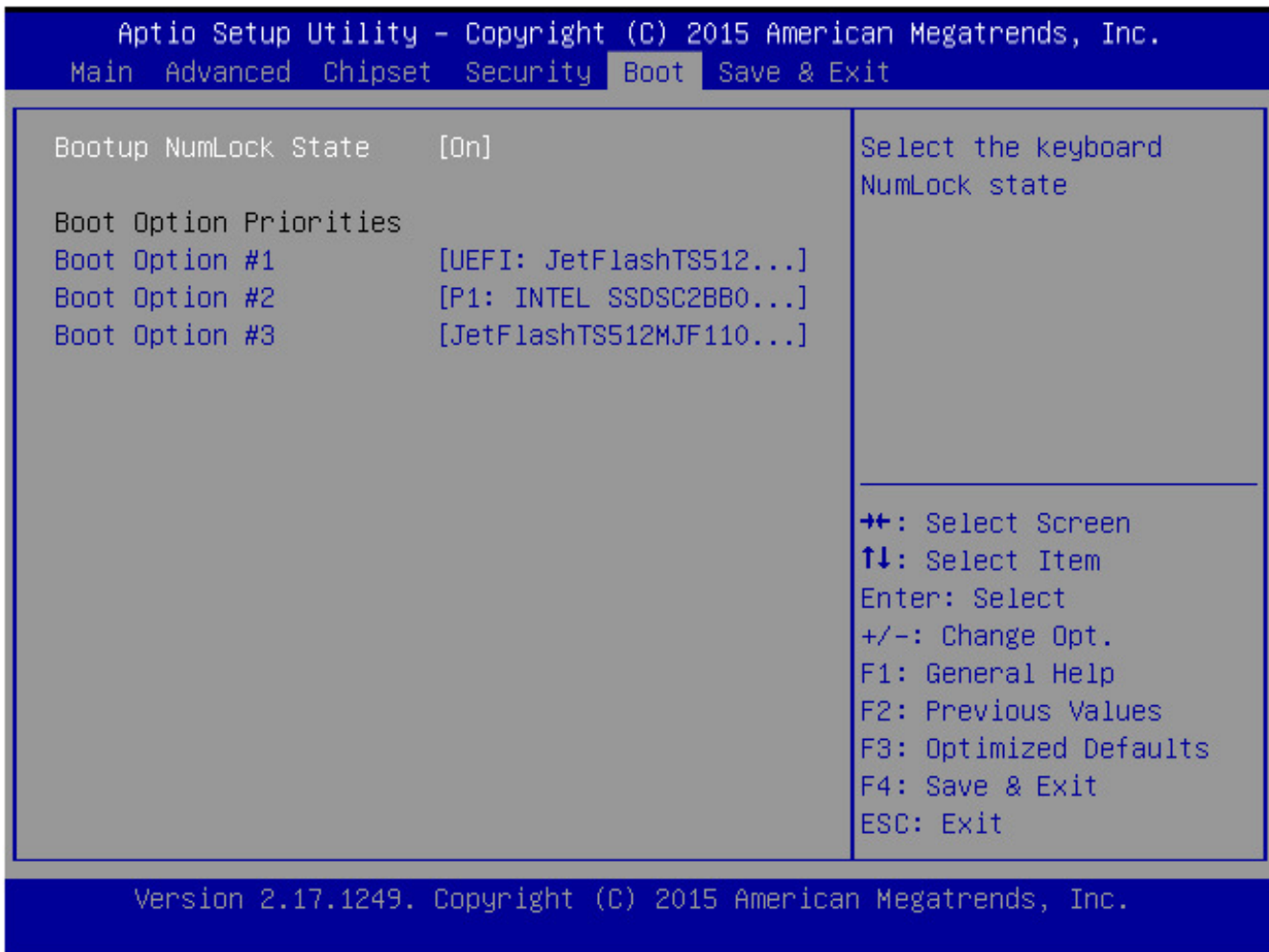
Description: This menu allow user to configure the Key Management relevant parameter.



3.5 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.



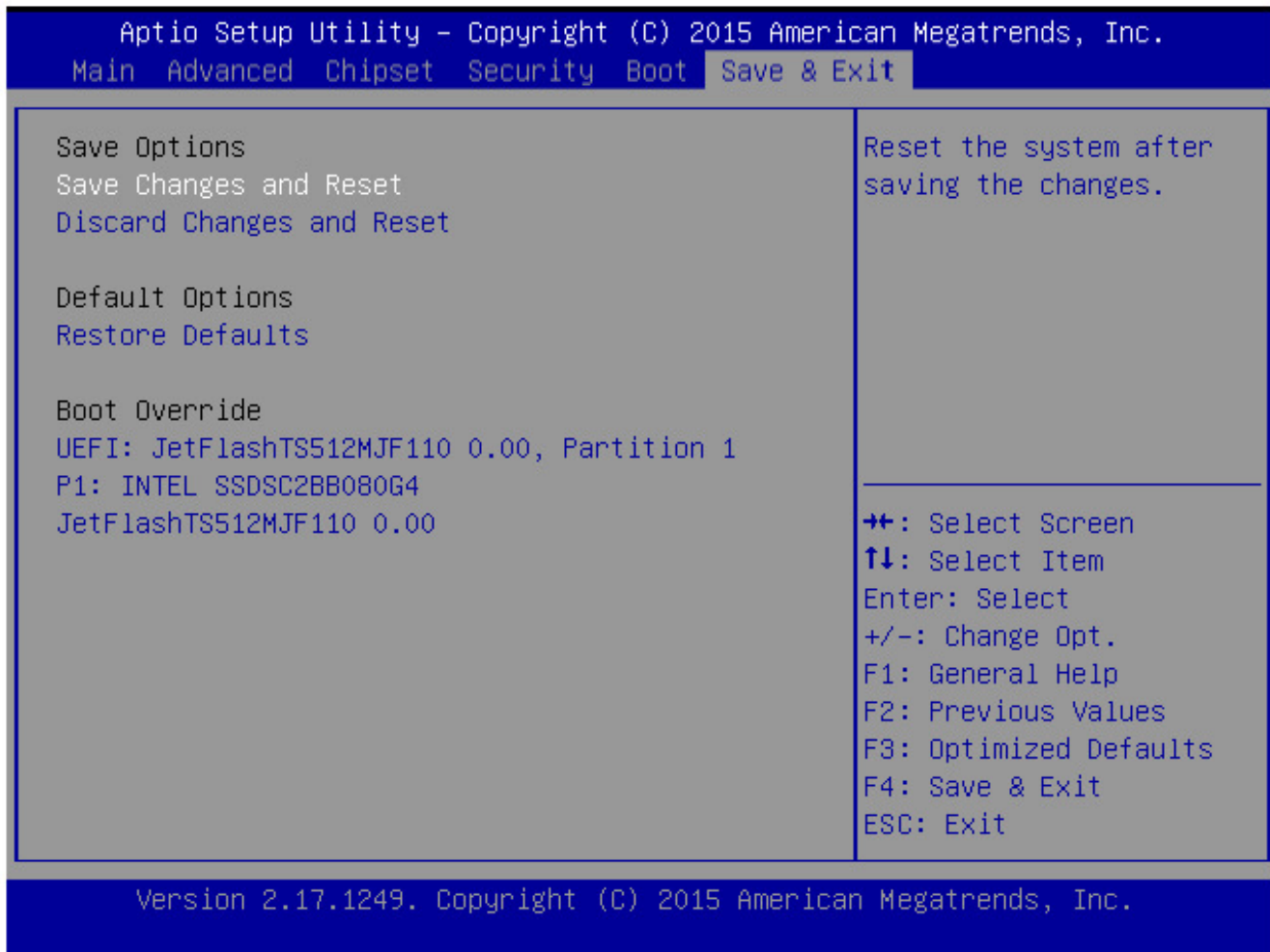
3.6 Save & Exit Menu

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

Device Resources

Resource	Share	Device Description
IRQ 03	Shared	Communications Port (COM2)
IRQ 04	Shared	Communications Port (COM1)
IRQ 05	Shared	Communications Port (COM4)
IRQ 06	Shared	Communications Port (COM3)
IRQ 07	Shared	Communications Port (COM6)
IRQ 10	Shared	Communications Port (COM5)
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 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 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 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 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	Standard SATA AHCI Controller
IRQ 190	Exclusive	Microsoft ACPI-Compliant System
IRQ 191	Exclusive	Microsoft ACPI-Compliant System
IRQ 22	Shared	High Definition Audio Controller

IRQ 256	Exclusive	Microsoft ACPI-Compliant System
IRQ 257	Exclusive	Microsoft ACPI-Compliant System
IRQ 258	Exclusive	Microsoft ACPI-Compliant System
IRQ 259	Exclusive	Microsoft ACPI-Compliant System
IRQ 260	Exclusive	Microsoft ACPI-Compliant System
IRQ 261	Exclusive	Microsoft ACPI-Compliant System
IRQ 262	Exclusive	Microsoft ACPI-Compliant System
IRQ 263	Exclusive	Microsoft ACPI-Compliant System
IRQ 264	Exclusive	Microsoft ACPI-Compliant System
IRQ 265	Exclusive	Microsoft ACPI-Compliant System
IRQ 266	Exclusive	Microsoft ACPI-Compliant System
IRQ 267	Exclusive	Microsoft ACPI-Compliant System
IRQ 268	Exclusive	Microsoft ACPI-Compliant System
IRQ 269	Exclusive	Microsoft ACPI-Compliant System
IRQ 270	Exclusive	Microsoft ACPI-Compliant System
IRQ 271	Exclusive	Microsoft ACPI-Compliant System
IRQ 272	Exclusive	Microsoft ACPI-Compliant System
IRQ 273	Exclusive	Microsoft ACPI-Compliant System
IRQ 274	Exclusive	Microsoft ACPI-Compliant System
IRQ 275	Exclusive	Microsoft ACPI-Compliant System
IRQ 276	Exclusive	Microsoft ACPI-Compliant System
IRQ 277	Exclusive	Microsoft ACPI-Compliant System
IRQ 278	Exclusive	Microsoft ACPI-Compliant System
IRQ 279	Exclusive	Microsoft ACPI-Compliant System
IRQ 280	Exclusive	Microsoft ACPI-Compliant System
IRQ 281	Exclusive	Microsoft ACPI-Compliant System
IRQ 282	Exclusive	Microsoft ACPI-Compliant System
IRQ 283	Exclusive	Microsoft ACPI-Compliant System
IRQ 284	Exclusive	Microsoft ACPI-Compliant System
IRQ 285	Exclusive	Microsoft ACPI-Compliant System
IRQ 286	Exclusive	Microsoft ACPI-Compliant System
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IRQ 288	Exclusive	Microsoft ACPI-Compliant System
IRQ 289	Exclusive	Microsoft ACPI-Compliant System
IRQ 290	Exclusive	Microsoft ACPI-Compliant System
IRQ 291	Exclusive	Microsoft ACPI-Compliant System

IRQ 292	Exclusive	Microsoft ACPI-Compliant System
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IRQ 315	Exclusive	Microsoft ACPI-Compliant System
IRQ 316	Exclusive	Microsoft ACPI-Compliant System
IRQ 317	Exclusive	Microsoft ACPI-Compliant System
IRQ 318	Exclusive	Microsoft ACPI-Compliant System
IRQ 319	Exclusive	Microsoft ACPI-Compliant System
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IRQ 321	Exclusive	Microsoft ACPI-Compliant System
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IRQ 326	Exclusive	Microsoft ACPI-Compliant System
IRQ 327	Exclusive	Microsoft ACPI-Compliant System

IRQ 328	Exclusive	Microsoft ACPI-Compliant System
IRQ 329	Exclusive	Microsoft ACPI-Compliant System
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IRQ 331	Exclusive	Microsoft ACPI-Compliant System
IRQ 332	Exclusive	Microsoft ACPI-Compliant System
IRQ 333	Exclusive	Microsoft ACPI-Compliant System
IRQ 334	Exclusive	Microsoft ACPI-Compliant System
IRQ 335	Exclusive	Microsoft ACPI-Compliant System
IRQ 336	Exclusive	Microsoft ACPI-Compliant System
IRQ 337	Exclusive	Microsoft ACPI-Compliant System
IRQ 338	Exclusive	Microsoft ACPI-Compliant System
IRQ 339	Exclusive	Microsoft ACPI-Compliant System
IRQ 340	Exclusive	Microsoft ACPI-Compliant System
IRQ 341	Exclusive	Microsoft ACPI-Compliant System
IRQ 342	Exclusive	Microsoft ACPI-Compliant System
IRQ 343	Exclusive	Microsoft ACPI-Compliant System
IRQ 344	Exclusive	Microsoft ACPI-Compliant System
IRQ 345	Exclusive	Microsoft ACPI-Compliant System
IRQ 346	Exclusive	Microsoft ACPI-Compliant System
IRQ 347	Exclusive	Microsoft ACPI-Compliant System
IRQ 348	Exclusive	Microsoft ACPI-Compliant System
IRQ 349	Exclusive	Microsoft ACPI-Compliant System
IRQ 350	Exclusive	Microsoft ACPI-Compliant System
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IRQ 364	Exclusive	Microsoft ACPI-Compliant System
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IRQ 472 Exclusive Microsoft ACPI-Compliant System
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Custom Embedded Solutions

IRQ 508	Exclusive	Microsoft ACPI-Compliant System
IRQ 509	Exclusive	Microsoft ACPI-Compliant System
IRQ 510	Exclusive	Microsoft ACPI-Compliant System
IRQ 511	Exclusive	Microsoft ACPI-Compliant System
IRQ 524288	Exclusive	Intel(R) USB 3.0 eXtensible Host Controller - 0100 (Microsoft)
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection #2
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection #2
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection #2
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection #2
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection #2
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection #2
IRQ 65536	Exclusive	Intel(R) I211 Gigabit Network Connection #2
IRQ 65536	Exclusive	Intel(R) HD Graphics
IRQ 65536	Exclusive	Intel(R) Trusted Execution Engine Interface
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
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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	Intel(R) HD Graphics
Memory 000A0000-000BFFFF	Shared	PCI Express Root Complex
Memory 000C0000-000DFFFF	Shared	PCI Express Root Complex
Memory 000E0000-000FFFFFF	Shared	PCI Express Root Complex
Memory 80000000-80FFFFFF	Exclusive	Intel(R) HD Graphics
Memory 80000000-DFFFFFFF	Shared	PCI Express Root Complex
Memory 81000000-810FFFFFF	Exclusive	Intel(R) Trusted Execution Engine Interface
Memory 81100000-811FFFFFF	Exclusive	Intel(R) Trusted Execution Engine Interface
Memory 81200000-8121FFFF	Exclusive	Intel(R) I211 Gigabit Network Connection #2
Memory 81200000-8122FFFF	Exclusive	PCI Express standard Root Port
Memory 81220000-81223FFF	Exclusive	Intel(R) I211 Gigabit Network Connection #2
Memory 81300000-8131FFFF	Exclusive	Intel(R) I211 Gigabit Network Connection
Memory 81300000-813FFFFFF	Exclusive	PCI Express standard Root Port
Memory 81320000-81323FFF	Exclusive	Intel(R) I211 Gigabit Network Connection
Memory 81400000-8140FFFF	Exclusive	Intel(R) USB 3.0 eXtensible Host Controller - 0100 (Microsoft)
Memory 81410000-81413FFF	Exclusive	High Definition Audio Controller
Memory 81415000-814157FF	Exclusive	Standard SATA AHCI Controller
Memory 90000000-9FFFFFFF	Exclusive	Intel(R) HD Graphics
Port 0000-006F	Shared	PCI Express Root Complex
Port 0070-0077	Exclusive	System CMOS/real time clock
Port 0078-0CF7	Shared	PCI Express Root Complex
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 03B0-03BB	Shared	Intel(R) HD Graphics
Port 03C0-03DF	Shared	Intel(R) HD Graphics
Port 03E8-03EF	Exclusive	Communications Port (COM3)
Port 03F8-03FF	Exclusive	Communications Port (COM1)
Port 0D00-FFFF	Shared	PCI Express Root Complex
Port D000-DFFF	Exclusive	PCI Express standard Root Port
Port E000-EFFF	Exclusive	PCI Express standard Root Port
Port F000-F03F	Exclusive	Intel(R) HD Graphics
Port F060-F07F	Exclusive	Standard SATA AHCI Controller



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