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CHAPTER 1
INTRODUCTION

This chapter contains general information and detailed specifications of the . The Chapter 1 includes the following sections:

- General Description
- System Specification
- Dimensions
- I/O Outlets

1.1 General Description

Din-rail fanless embedded system is suitable for communications control and for protocol converter applications in critical environments. Built for rugged work environments, features an extra low power consumption Intel® ATOM™ N3060 (1.6GHz/2-cores) or N3160 (1.6GHz/4-cores) processors supporting industrial temperature range of -20℃ to +60℃. Its front accessible I/O cabling is very convenient for wiring and maintenance. offers a VGA output, making it particularly well-suited for communication control, SCADA and industrial automation. Its compact size with Din-rail mounting allows for easy installation into control cabinet. Pre-installed with Linux, Windows® 7 embedded, Windows 8 embedded and provides programmers with a friendly environment for developing application software at a lower cost.

is robust industrial-grade hardware design and adopts the advanced cooling system, besides, supporting the mSATA and SATA SSD (or HDD), which makes it especially suitable for field control & monitoring system solution for following markets:

Utility Industries (Water; Energy; Chemical Plant; Mining…)

Public Transportation Industries (Traffic/ Highway Control; Train/Bus Control…)

Homeland Security (Weather Monitoring/Alarm System…)

- **Features**
  - Fanless design
  - Wide temperature operation of -20℃ - +60℃
  - Supports 2 10/100/1000 Base-T Ethernets with Magnetic Isolated Protection
  - Supports 1 PoE PD Compliant with IEEE 802.3at standard through LAN 1
  - 2 COM Ports support RS-232/422/485
  - 4 USB Ports (2 x USB 3.0, 2 x USB 2.0)
  - 2 Wireless (USB and PCIe Interface)
  - Support one 2.5" SATA SSD (or HDD) and one mSATA
  - Wide range 12–24V DC-in with terminal block
  - 8 bits programmable TTL level digital input/output ports.
  - Din-rail mounting

- Wall mounting (optional)
- Passed CE with FCC testing

- **Embedded O.S. Supported**

  not only supports Windows® 8 and Windows® 10, but also supports embedded OS, such as Windows® 7 embedded, Windows® 8 embedded, Linux package support. For storage device, supports one 2.5" SATA SSD (or HDD) and one mSATA.

1.2 System Specifications

1.2.1 CPU

- Onboard Intel® ATOM™ N3060 (1.6 GHz/2-core) processor or N3160 (1.6GHz/4-core) processor

1.2.2 BIOS

- AMI (American Megatrends Inc.) UEFI (Unified Extensible Firmware Interface) BIOS.

1.2.3 System Memory

- One DDR3L 204-pin SO-DIMM (1.35V) slot.
- Supports 1066MHz max. up to 8GB.

1.2.4 Display

- A slim type 15-pin D-Sub connector as VGA connector.

1.2.5 Ethernet Ports

- LAN Chip : Intel Ethernet Controller I211.
- LAN 1 and LAN 2

The board has dual RJ-45 connectors, support 10/100/1000 Base-T with 1.5KV magnetic isolated protection.

1.2.6 PoE PD Port

- Compliant with IEEE 802.3at standard through LAN 1

1.2.7 Storages

- 1 x 2.5" SATA SSD (or HDD) drive bay.
- 1 x mSATA.

1.2.8 Wireless

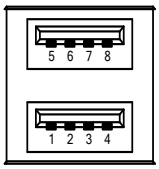
- 2 x Full size Mini Card slot supports Module with USB and PCIe Interface.
- 1 x SIM Card Socket.
- 3 x Antenna holes.

1.2.9 USB

- 4 USB Ports (2 x USB 2.0, 2 x USB 3.0)
- USB Pin Define :

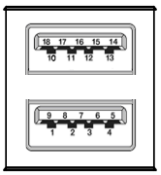
USB 2.0

Pin	Signal USB2.0 HUB Port 1	Pin	Signal USB2.0 HUB Port 2
1	VCC	5	VCC
2	D0-	6	D1-
3	D0+	7	D1+
4	GND	8	GND



USB 3.0

Pin	Signal USB3.0 Port 2	Pin	Signal USB3.0 Port 3
1	VCC	10	VCC
2	D2-	11	D3-
3	D2+	12	D3+
4	GND	13	GND
5	SSRX2-	14	SSRX3-
6	SSRX2+	15	SSRX3+
7	GND	16	GND
8	SSTX2-	17	SSTX3-
9	SSTX2+	18	SSTX3+

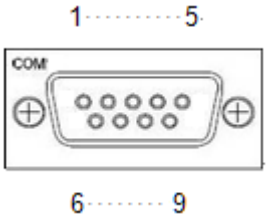


1.2.10 COM

- 2 ports DB9 support RS-232/422/485 which can be selected by BIOS.
- Supports Auto Flow Control in RS485 mode.
- Serial Port Pin Define: (DB9 Male) as below

COM1~2

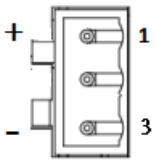
Pin	RS-232	RS-422	RS-485
1	DCD	TX-	Data-
2	RXD	TX+	Data+
3	TXD	RX+	--
4	DTR	RX-	--
5	GND	GND	GND
6	DSR	--	--
7	RTS	--	--
8	CTS	--	--
9	RI	--	--



1.2.11 Power

- Power Input
  - DC Terminal block : Wide-range 12 - 24V.
    OVP and Reverse protection.

Pin	Signal
1	+
2	NC
3	-



  - PoE Power Input
    Supports 1 PoE PD Compliant with IEEE 802.3at standard through LAN 1

1.2.12

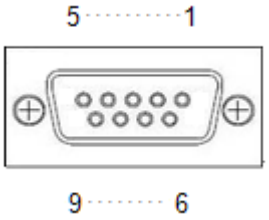
- AT auto power on 
- Power button setting for software must be setted up firstly.

Note: Power button setting for Window software is offered on APPENDIX B for reference.

1.2.13 DIO

- One DB9 female connector supports 8 bits TTL level programmable digital input/output
- The voltage of TTL is 5V
- The programming is as follow:
  - I/O sink current is 8~10mA (Output drive current ± 50 mA)
  - Input/Output can be programmed

Pin	Signal
1	DIO0
2	DIO1
3	DIO2
4	DIO3
5	DIO4
6	DIO5
7	DIO6
8	DIO7
9	GND



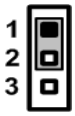
1.2.14 WatchDog Timer (WDT)

- 1~255 seconds or minutes; up to 255 levels.

1.2.15 Restore BIOS Optimal Defaults (JP2)

- Put jumper clip to pin 2-3 for a few seconds then move it back to pin 1-2. Doing this procedure can restore BIOS optimal defaults.

Function	Setting
Normal (Default)	1-2
Restore BIOS optimal defaults	2-3



1.2.16 System LED

- There are showed the LED's indicators and functional descriptions.

LED Name	Description	Color
ACT	Indicate the storge status and it's flashing when storge access.	Yellow
PWR	Indicate the Power status. When the DC input is acceptable, the LED will ON.	Green
RX1 RX2	Indicate the COM port status. When the COM port receive some data.	Green
TX1 TX2	Indicate the COM port status. When the COM port transfer some data.	Green

1.2.17 Operation Temperature

- -20℃ ~ +60℃

-

1.2.18 Storage Temperature

- -40℃ ~ +85℃

1.2.19 Humidity

- 10% ~ 95% (non-condensation)

1.2.20 Weight

- 1 kg

1.2.21 Dimensions

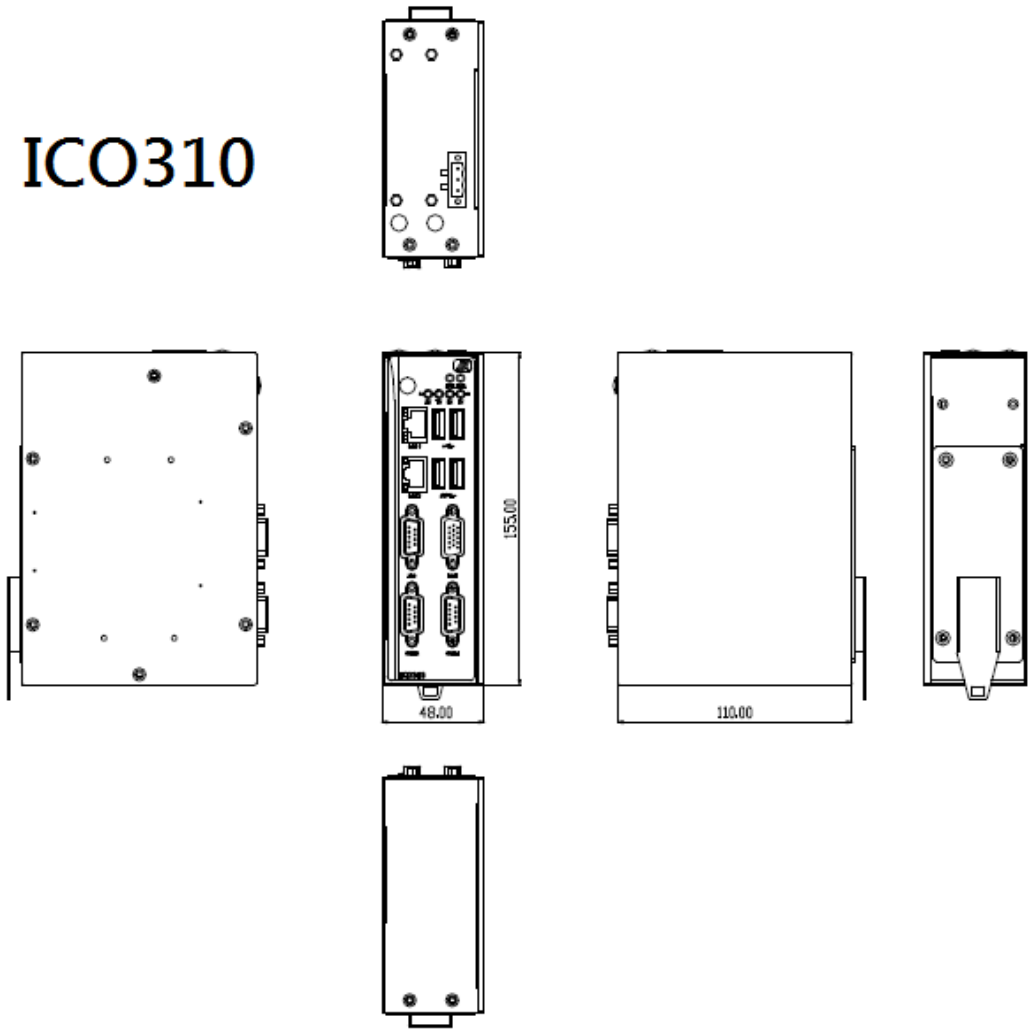
- 48mm(1.88") (W) x110mm(4.33") (D) x155mm(6.1") (H)

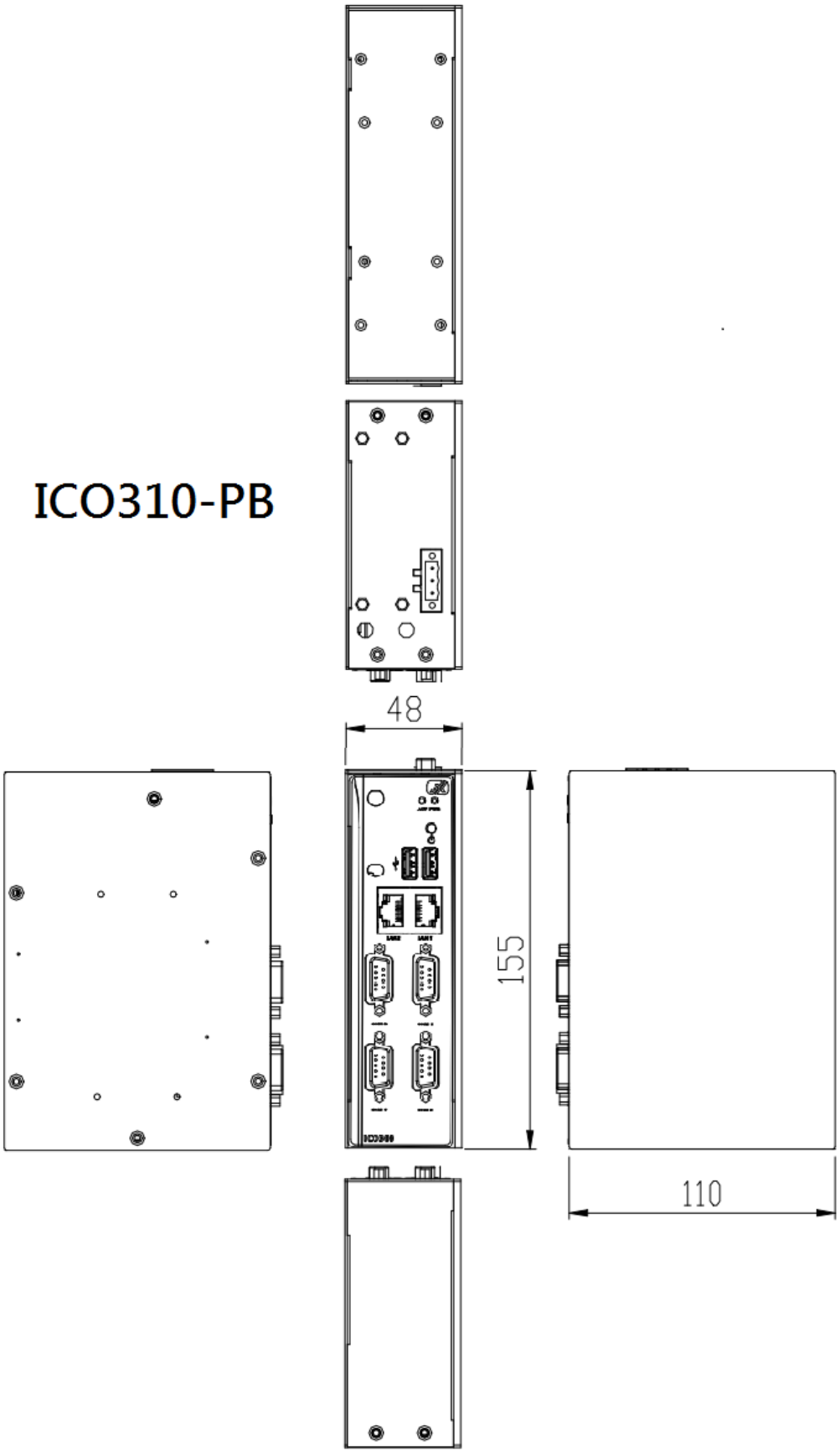
1.2.22 System I/O Outlets

- Two 9-pin D-Sub male connectors, COM1~COM2.
- One 15-pin D-Sub female connector for VGA.
- Two 10/100/1000 Base-T RJ-45 with 1.5KV magnetic isolated protection.
- One PoE PD Compliant with IEEE 802.3at standard through LAN 1
- Four USB Ports (2 USB 2.0 connectors, 2 USB 3.0 connectors)
- One DC Power Input with terminal block.
- One 9-pin D-Sub Female connectors for DIO.
- Three Antenna holes.

1.3 Dimensions

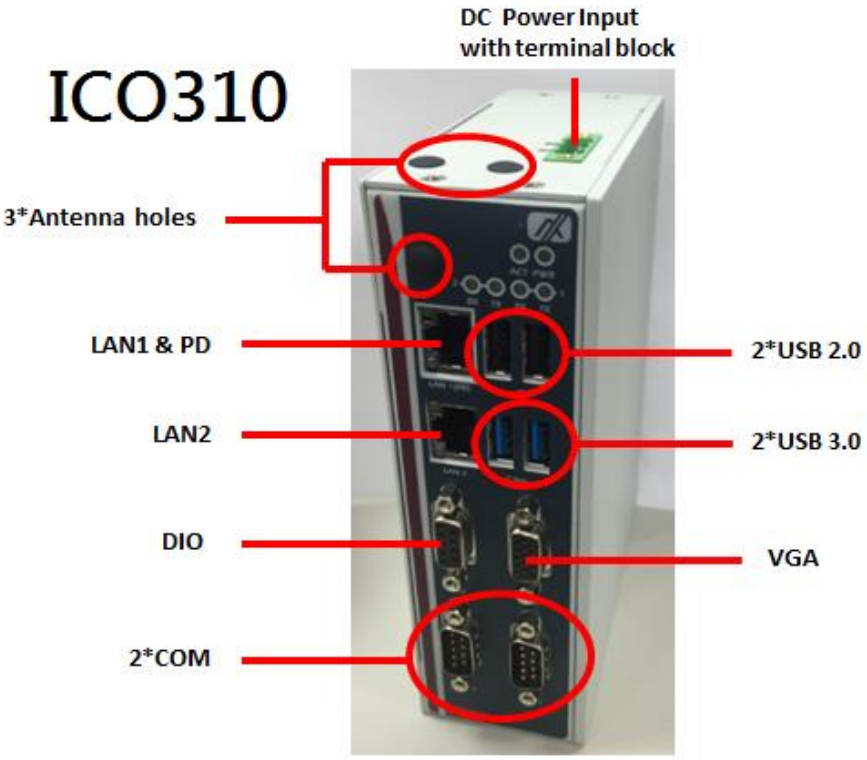
The following diagrams show you dimensions and outlines of the -



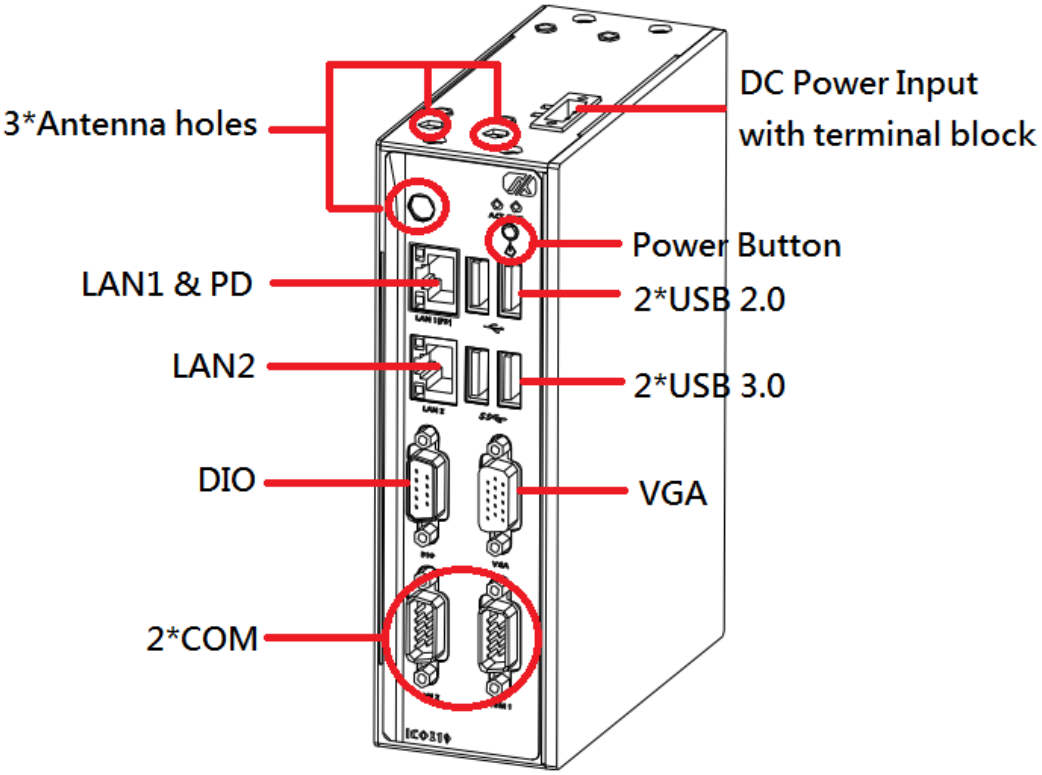

ICO310-PB
48
155
110

1.4 I/O Outlets

The following figures show you I/O outlets on front view and top view of the
.



ICO310-PB


3*Antenna holes
DC Power Input
with terminal block
Power Button
LAN1 & PD
2*USB 2.0
LAN2
2*USB 3.0
DIO
VGA
2*COM

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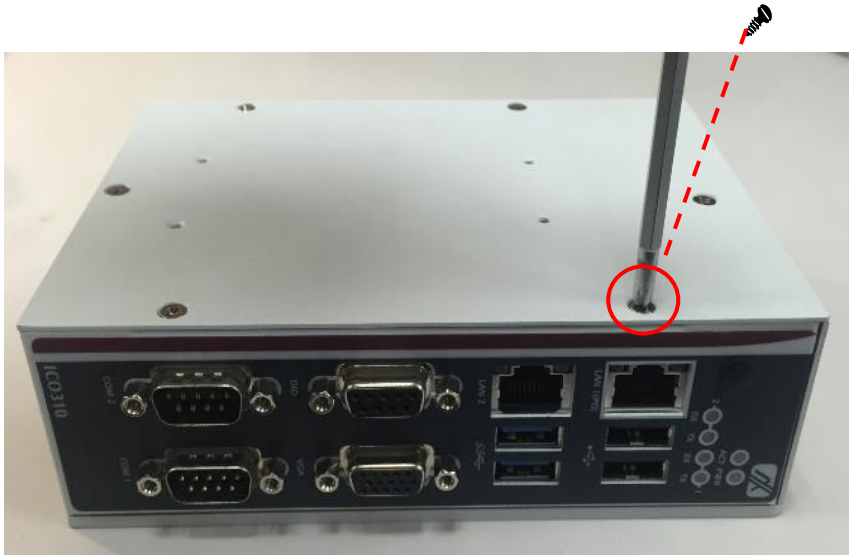
CHAPTER 2
HARDWARE INSTALLATION

The is convenient for your various hardware configurations, such as Memory Module and Hard Disk Drive. The chapter 2 will show you how to install the hardware. It includes:

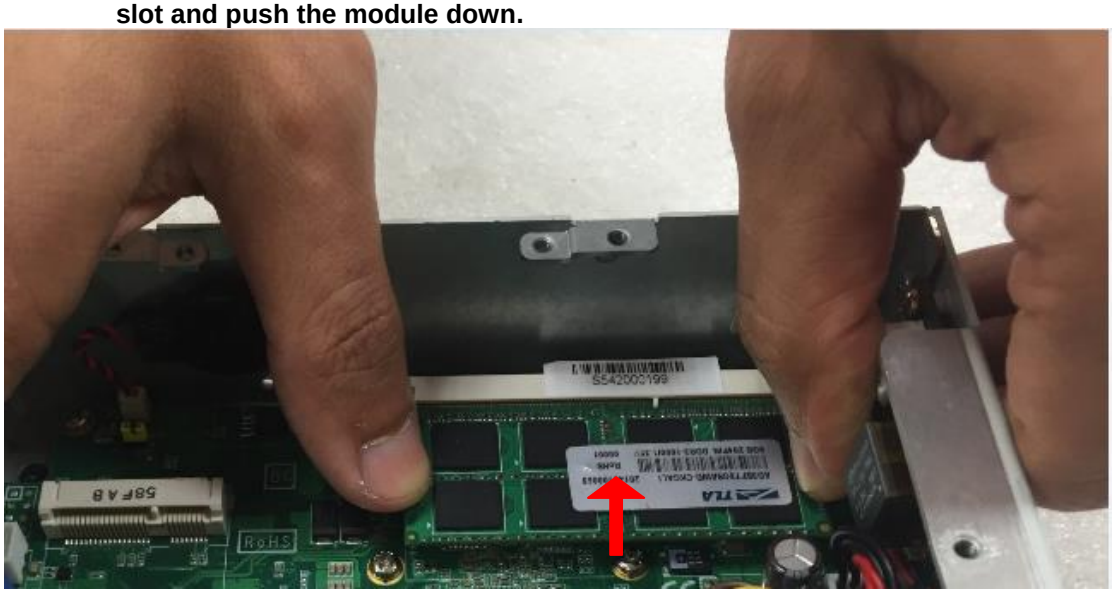
2.1 Installing the Memory Module

Step 1 Turn off the system.

Step 2 Loosen all screws of the cover and remove the cover from the system.



Step 3 Use two fingers to hold the memory module, and insert the gold figure into the slot and push the module down.



Step 4 **The memory module is locked by two latches on the sides. We strongly recommend using "LDC737" silicone on the two sides of the memory for good ability of vibration.**

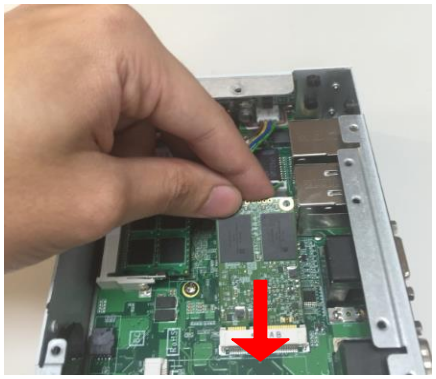
Step 5 **Put the cover back to the system, and fasten screws tight close the chassis.**

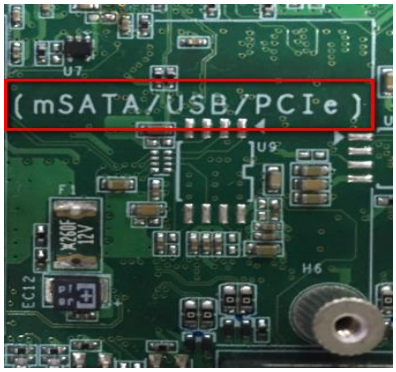
2.2 Installing the mSATA

Step 1 Turn off the system.

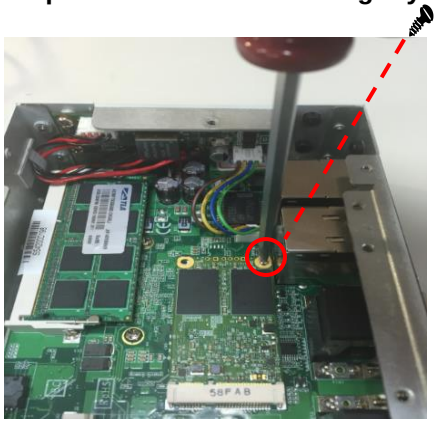
Step 2 Loosen all screws of the cover and remove the cover from the system.

Step 3 Insert the mSATA into the slot which marking with "mSATA / USB / PCIe ".





Step 4 Fasten the screw tightly.

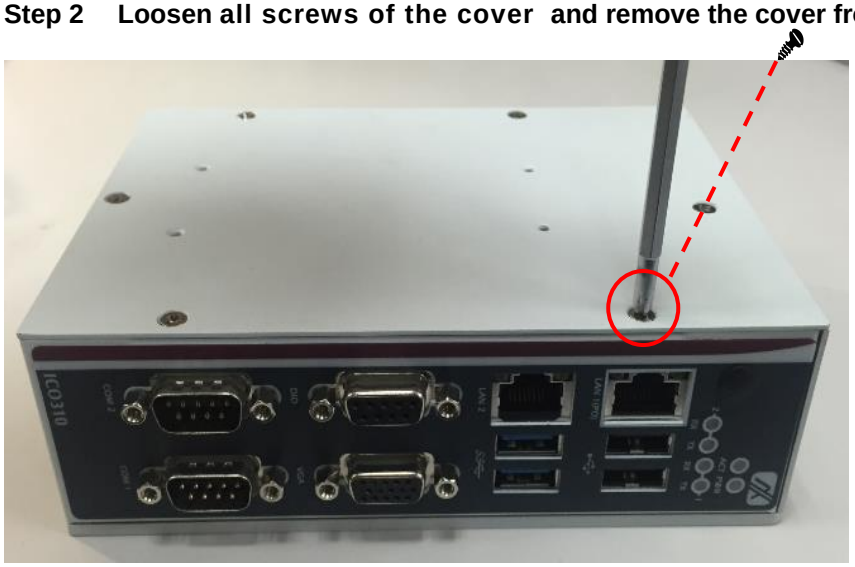


Step 5 Put the cover back to the system, and fasten screws tight close the chassis.

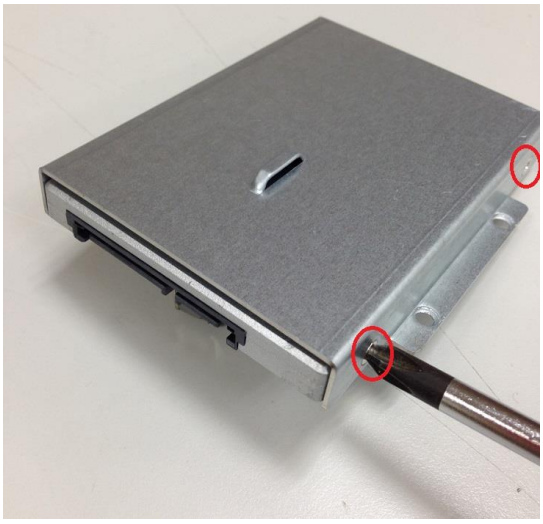
2.3 Installing the Hard Disk Drive

Step 1 Turn off the system.

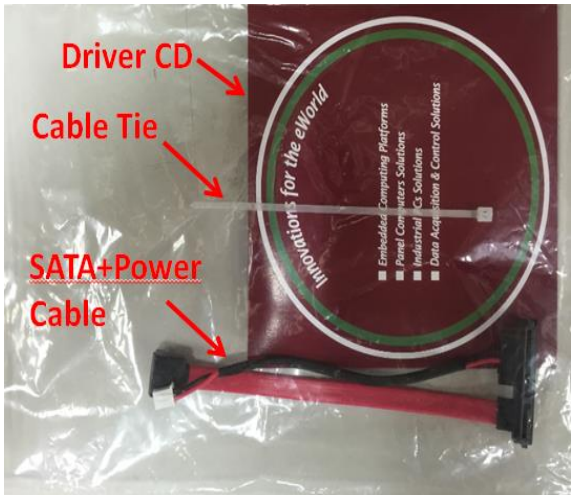
Step 2 Loosen all screws of the cover and remove the cover from the system.

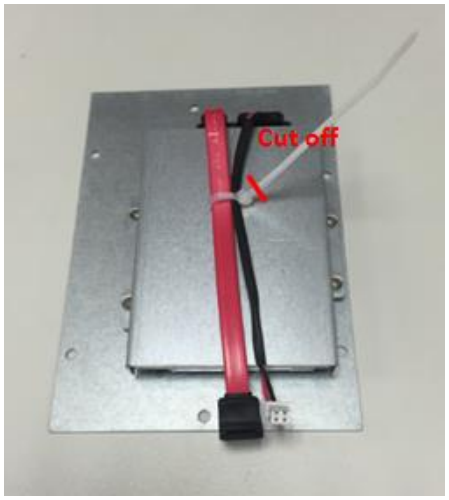


Step 3 Loosen 4pcs screws of the cover, and put the HDD into the HDD bracket and fix the HDD by 4pcs of screws in the accessory bag.

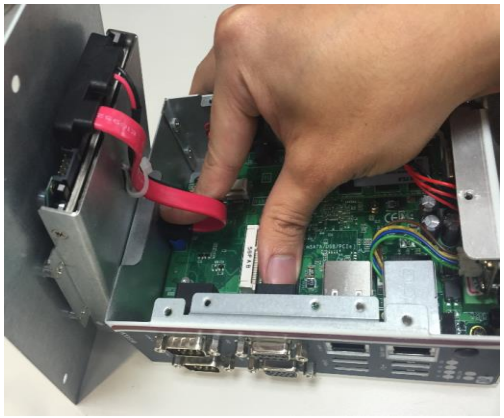


Step 4 **Put the HDD bracket on the cover and use 4pcs screws to fix tightly. Takes the SATA+Power HDD cable and Cable Tie out from the accessory bag and connect SATA+Power HDD cable to HDD then use Cable Tie to fix it on the HDD bracket, cut off the lengthy Cable Tie.**





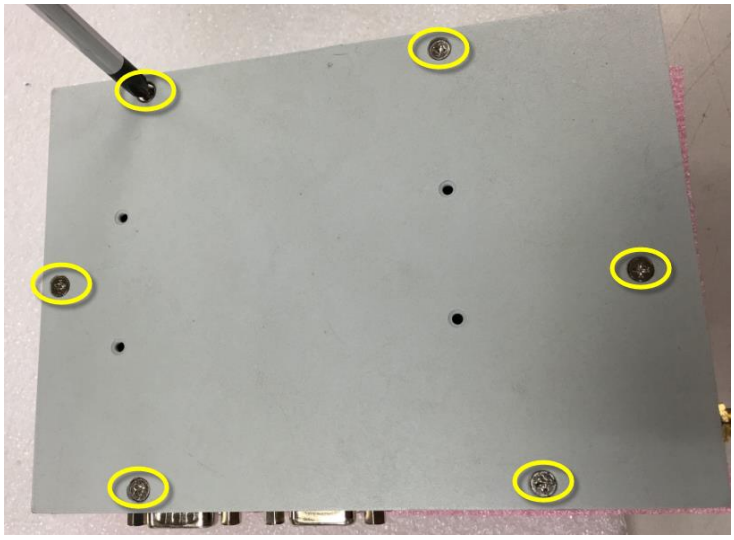
Step 5 **Connect SATA+Power HDD cable to the board connector, SATA side first then power side second.**



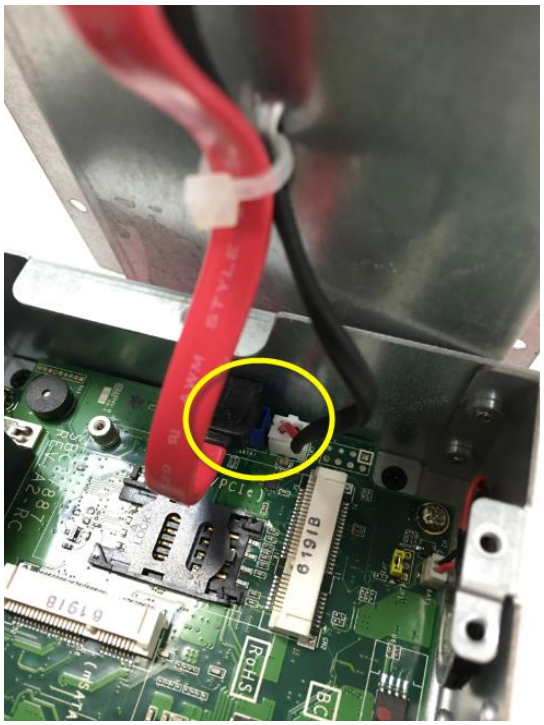
Step 6 **Put the cover back to the system, and fasten screws tight close the chassis.**

2.4 Instlling 3G module

Step1 Loosen all screws of the cover (yellow circle signs).



Step2 Open the cover and remove SATA cable (yellow circle sign) from the connector.



Step3 The yellow sign is the location where can install the 3G module and SIM card.

Step4 Follwing (Figure 4-1) push the SIM slot back to unlock SIM slot, inserting the SIM card and put it back(Figure 4-2), and lock the SIM slot(Figure 4-3).

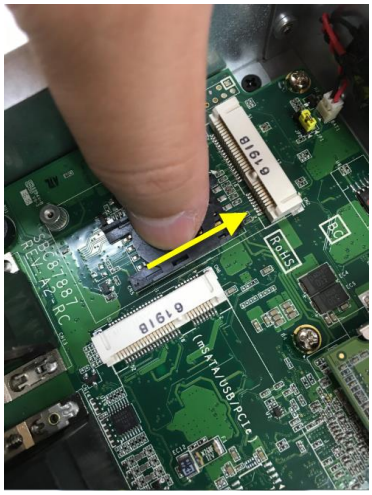


Figure 4-1

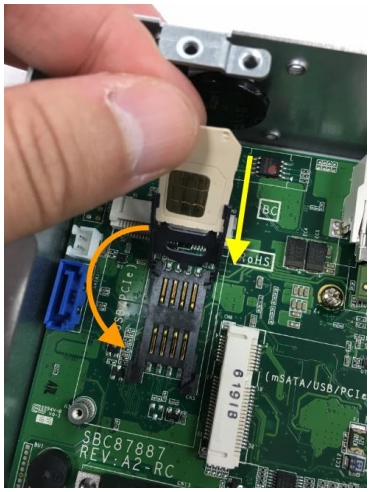


Figure 4-2

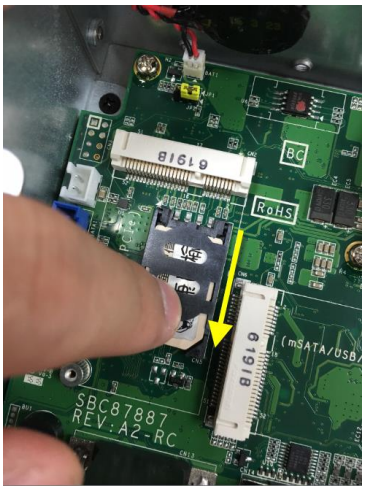
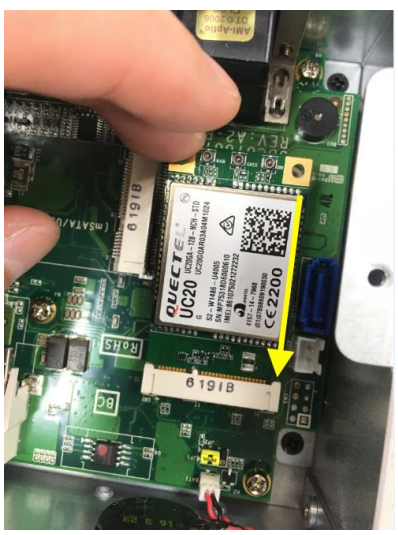
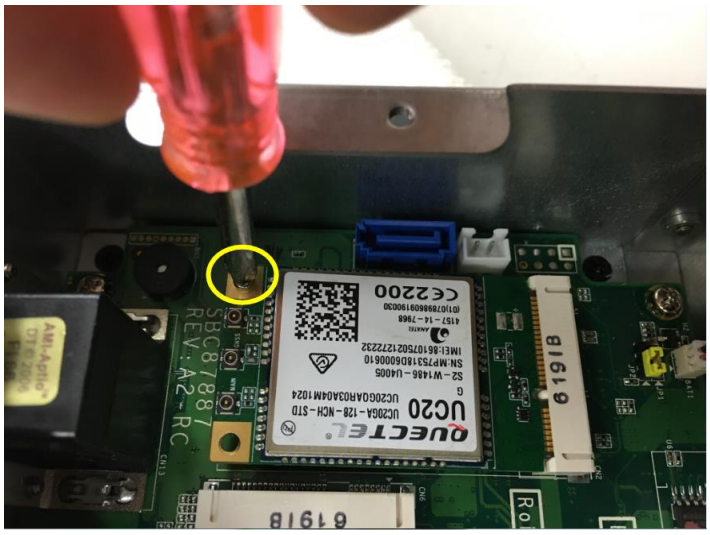
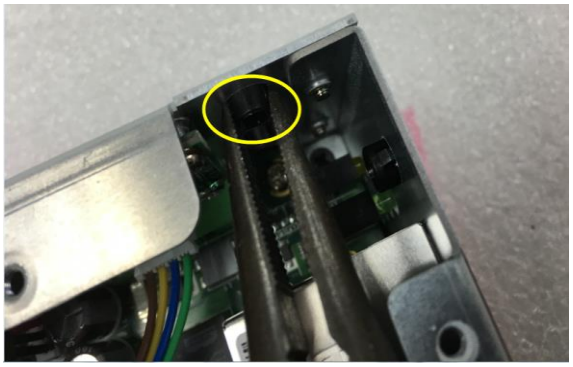


Figure 4-3

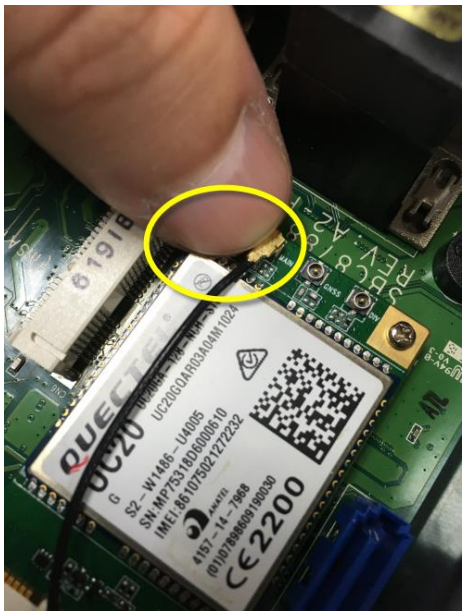
Step5 Insert the 3G module and screws it tight.

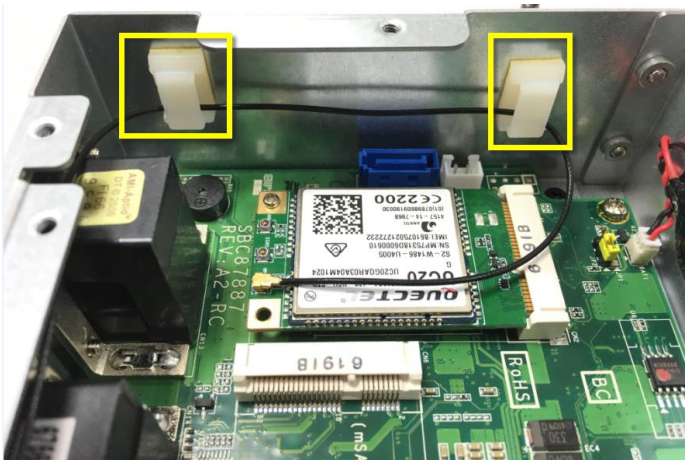
Step6 Removing the plug cover from the chassis.



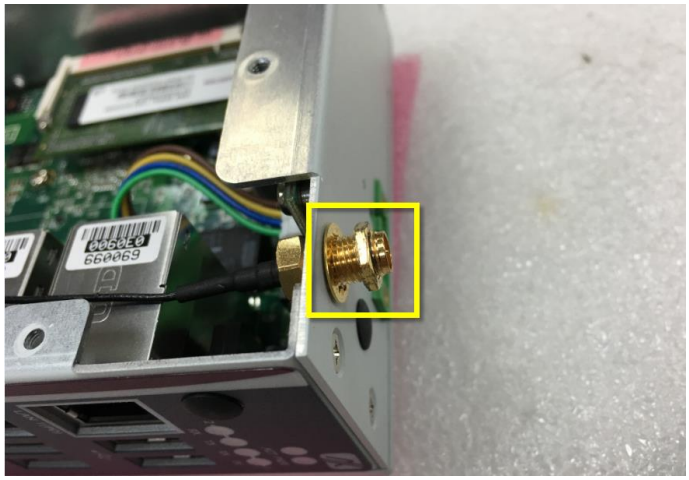

Step7 Connect the RF cable to the connector of 3G module which remarking "MAIN".

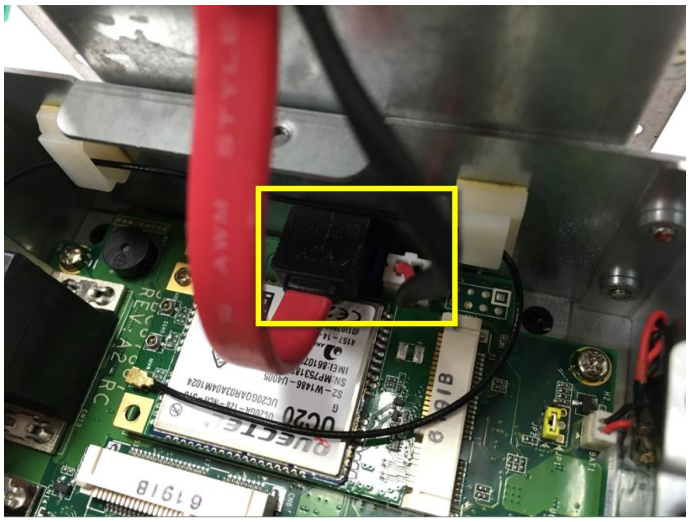
Step8 Stick the tie mounts at the positions.



Step9 Taking out the parts from the 3G kit package and screws tight it.

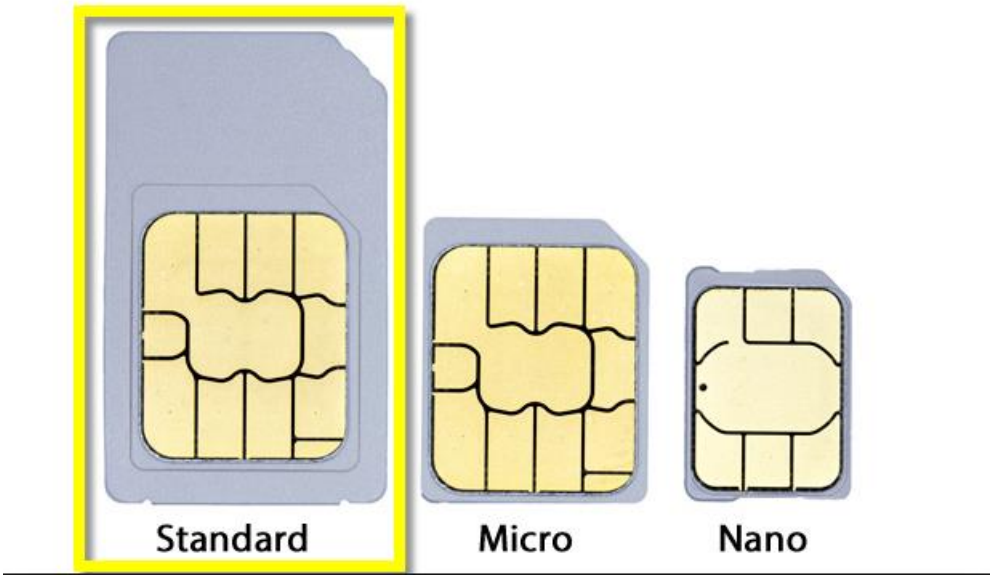


Step10 Connect SATA cable back to the connector.



Step11 Put the cover back to the system, and fasten screws tight close the chassis.

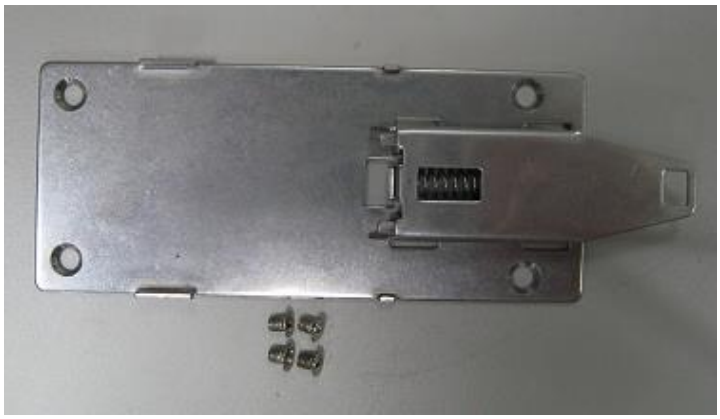
Note: SIM Card only can use the standard size as the following pictures.



2.5 Installing Din-rail Mounting

The provides Din-rail Mount for 2 methods that customers can install as below:

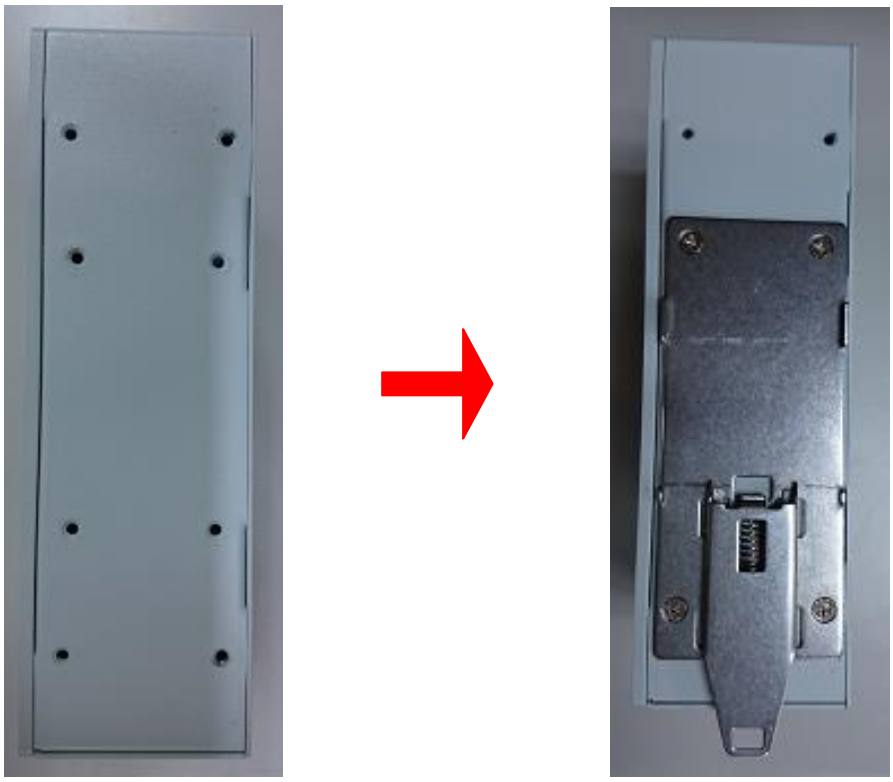
Step 1 Prepare Din-rail Mount assembling components (screws and bracket) ready.



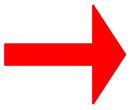
Note: Only 4mm length M3 type screws can be accepted.

Step 2 Assembly the bracket to the system and fasten screws tight.

Method-1:



Method-2 :



2.6 Installing Wall Mounting (optional)

The provides Wall Mounting that customers can install as below:

Step 1 Prepare Wall Mount assembling components (screws and bracket) ready.

Step 2 Assembly the bracket to the system, and fasten screws tight.

CHAPTER 3
AMI UEFI BIOS UTILITY

The AMI UEFI BIOS provides users with a built-in Setup program to modify basic system configuration. All configured parameters are stored in a flash-backed-up to save the Setup information whenever the power is turned off.

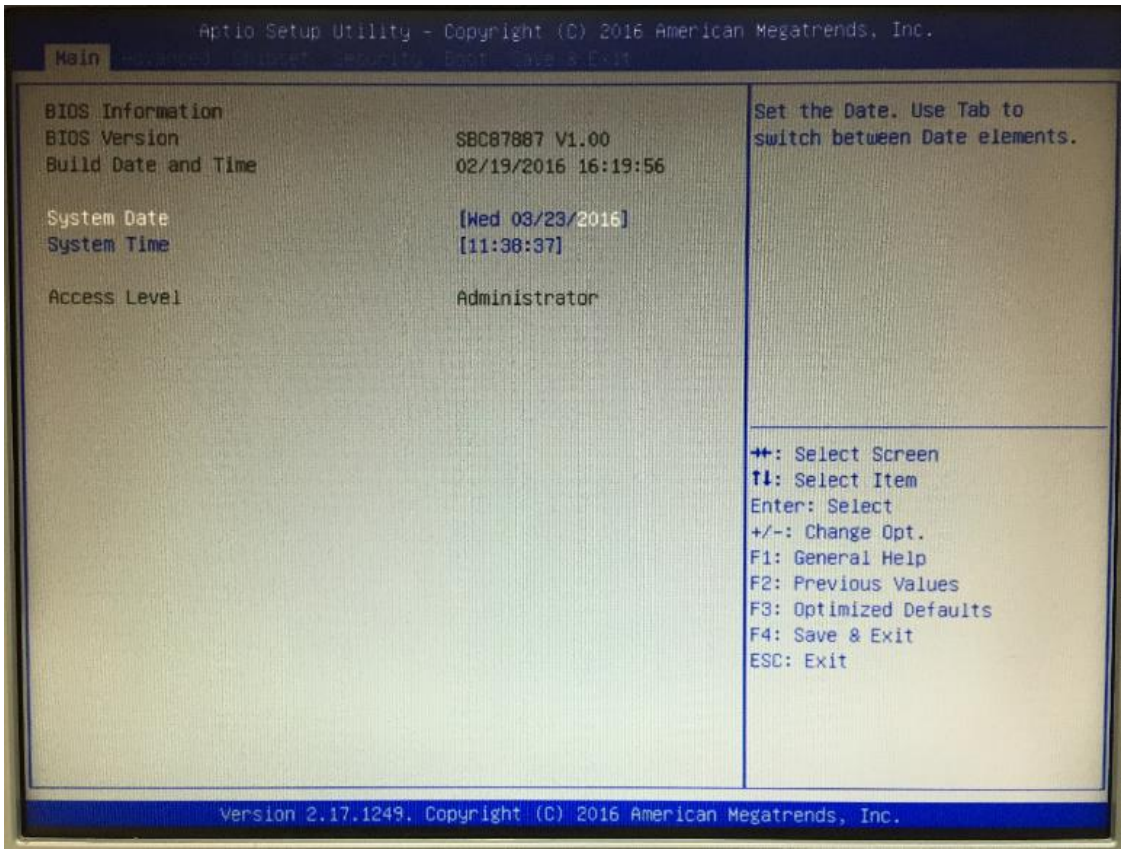
3.1 Entering Setup

To enter the setup screens, follow the steps below:

1. Turn on the computer and press the <Del> key immediately.
2. After you press the <Del> key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu, such as the Advanced and Chipset menus.

3.2 The Main Menu

Once you enter the AMI BIOS Aptio Setup Utility, the Main Menu appears on the screen. In the Main Menu, there are several Setup functions and a couple of Exit options for your selection. Use Select Screen Keys (or Move Keys) to select the Setup Page you intend to configure then press <Enter> to accept or enter its sub-menu.

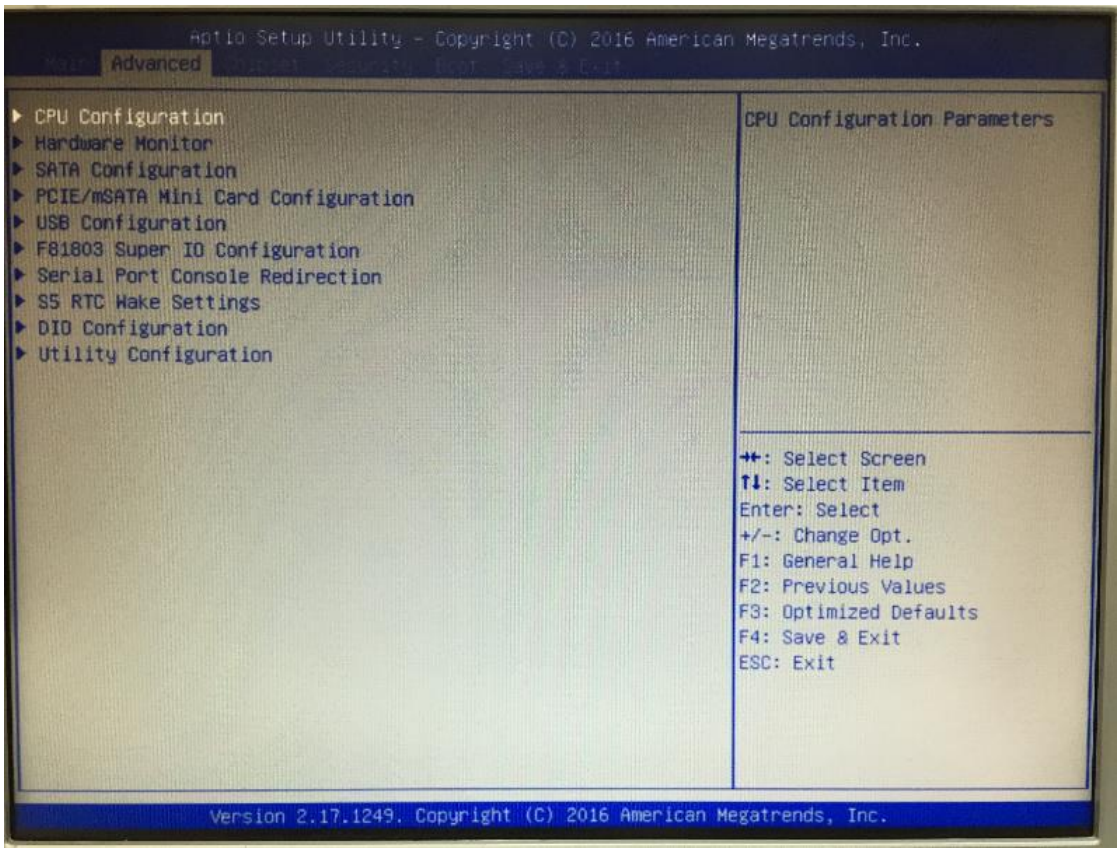


System Date
The date format is <day> <month> <date> <year>.

System Time
This item shows current time of your system with the format <hour> <minute> <second>. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

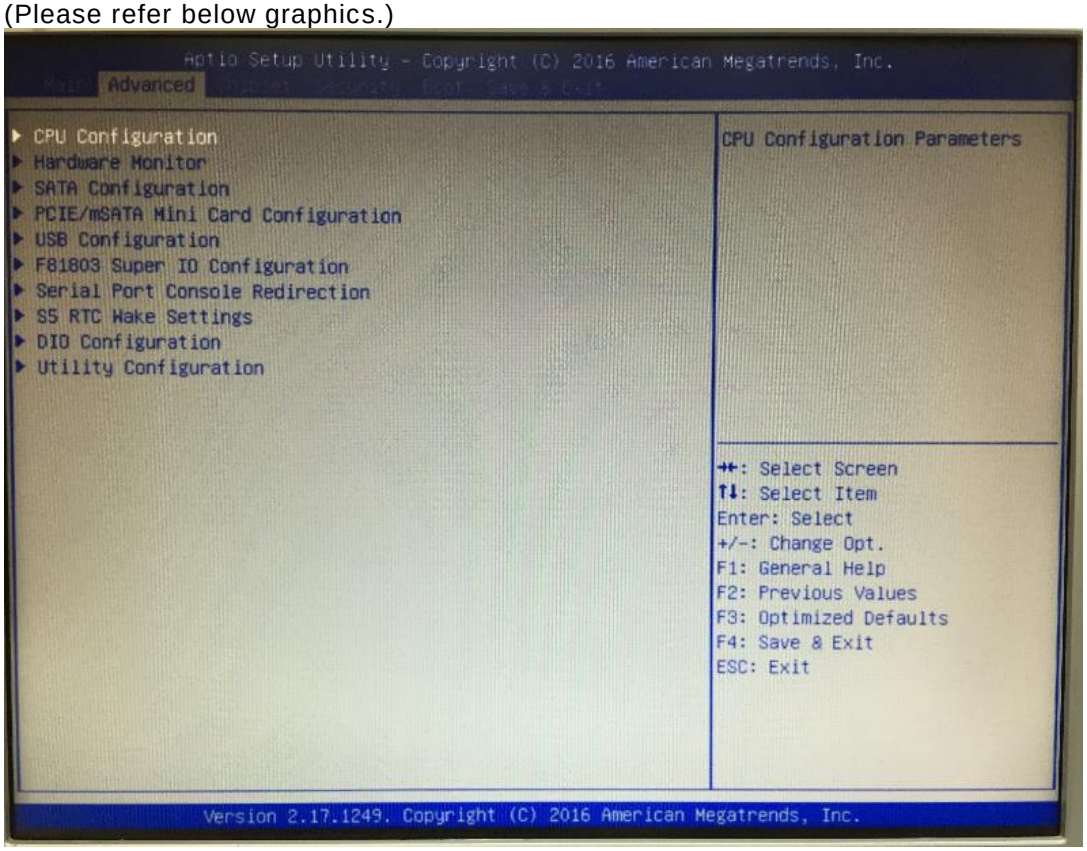
3.3 Advanced Features

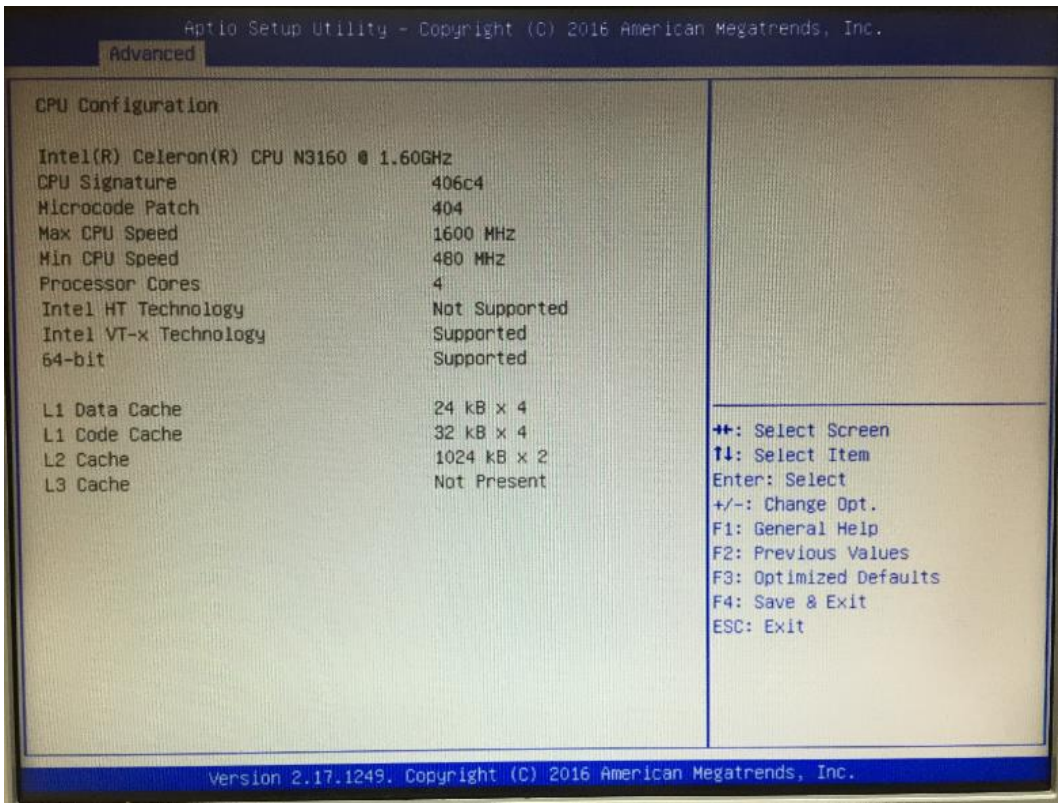
This Advanced section allows users to configure and improve your system, to set up some system features according to your preference. You can select any of the items in the left frame of the screen to go to the sub menus:



- **CPU Configuration**

Scroll to this item and press <Enter> to view the CPU Configuration informations. (Please refer below graphics.)

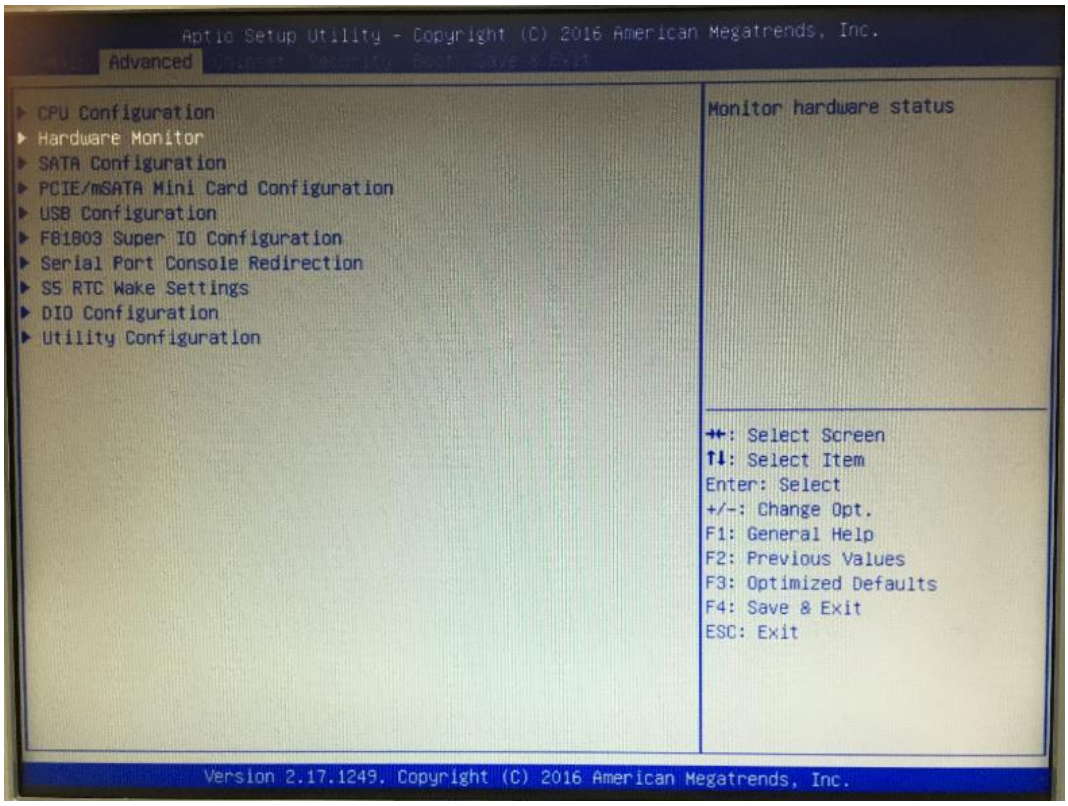


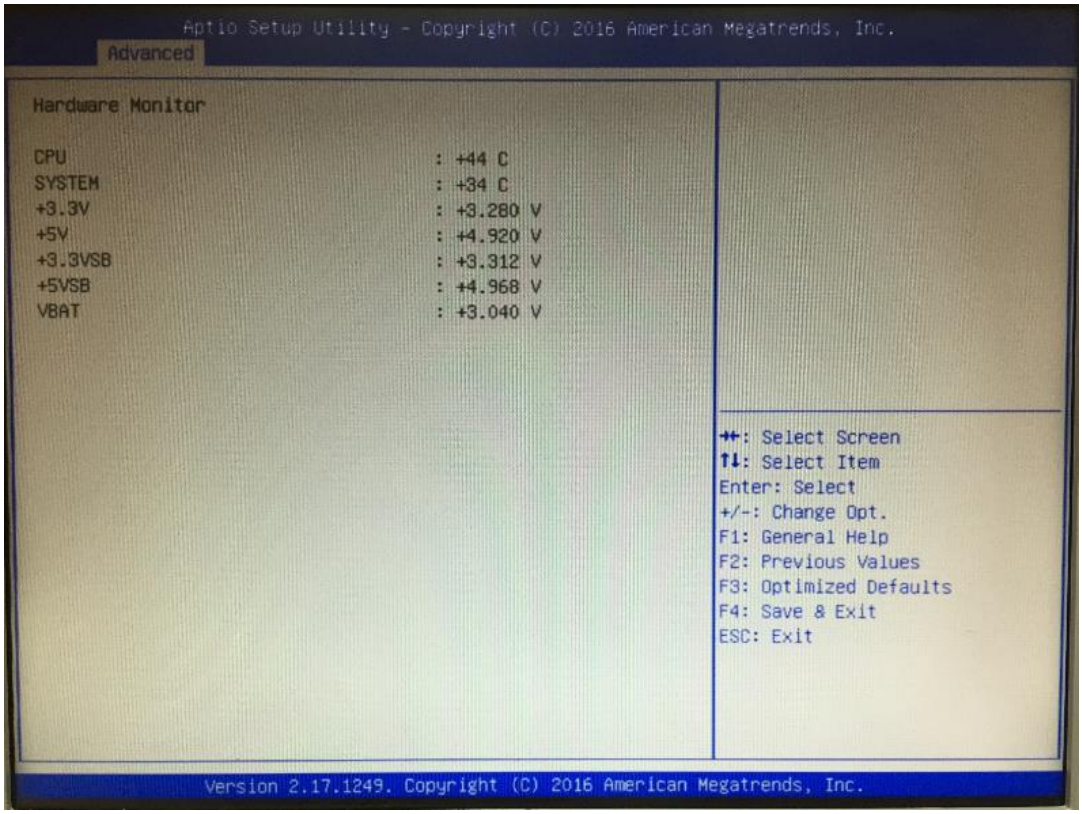


- **H/W Monitor**

Scroll to this item and press <Enter> to view the monitor hardware status.

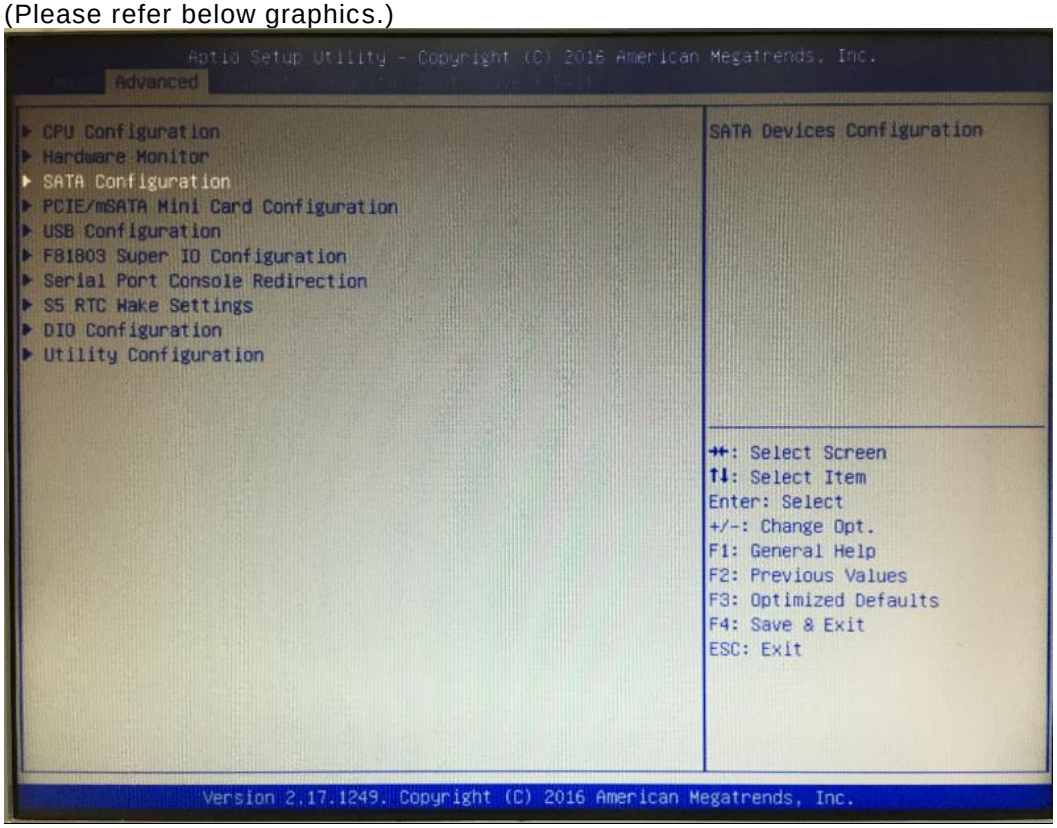
(Please refer below graphics.)

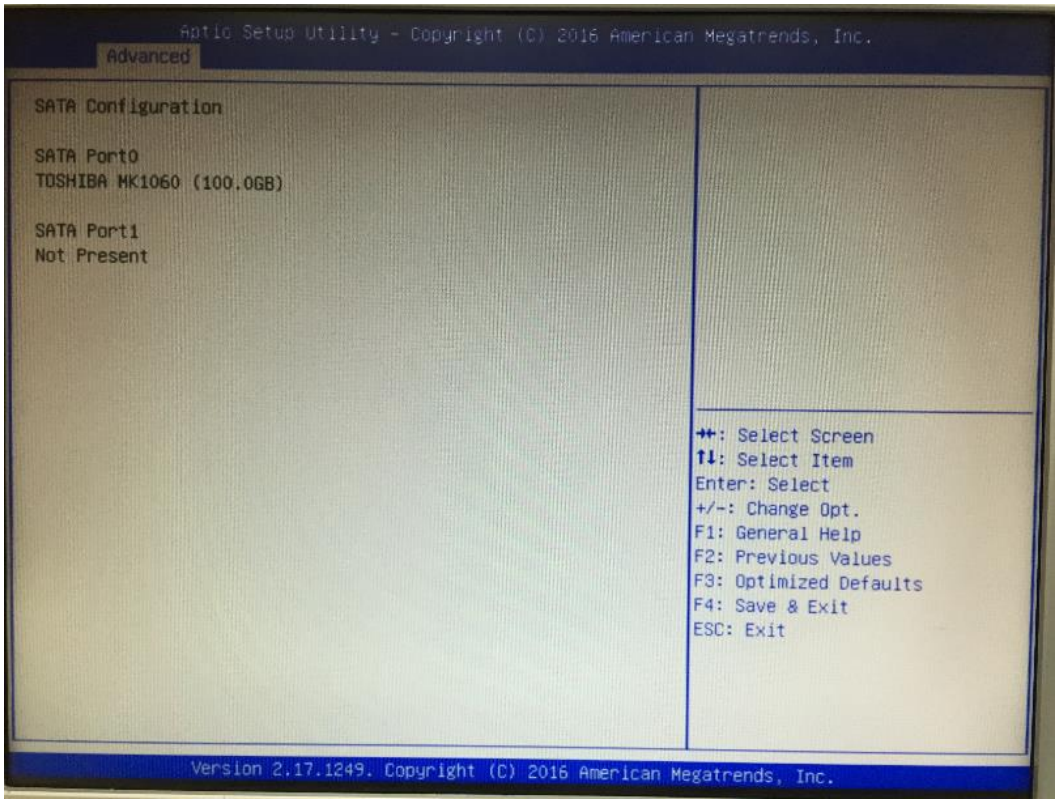




- **SATA Configuration**

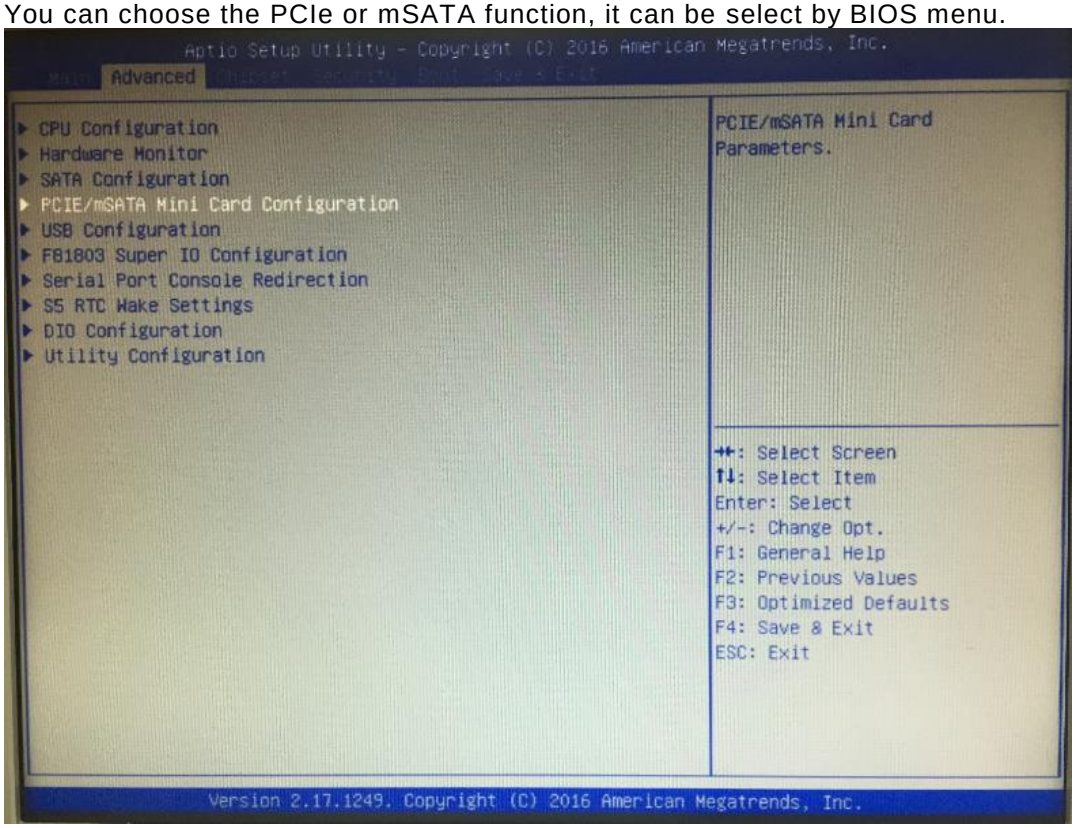
Scroll to this item and press <Enter> to view the SATA Configuration informations. (Please refer below graphics.)

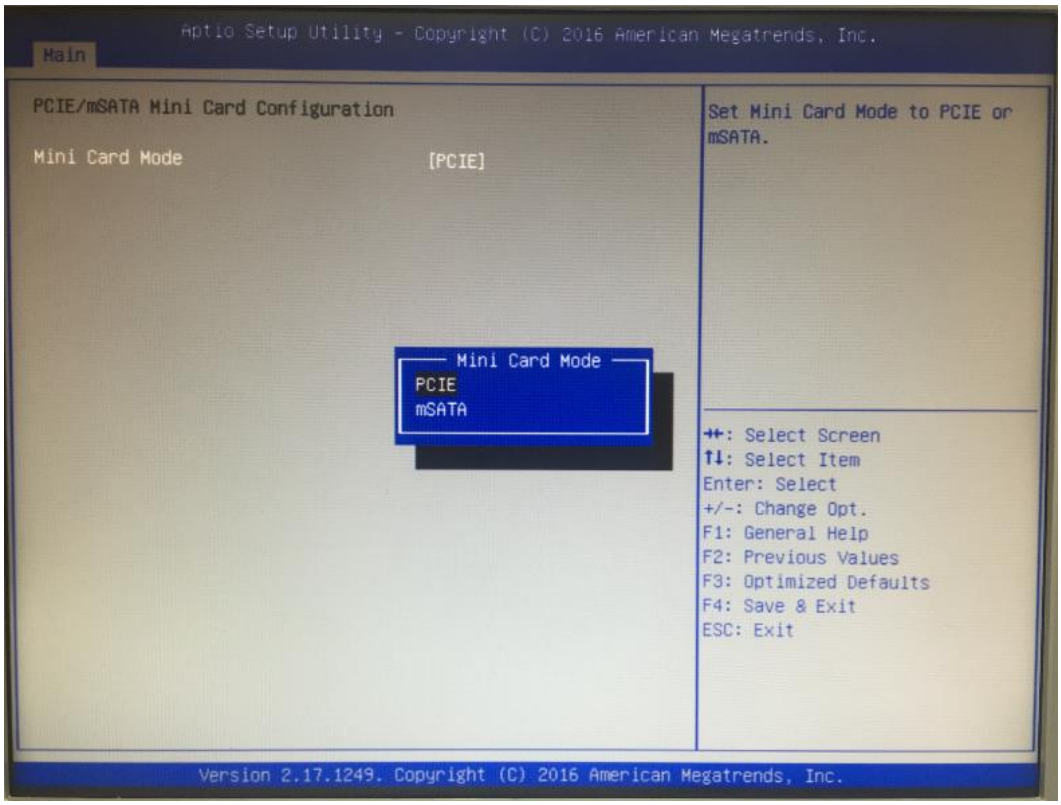




- **PCIe/mSATA Mini Card Configuration**

You can choose the PCIe or mSATA function, it can be select by BIOS menu.

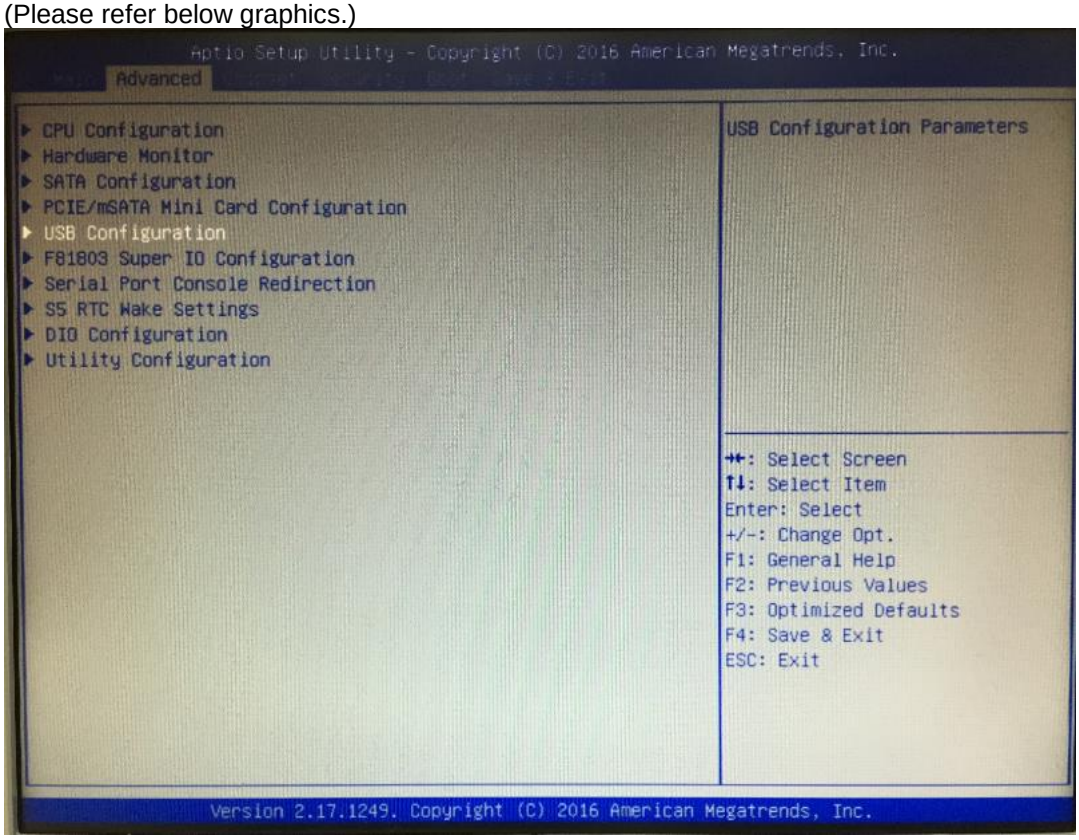


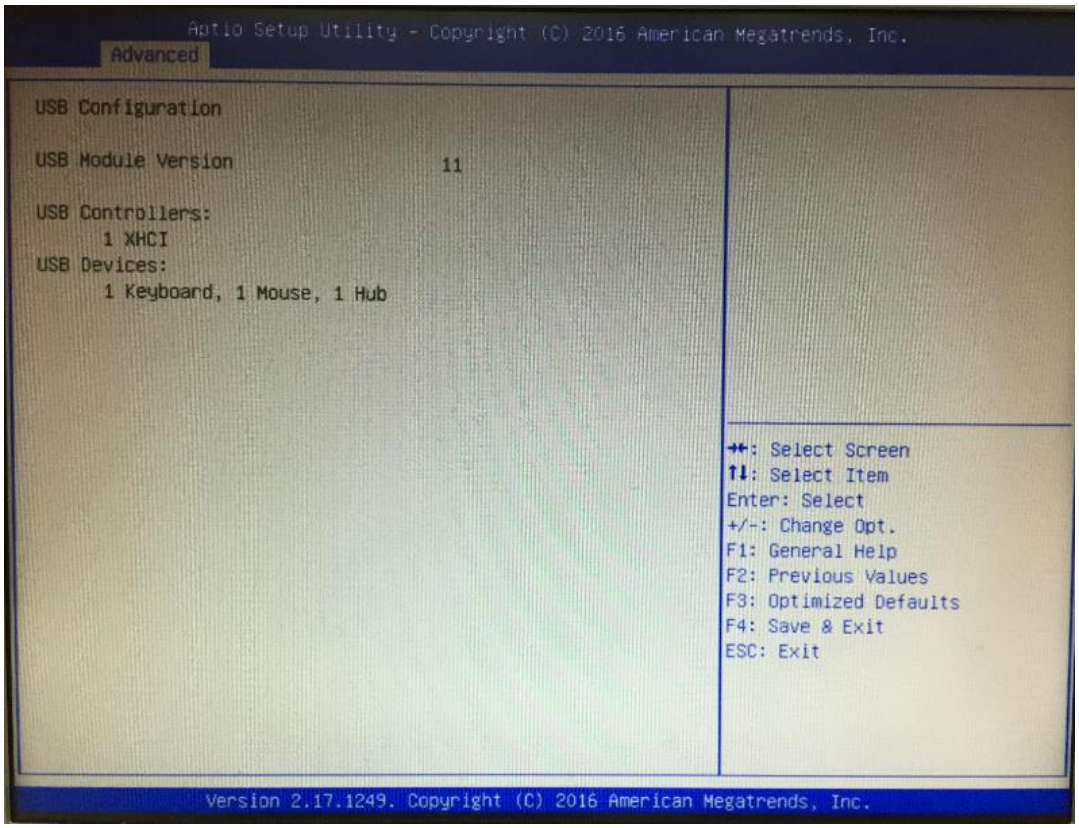


- **USB Configuration**

Scroll to this item and press <Enter> to view the USB Configuration informations.

(Please refer below graphics.)





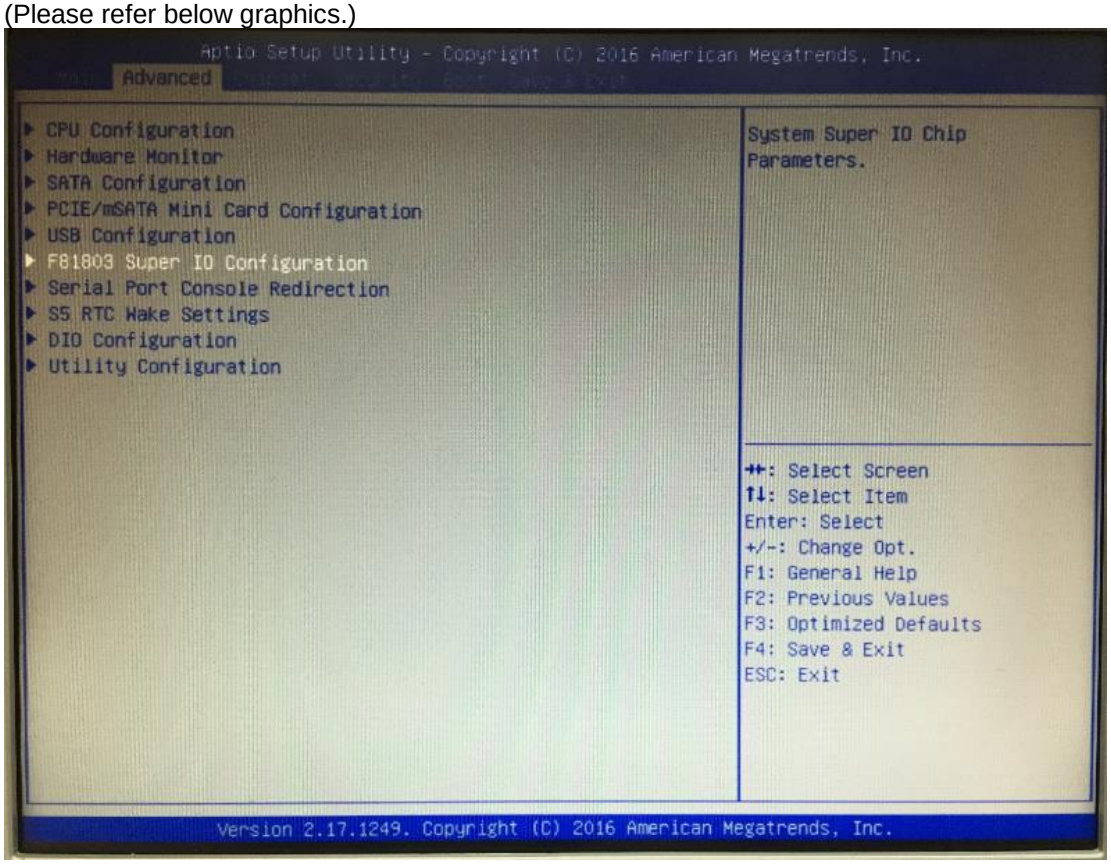
- **F81803 Super IO Configuration**

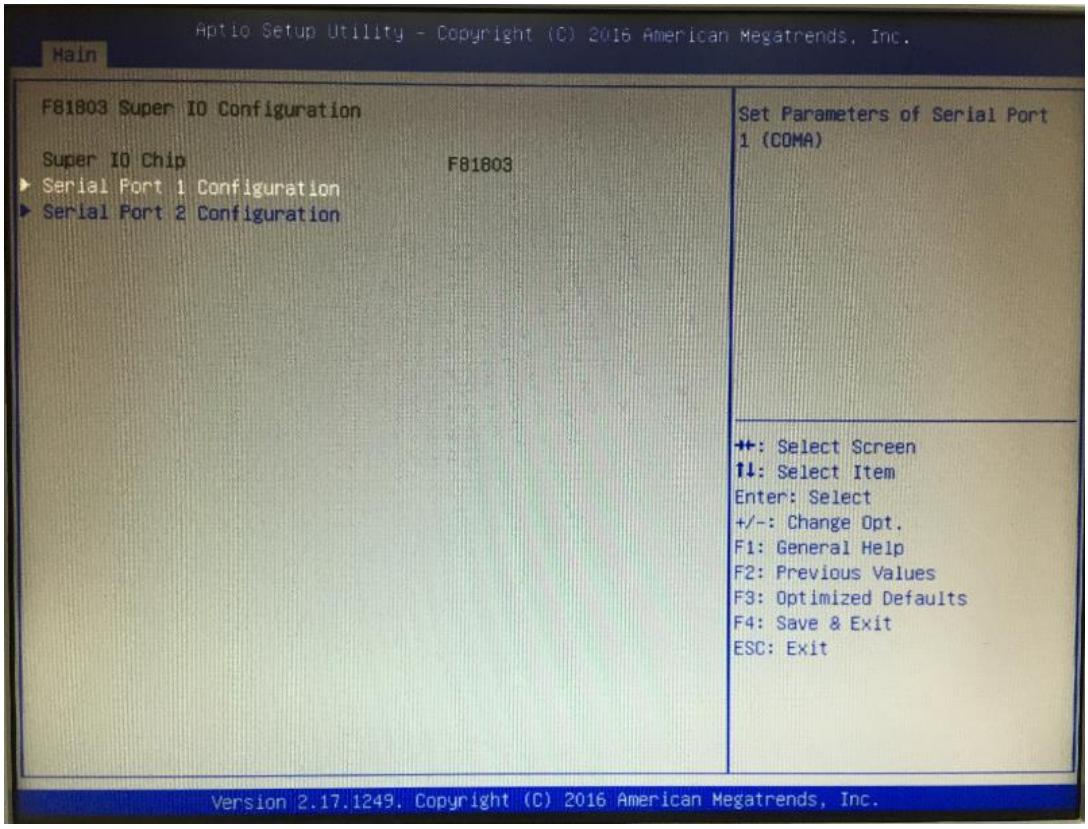
The default setting for all Serial Ports are RS232.

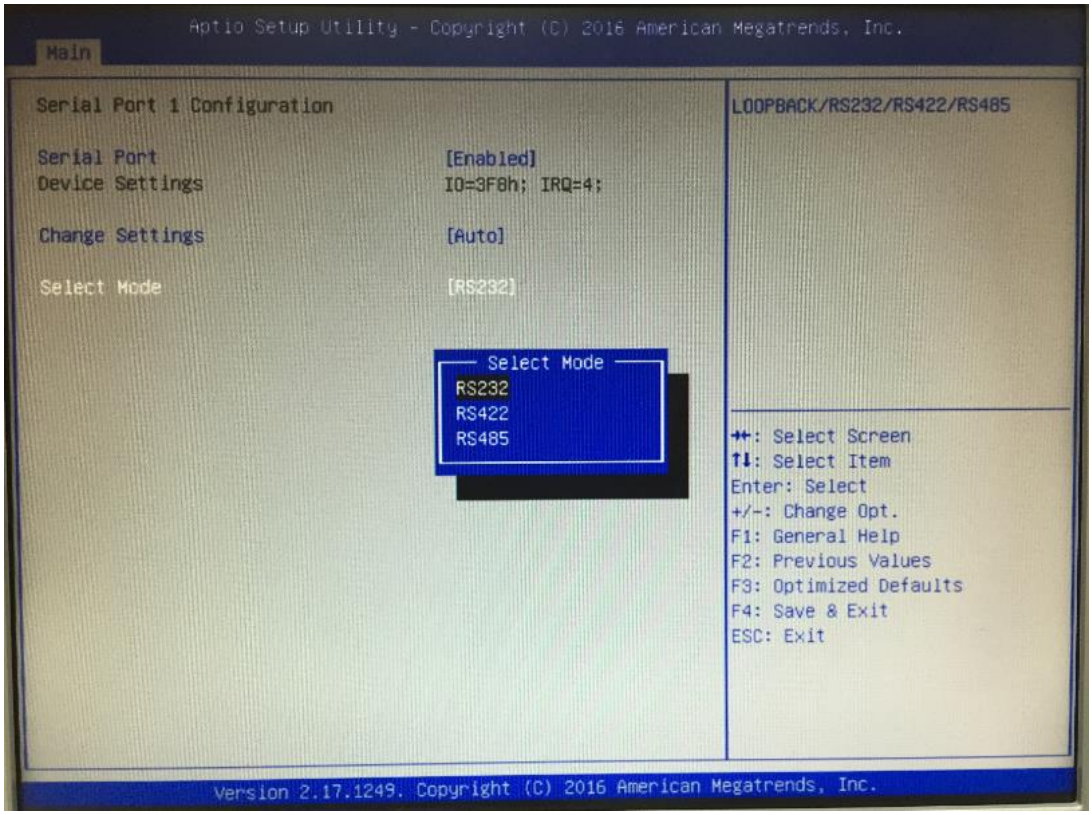
You can change the setting by selecting the value you want in each COM Port Type.

Supports RS422 & RS485 mode.

(Please refer below graphics.)




Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Main
F81803 Super IO Configuration
Super IO Chip F81803
Serial Port 1 Configuration
Serial Port 2 Configuration
Set Parameters of Serial Port 1 (COMA)
→←: 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) 2016 American Megatrends, Inc.

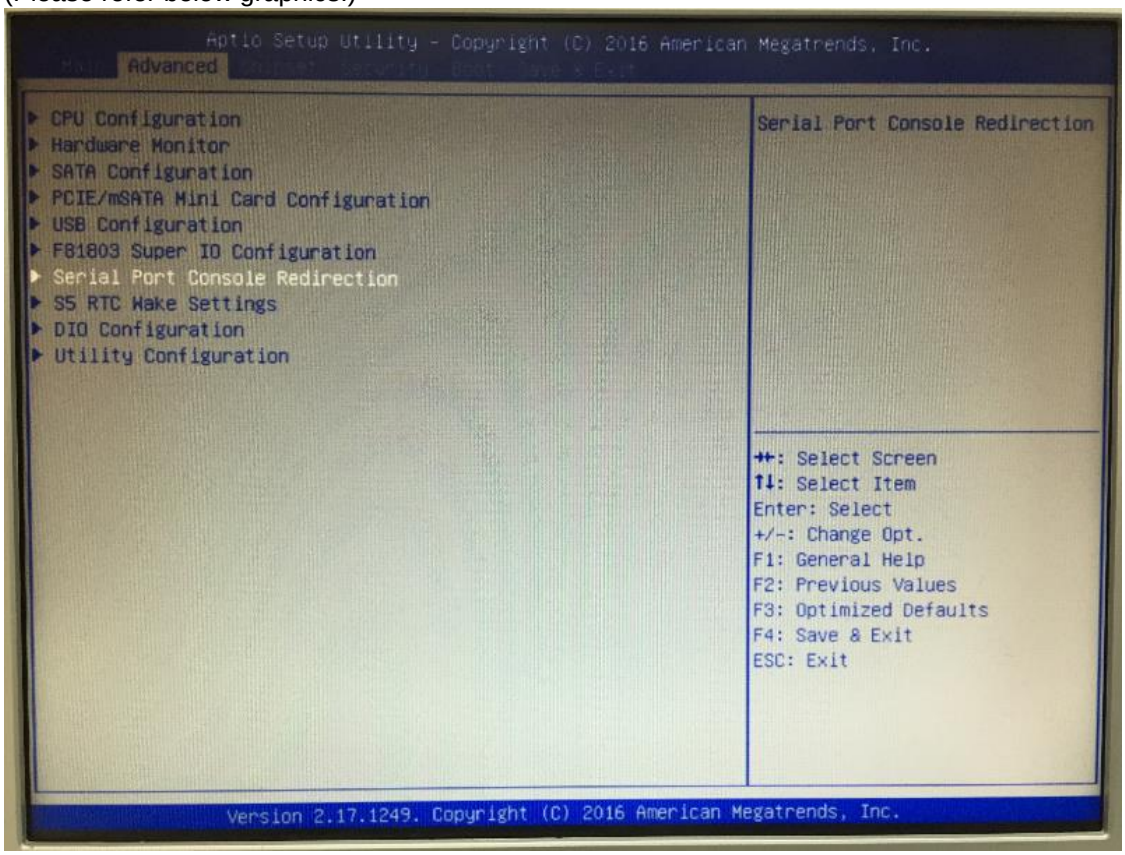

Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Main
Serial Port 1 Configuration
Serial Port [Enabled]
Device Settings IO=3F8h; IRQ=4;
Change Settings [Auto]
Select Mode [RS232]
Select Mode
RS232
RS422
RS485
LOOPBACK/RS232/RS422/RS485
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1249. Copyright (C) 2016 American Megatrends, Inc.

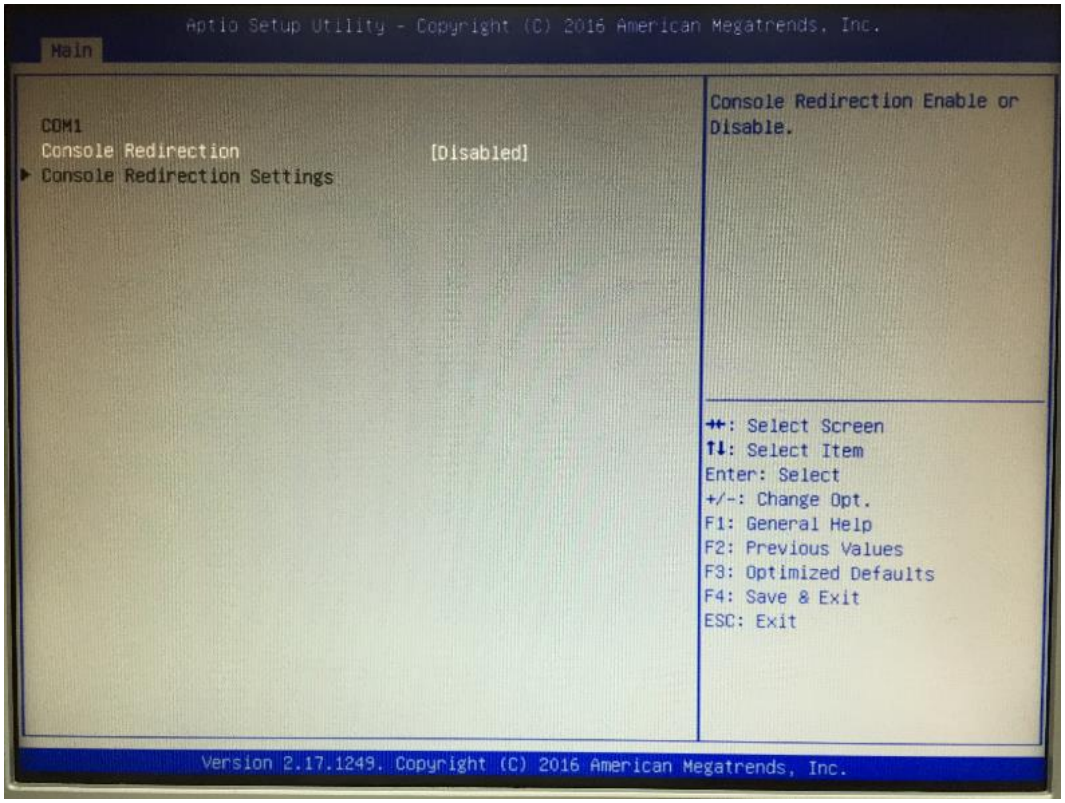
- **Serial Port Console Redirection**

Only COM1 has the console redirection function.

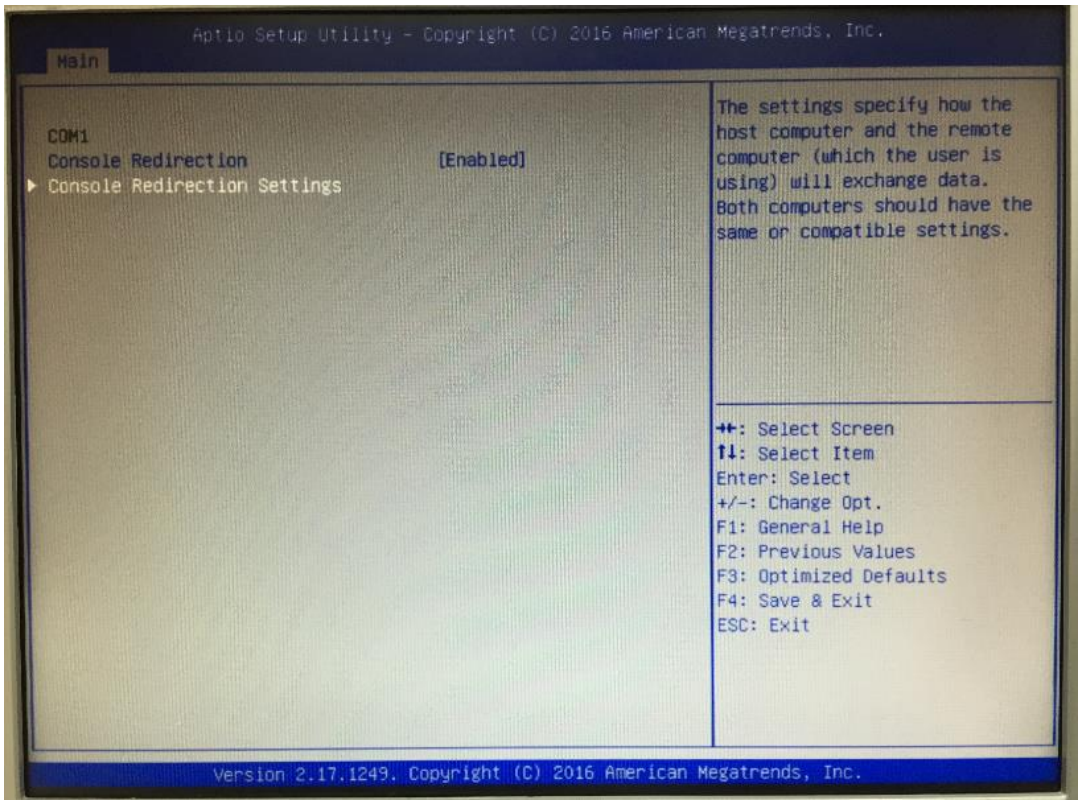
The default setting for the console redirection function is [Disabled]

(Please refer below graphics.)

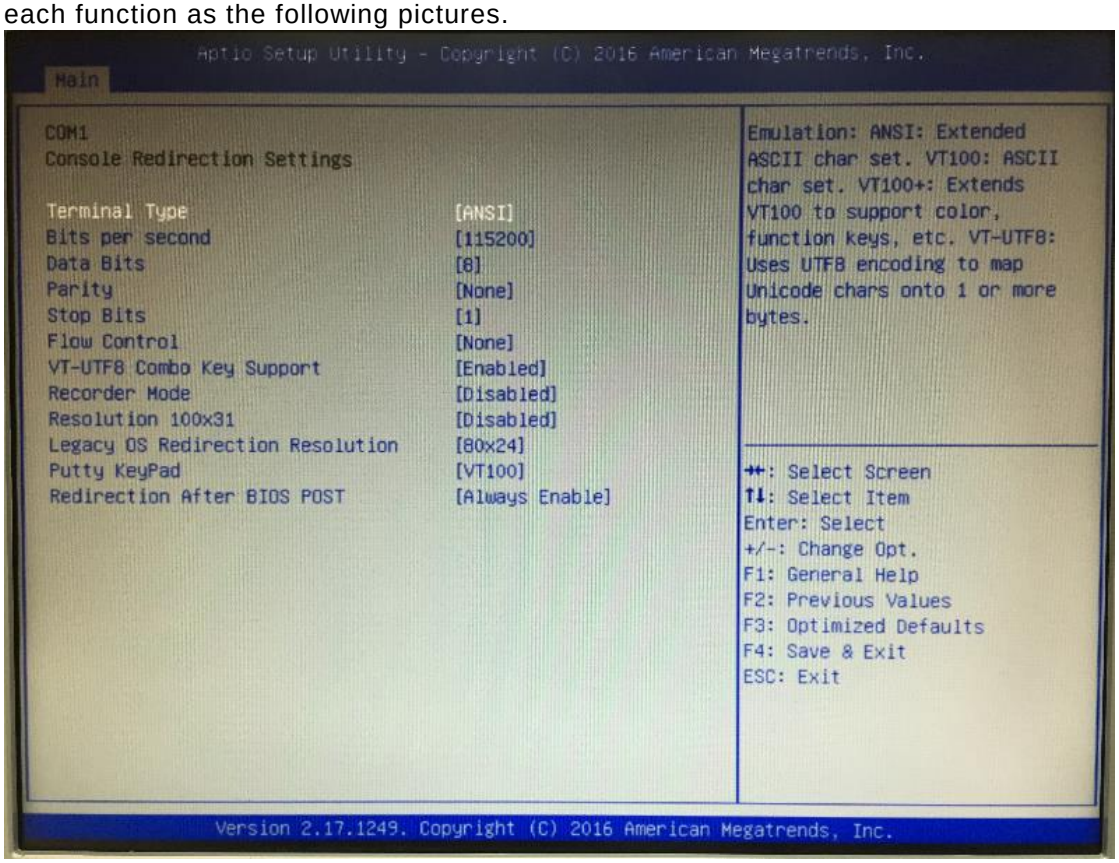




If the setting for the console redirection function is changed for [Enabled], the settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.



And you can further change the setting by selecting or setting the value you want in each function as the following pictures.

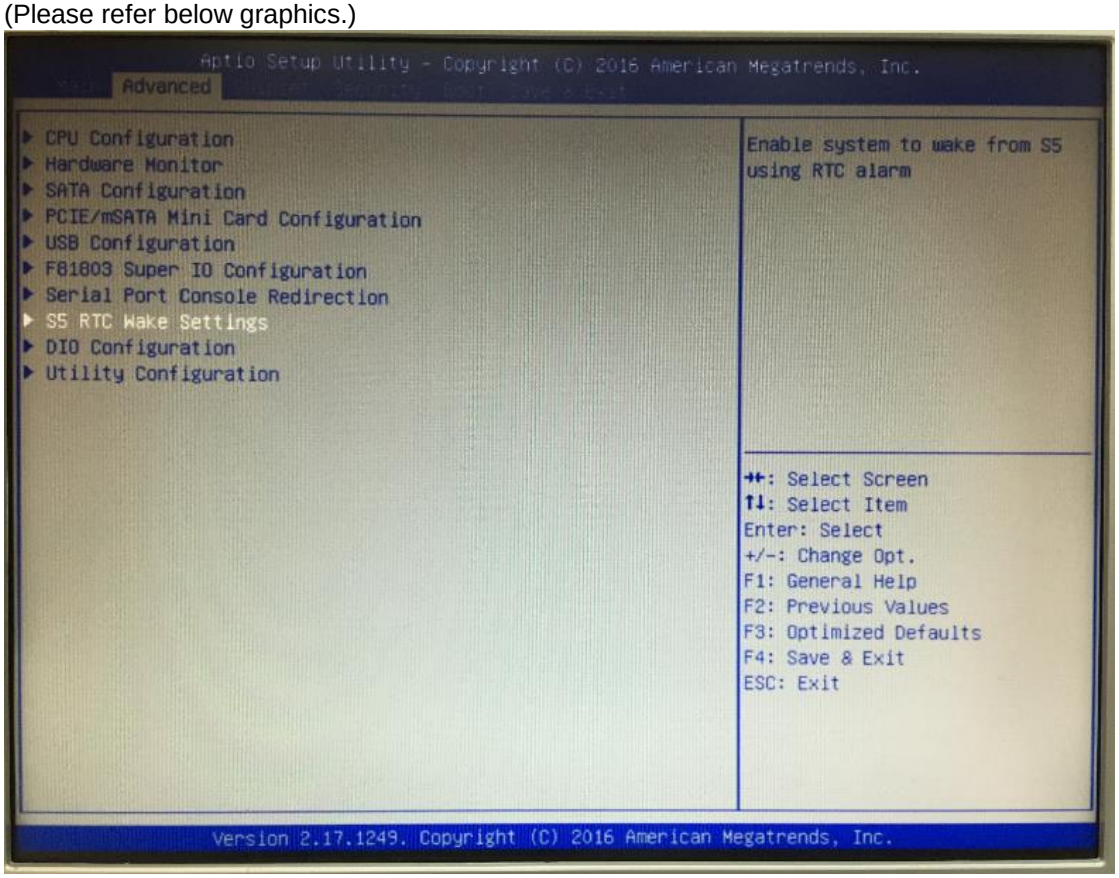


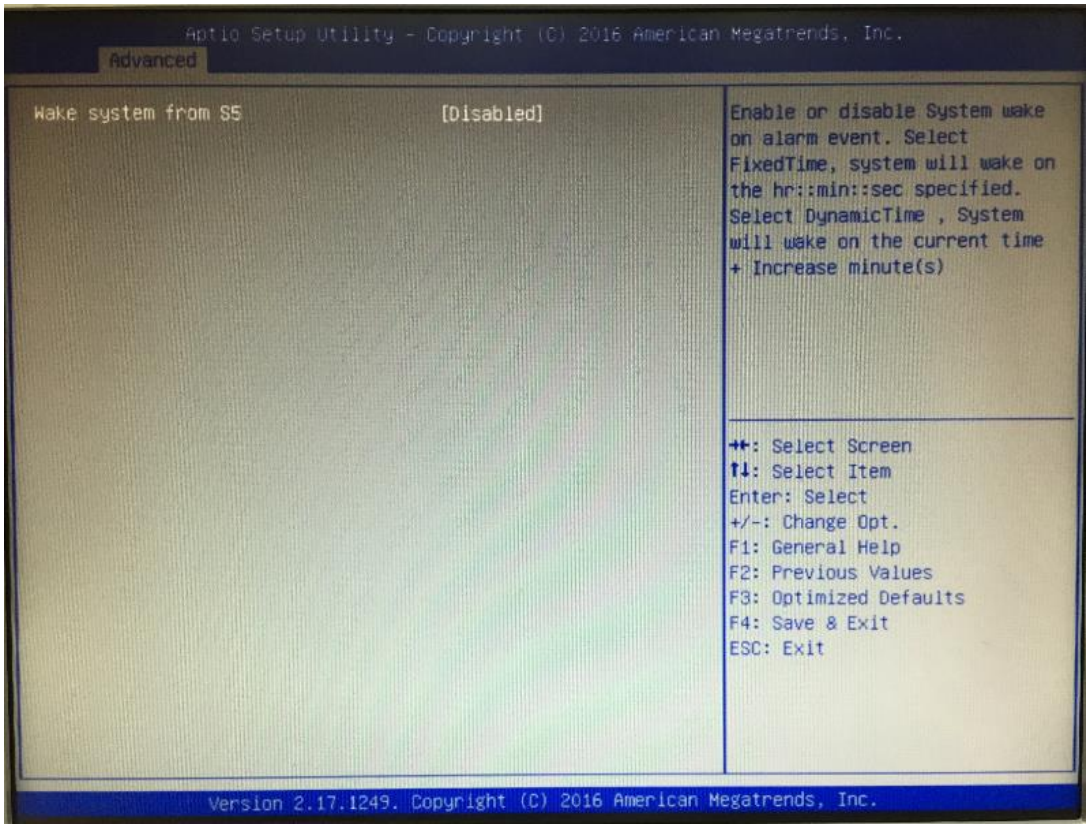
- **RTC Wake Settings**

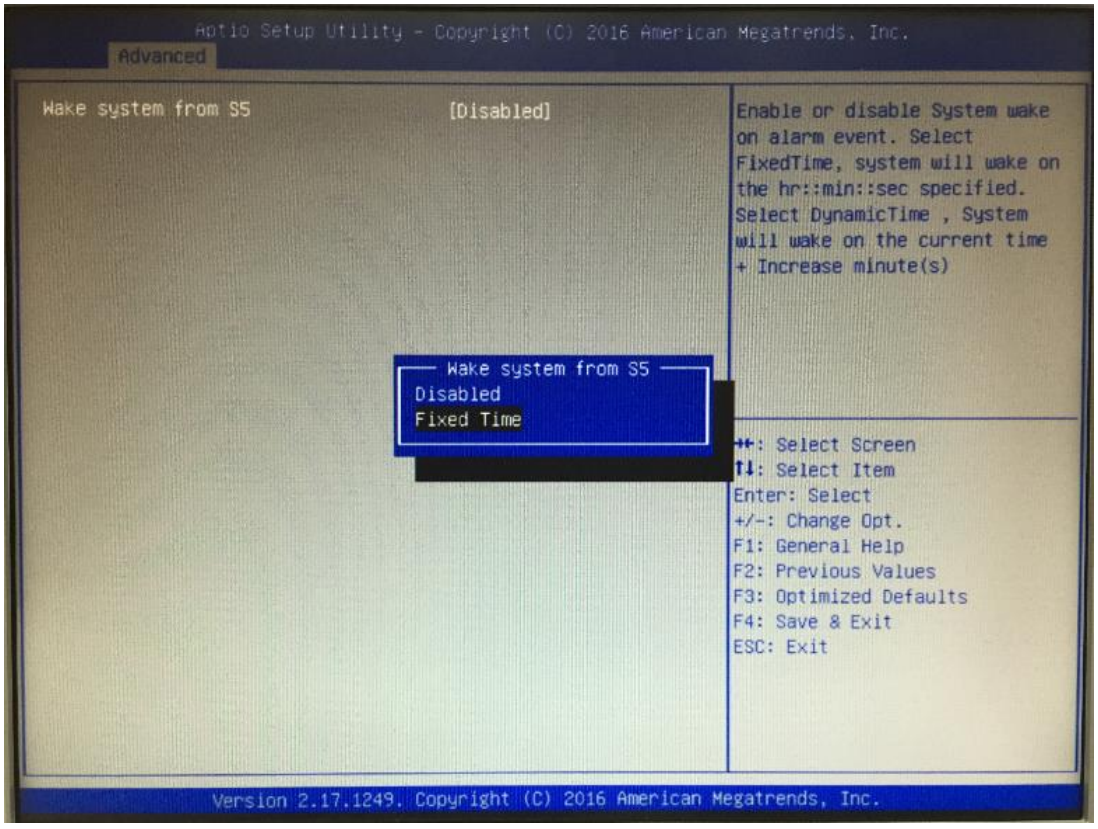
The default setting is "disable".

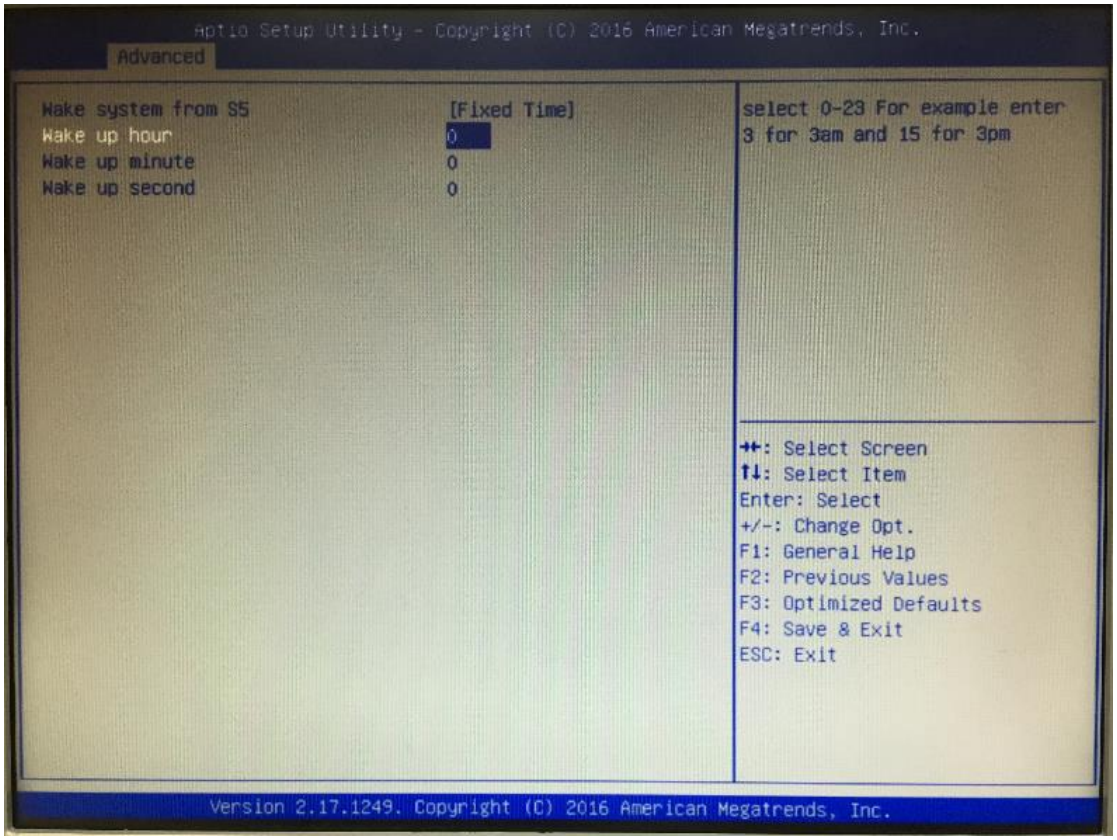
If the setting is changed for "enable", user can set up the fixed time to boot up automatically.

(Please refer below graphics.)




Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Advanced
Wake system from S5
[Disabled]
Enable or disable System wake on alarm event. Select FixedTime, system will wake on the hr::min::sec specified. Select DynamicTime , System will wake on the current time + Increase minute(s)
→←: 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) 2016 American Megatrends, Inc.


Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Advanced
Wake system from S5
[Disabled]
Enable or disable System wake on alarm event. Select FixedTime, system will wake on the hr::min::sec specified. Select DynamicTime , System will wake on the current time + Increase minute(s)
Wake system from S5
Disabled
Fixed Time
→←: 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) 2016 American Megatrends, Inc.



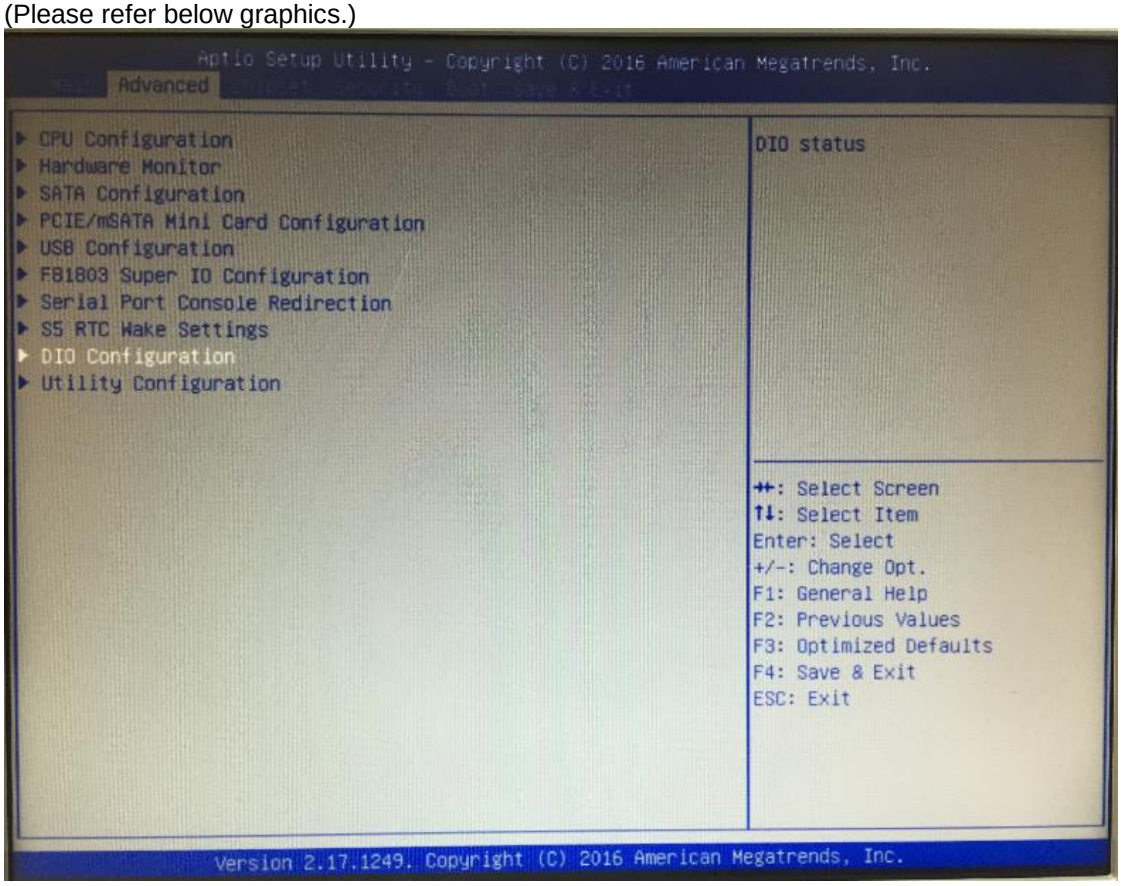
- **RTC Wake Settings**

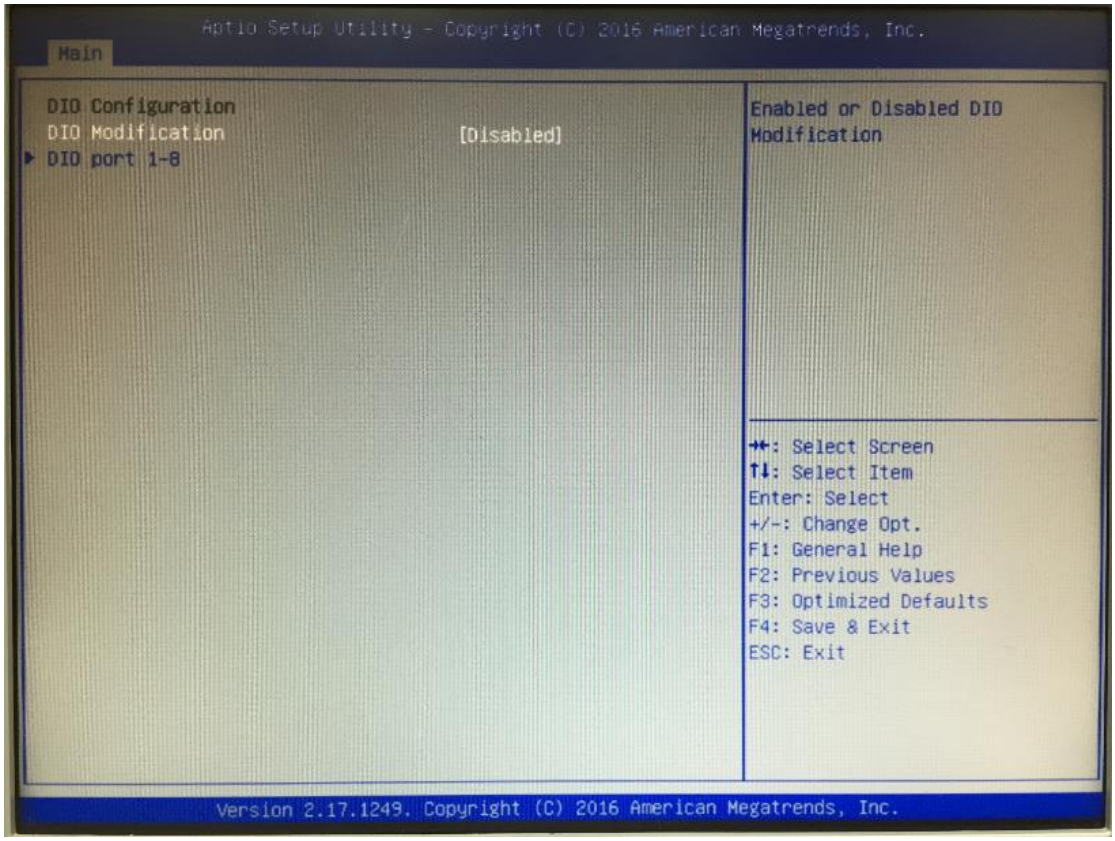
- **DIO Configuration**

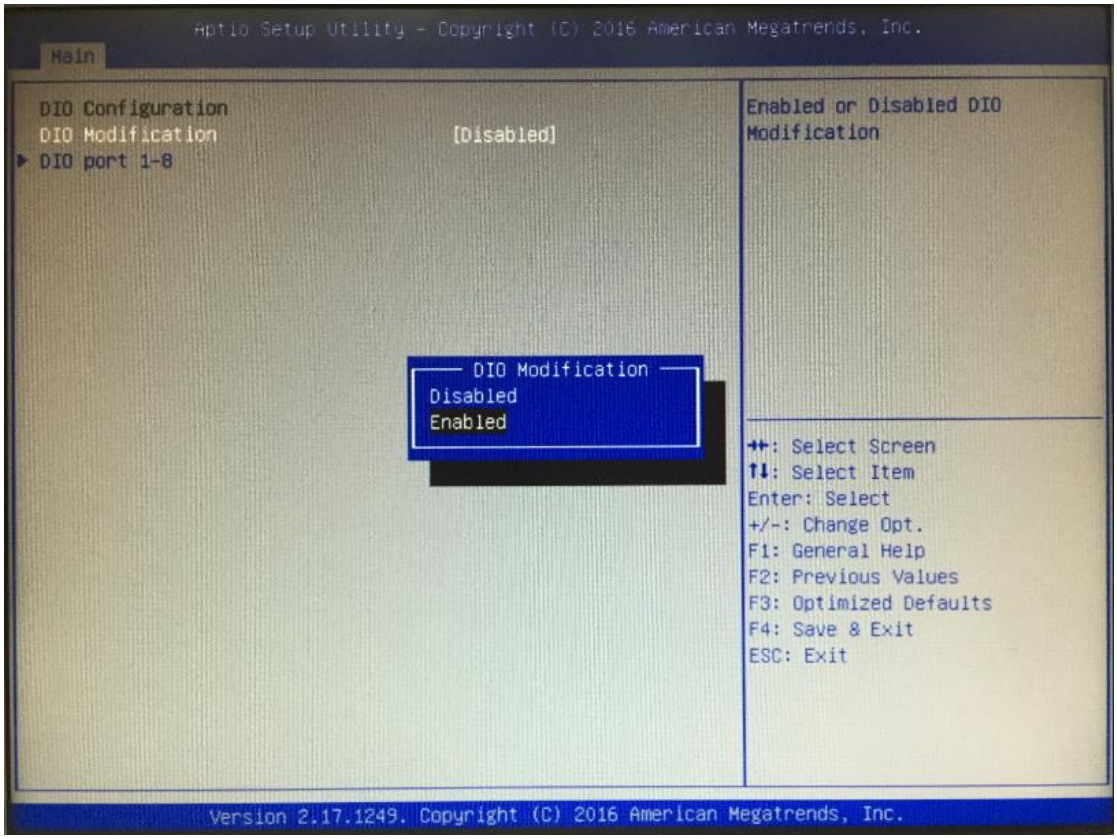
The DIO Modifacation default setting is "disable".

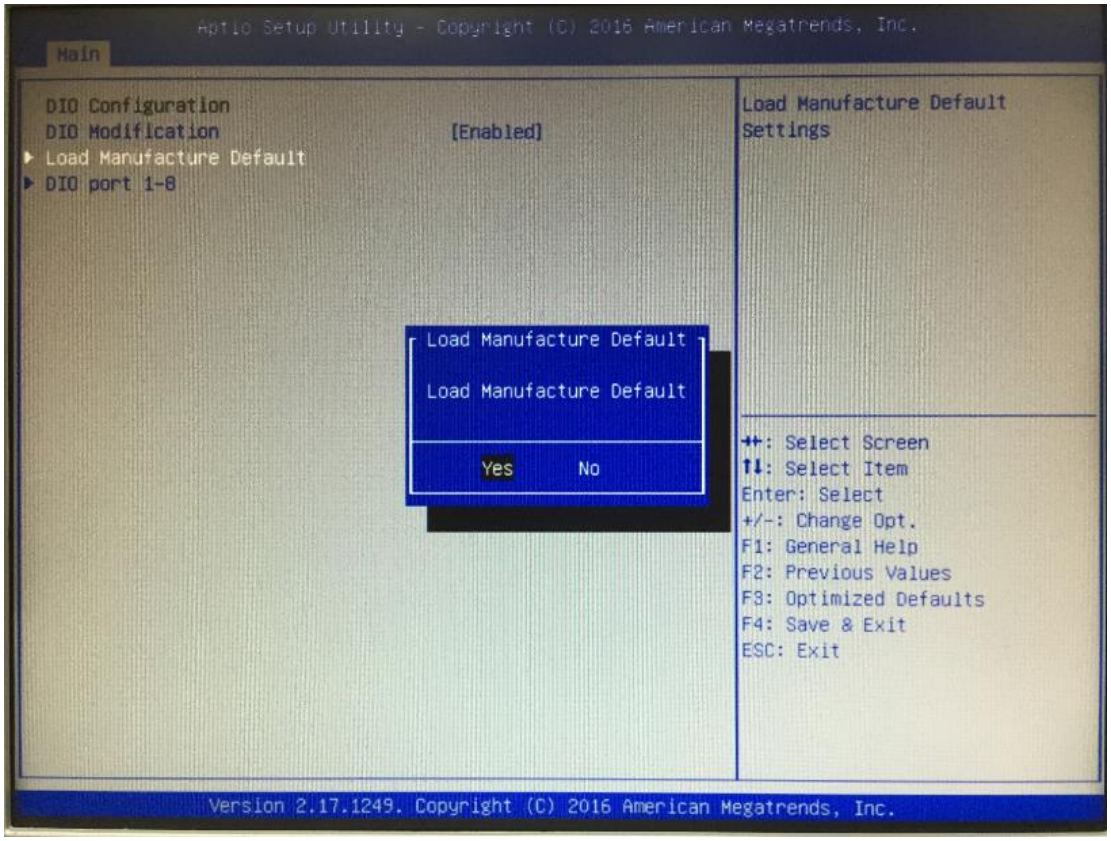
If the setting is changed for "enable", you can load manufacture default and program DIO setting.

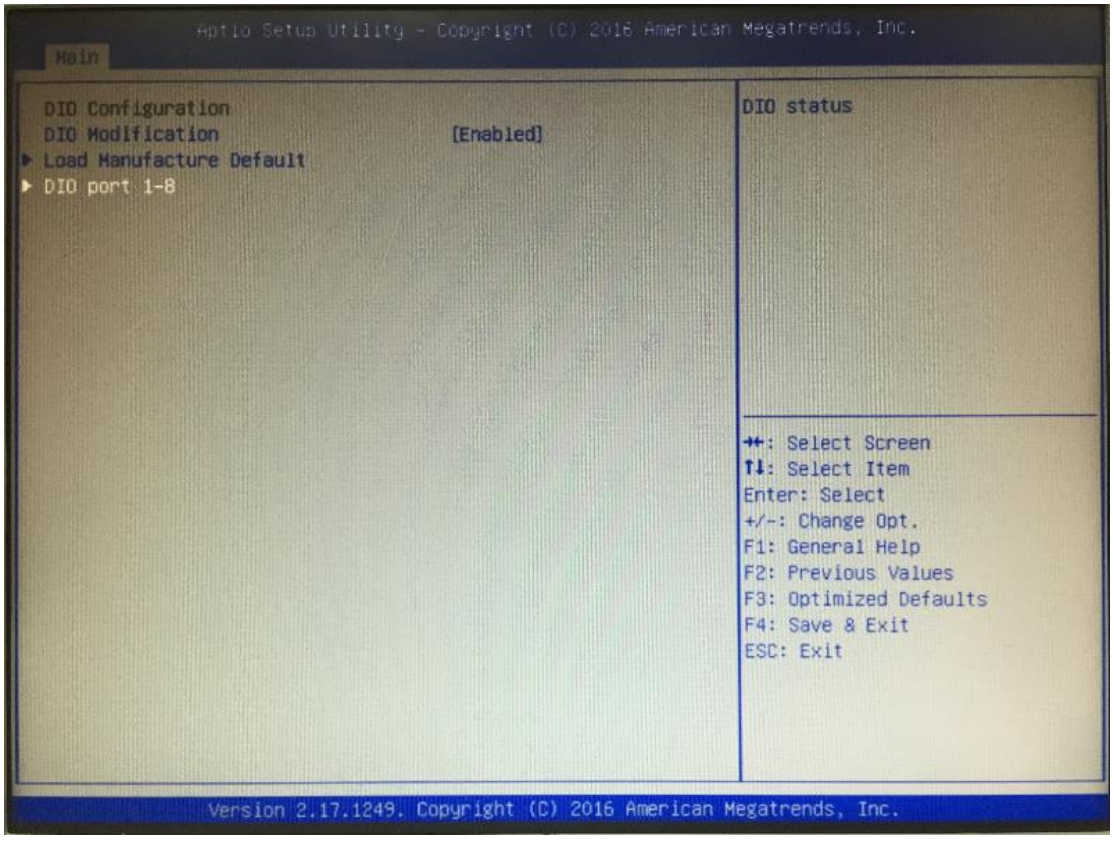
(Please refer below graphics.)

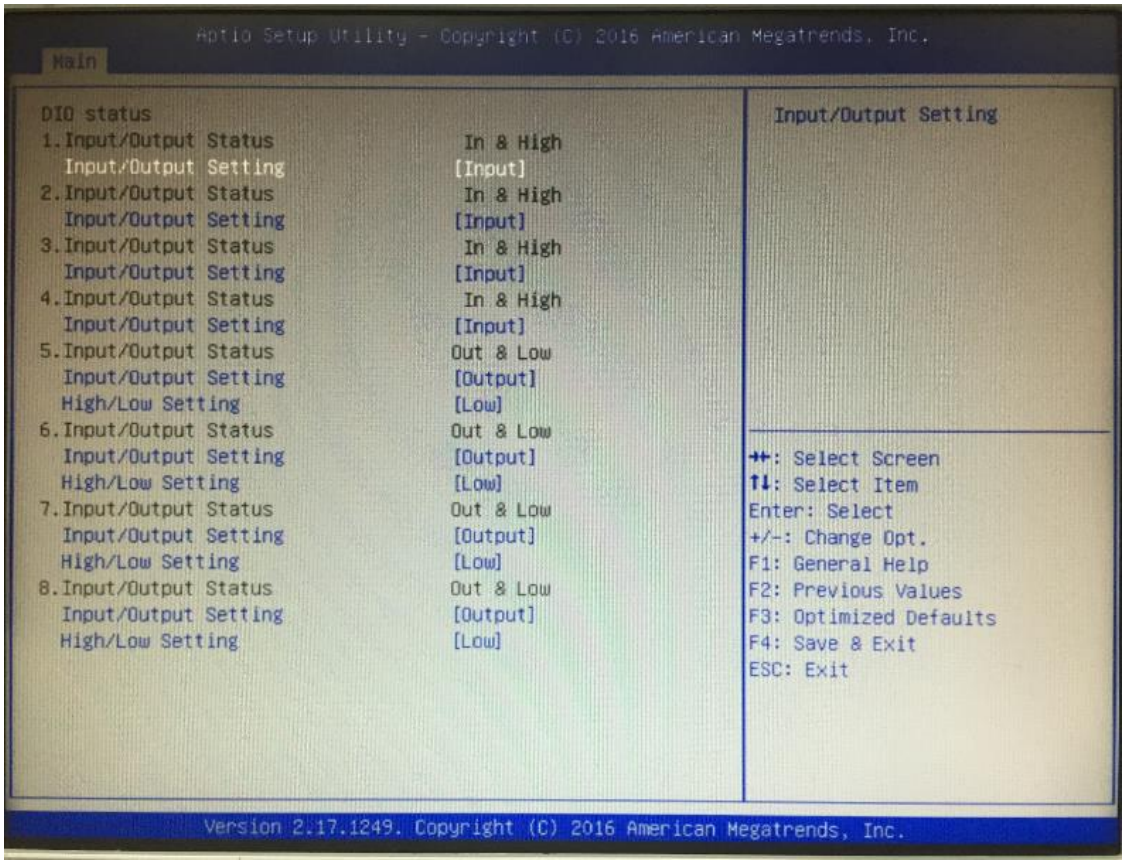



Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Main
DIO Configuration
DIO Modification [Disabled]
DIO port 1-8
Enabled or Disabled DIO Modification
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1249. Copyright (C) 2016 American Megatrends, Inc.


Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Main
DIO Configuration
DIO Modification [Disabled]
DIO port 1-8
DIO Modification
Disabled
Enabled
Enabled or Disabled DIO Modification
→←: 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) 2016 American Megatrends, Inc.


Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Main
DIO Configuration
DIO Modification [Enabled]
Load Manufacture Default
DIO port 1-8
Load Manufacture Default Settings
Load Manufacture Default
Load Manufacture Default
Yes No
→←: 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) 2016 American Megatrends, Inc.

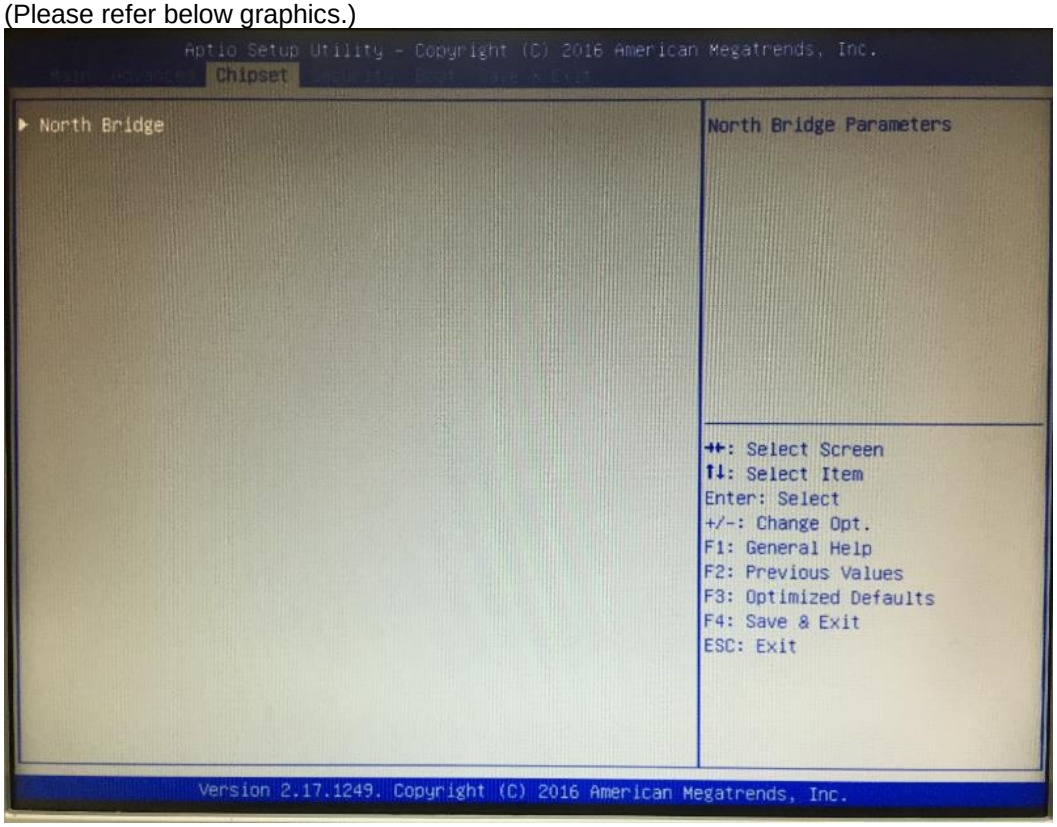

Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Main
DIO Configuration
DIO Modification [Enabled]
Load Manufacture Default
DIO port 1-8
DIO status
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1249. Copyright (C) 2016 American Megatrends, Inc.

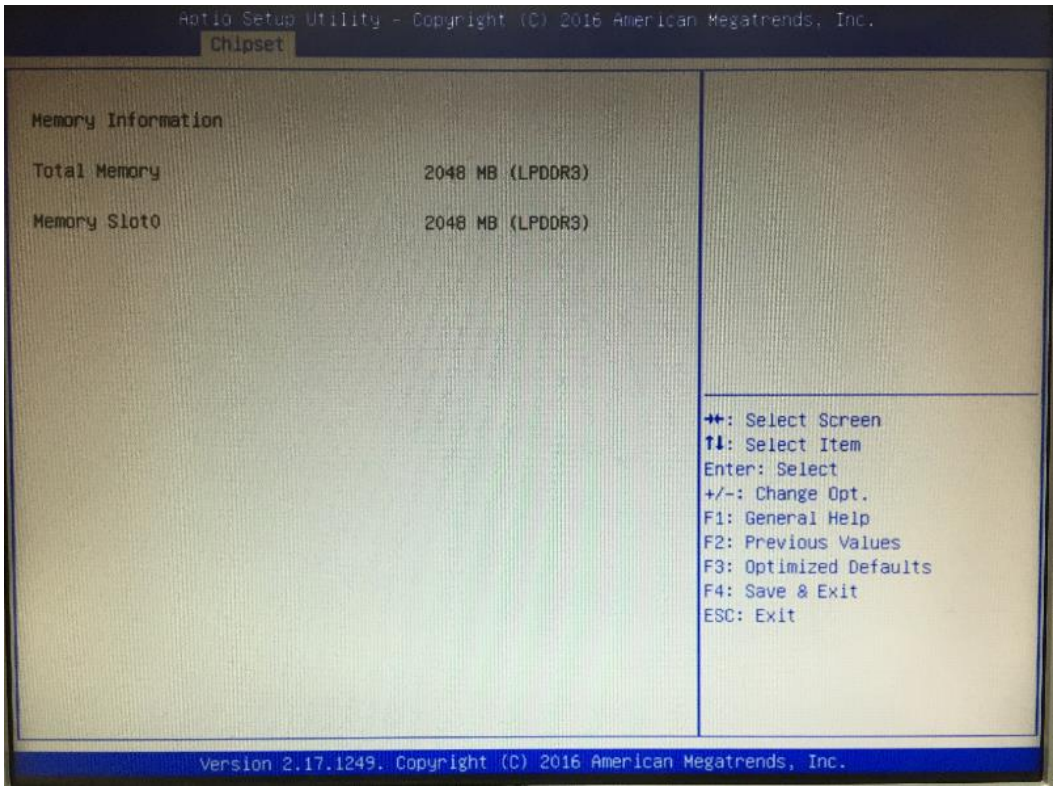

Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Main
DIO status
1.Input/Output Status In & High
Input/Output Setting [Input]
2.Input/Output Status In & High
Input/Output Setting [Input]
3.Input/Output Status In & High
Input/Output Setting [Input]
4.Input/Output Status In & High
Input/Output Setting [Input]
5.Input/Output Status Out & Low
Input/Output Setting [Output]
High/Low Setting [Low]
6.Input/Output Status Out & Low
Input/Output Setting [Output]
High/Low Setting [Low]
7.Input/Output Status Out & Low
Input/Output Setting [Output]
High/Low Setting [Low]
8.Input/Output Status Out & Low
Input/Output Setting [Output]
High/Low Setting [Low]
Input/Output Setting
→←: 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) 2016 American Megatrends, Inc.

3.4 Chipset Feature

This section contains completely optimized chipset's features in the system

(Please refer below graphics.)





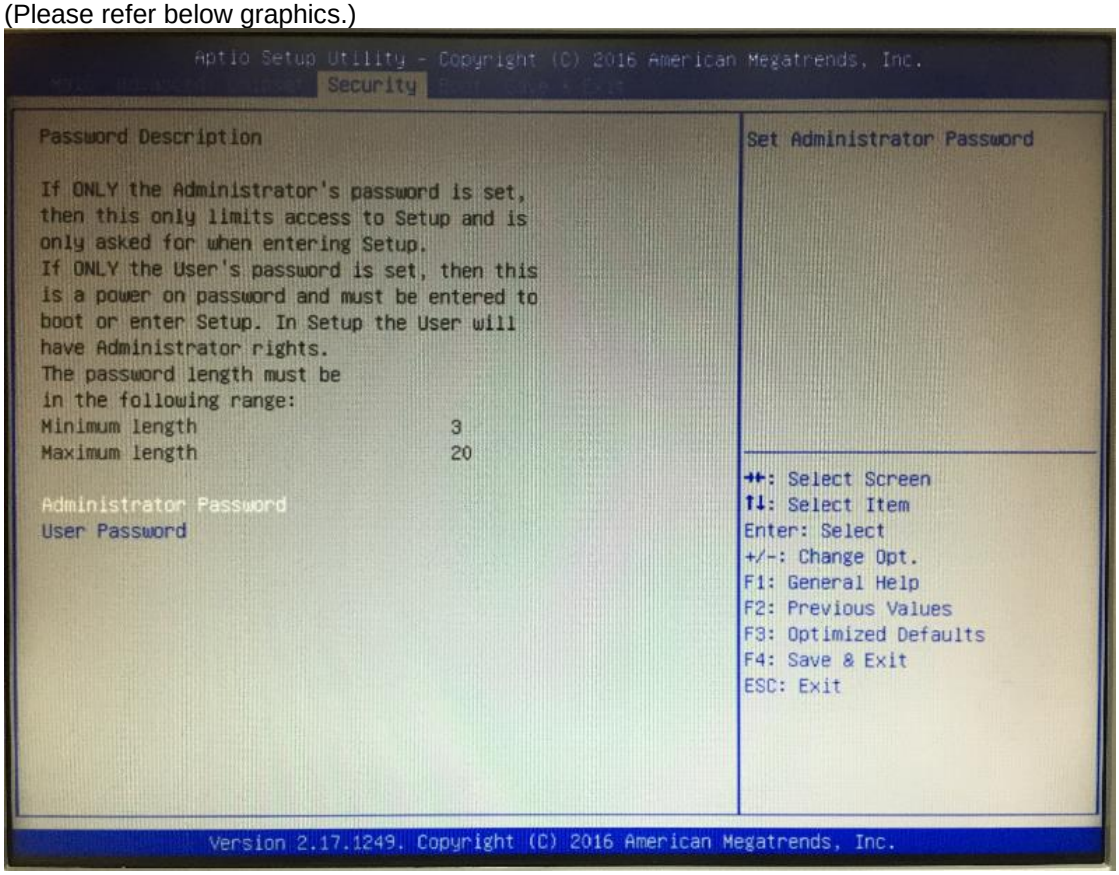
3.5 Security

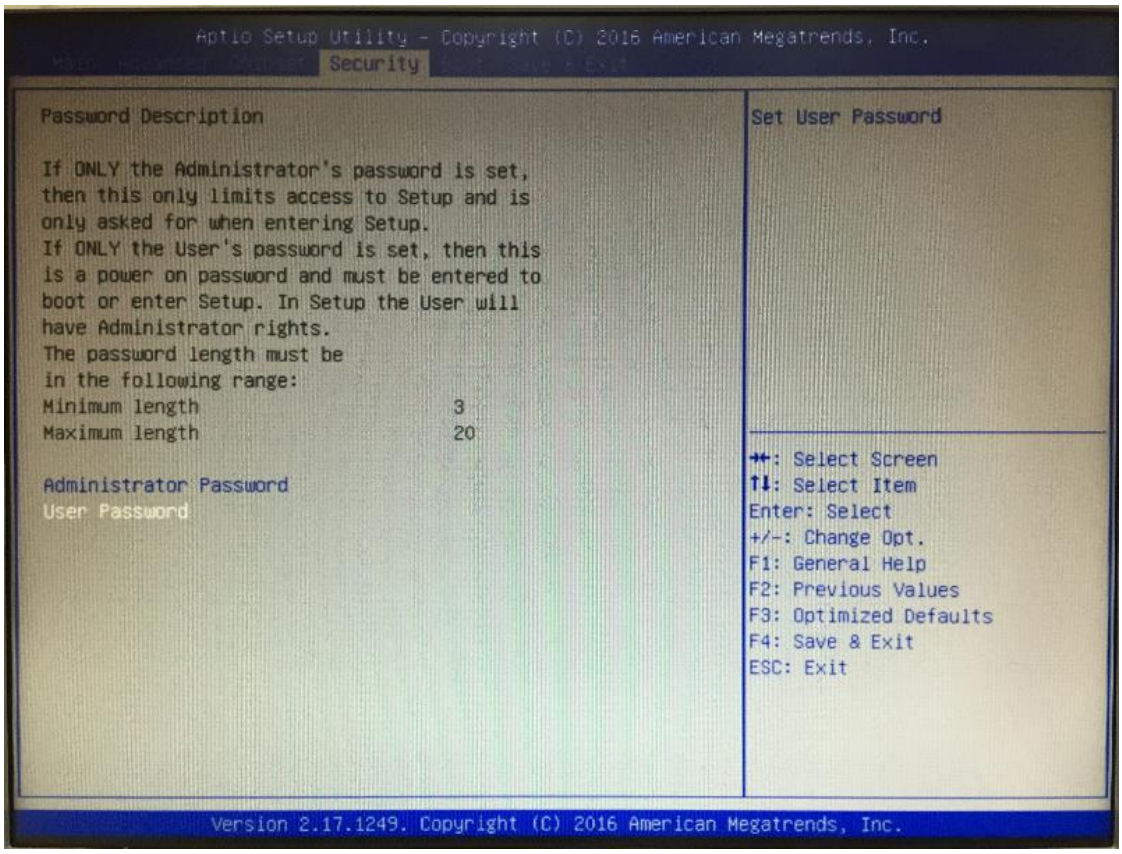
The default setting for Administrator Password is "Not setting passwords".

The Security menu allows users to change the security settings for the system.

You can set the password for both Administrator Password and User Password.

(Please refer below graphics.)



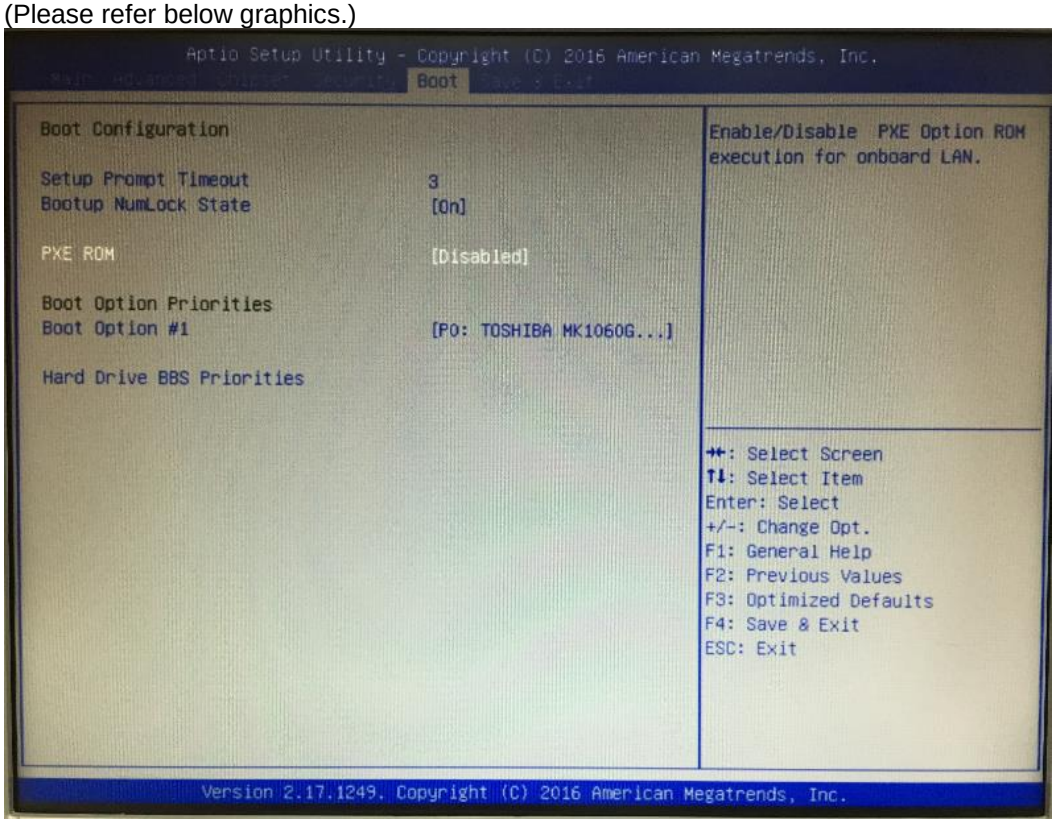


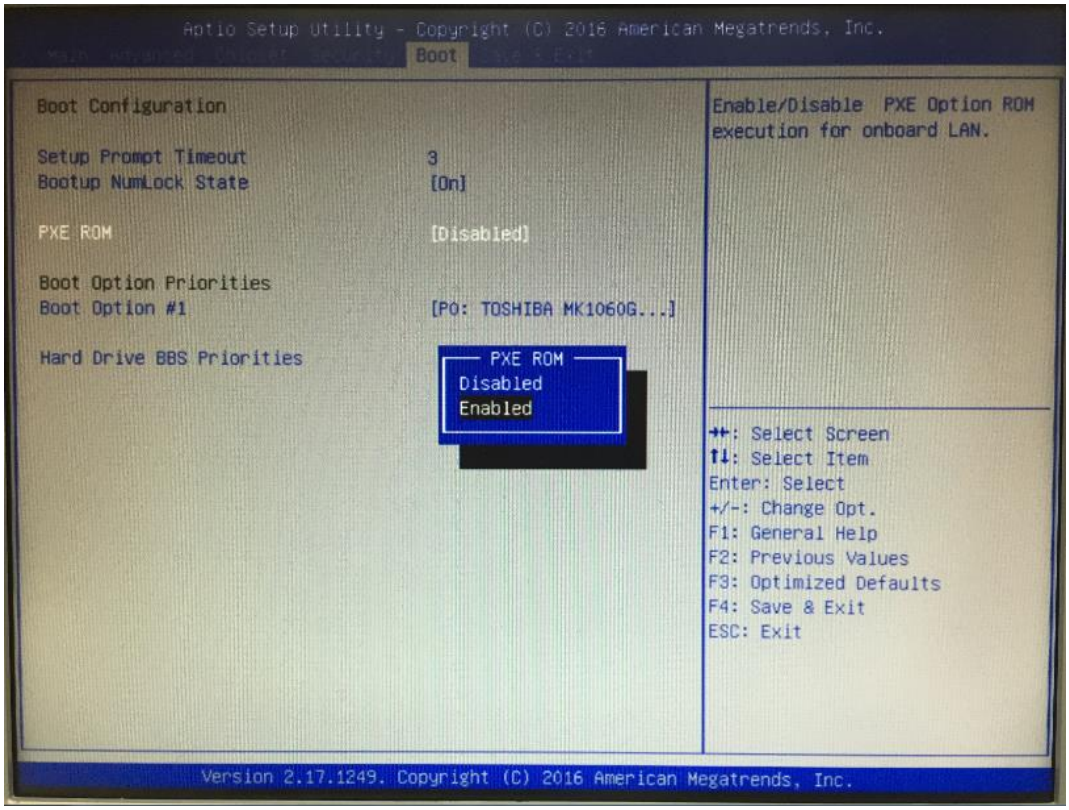
Note: The BIOS default has no password, when user created the password, please remember the password number, if users forget password the RMA is the only solution.

3.6 Boot Type

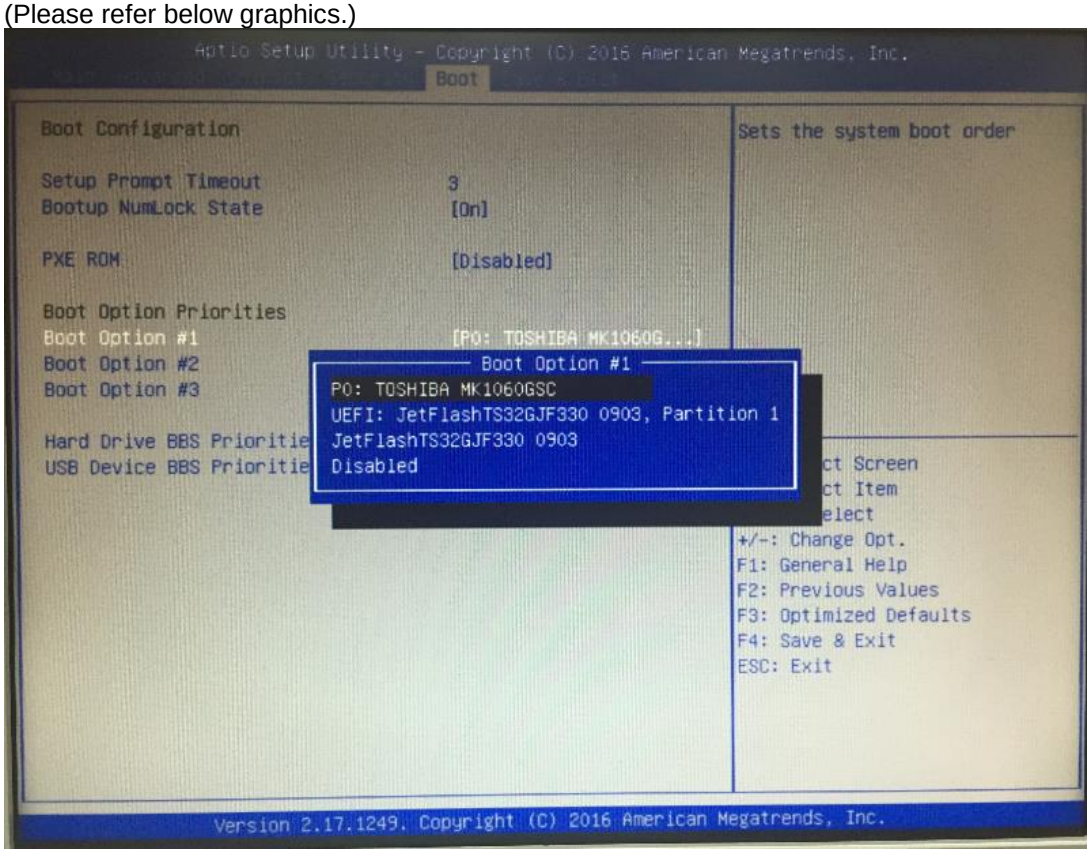
The default setting boot from onboard LAN PxE Rom is [Disabled]

(Please refer below graphics.)

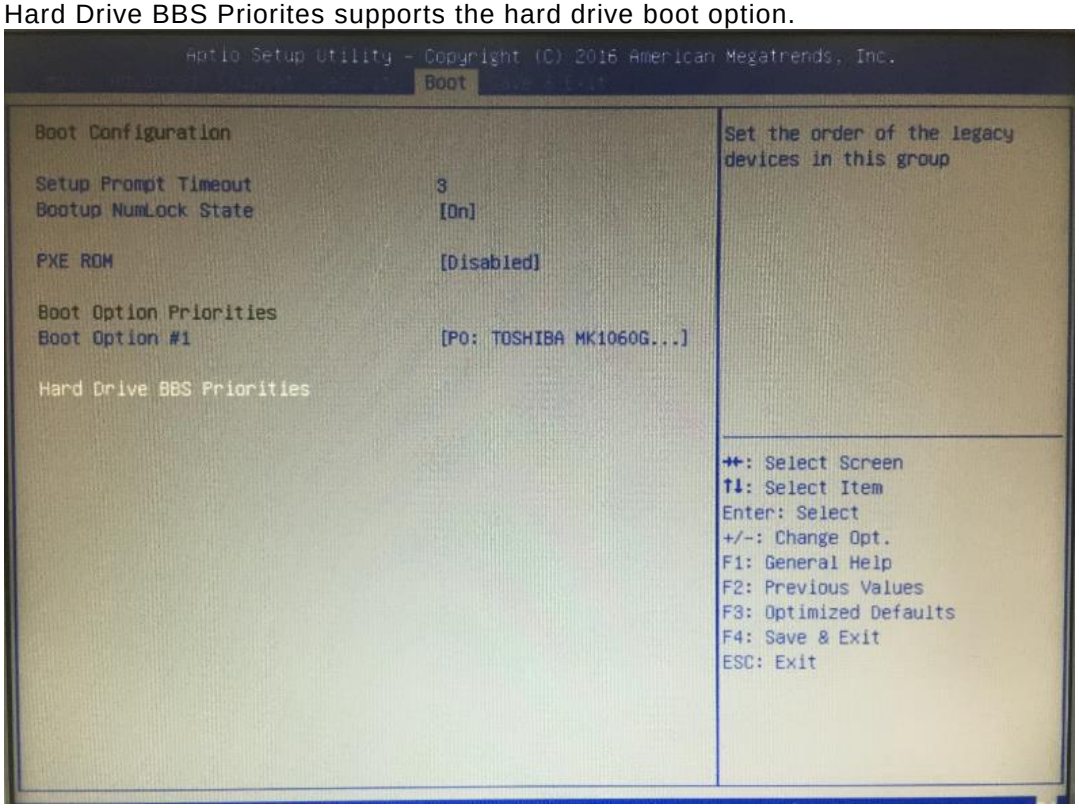


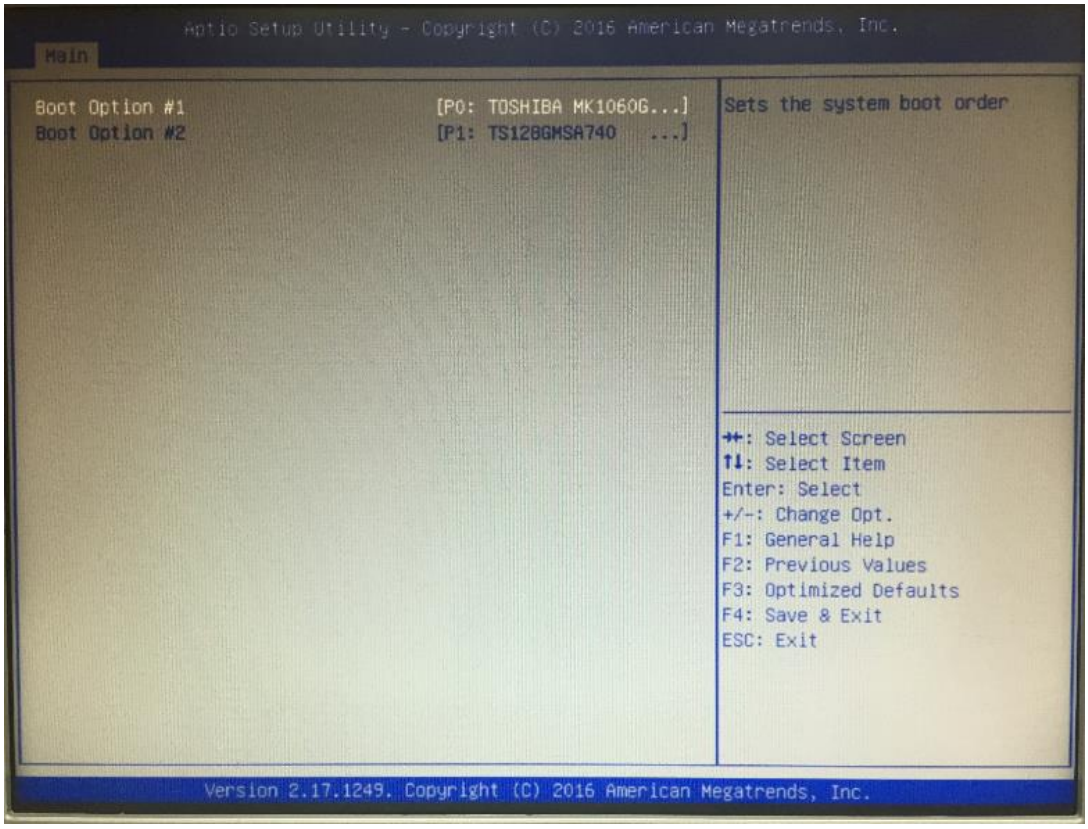


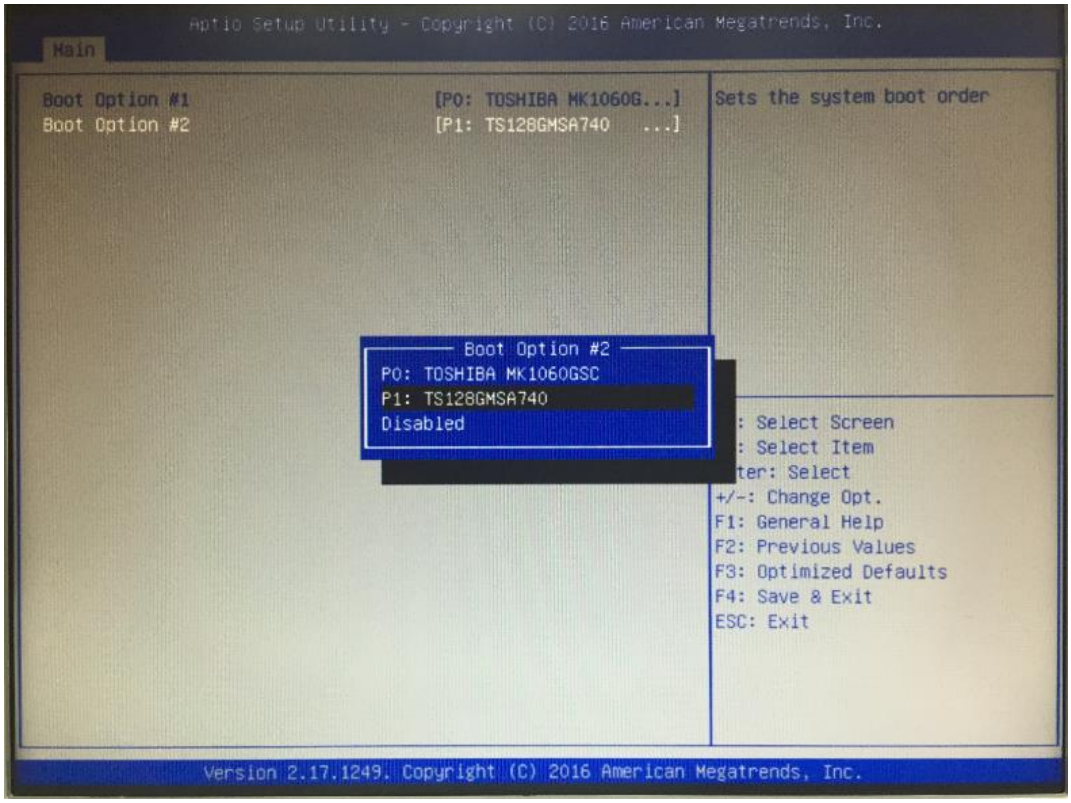
The Boot Option Priorities can select by Boot Option #1, #2…, If user is using a USB Device. (Please refer below graphics.)



Hard Drive BBS Priorites supports the hard drive boot option.



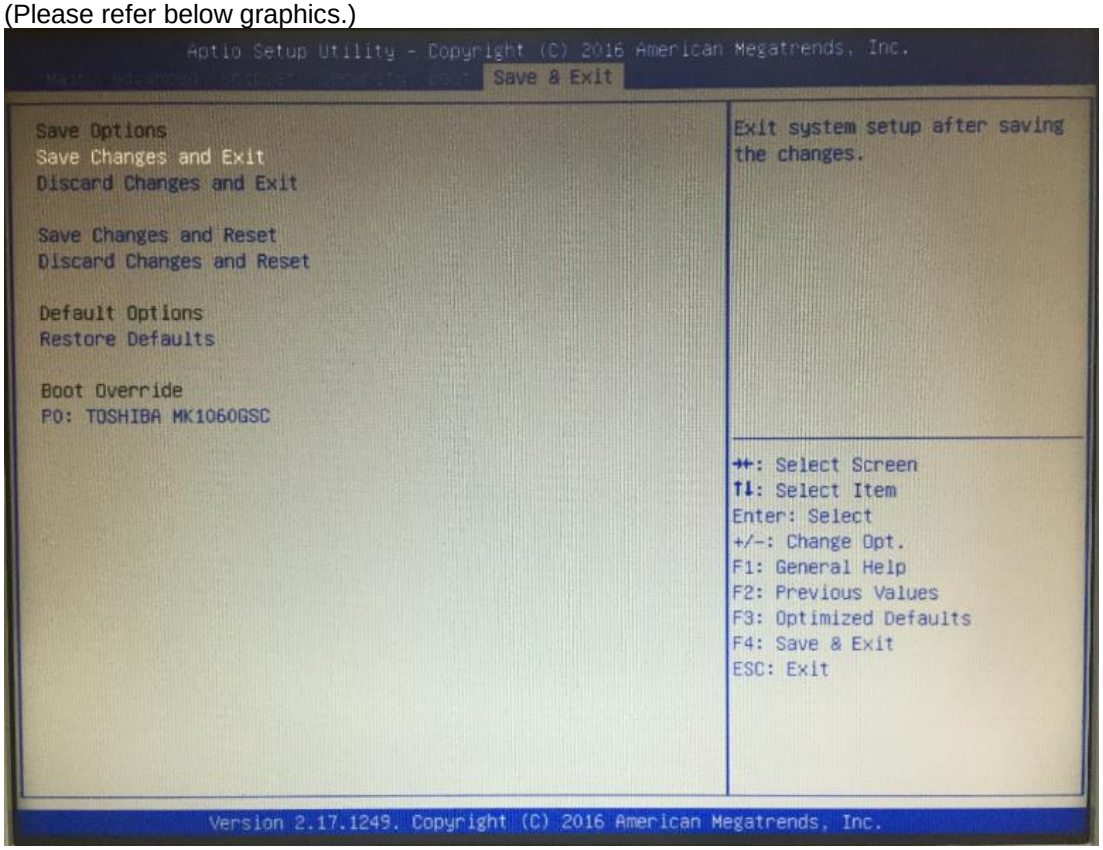

Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Main
Boot Option #1 [P0: TOSHIBA MK1060G...]
Boot Option #2 [P1: TS128GMSA740 ...]
Sets the system boot order
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1249. Copyright (C) 2016 American Megatrends, Inc.

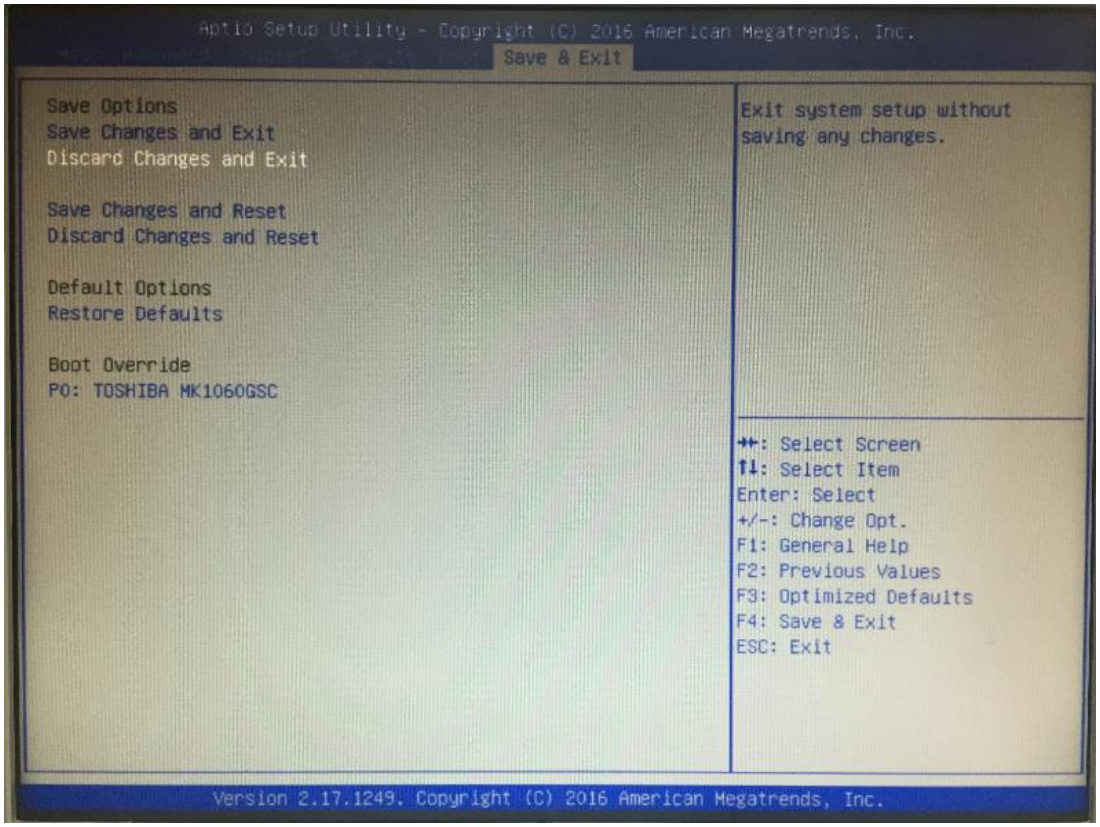

Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Main
Boot Option #1 [P0: TOSHIBA MK1060G...]
Boot Option #2 [P1: TS128GMSA740 ...]
Sets the system boot order
Boot Option #2
P0: TOSHIBA MK1060GSC
P1: TS128GMSA740
Disabled
: Select Screen
: Select Item
ter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1249. Copyright (C) 2016 American Megatrends, Inc.

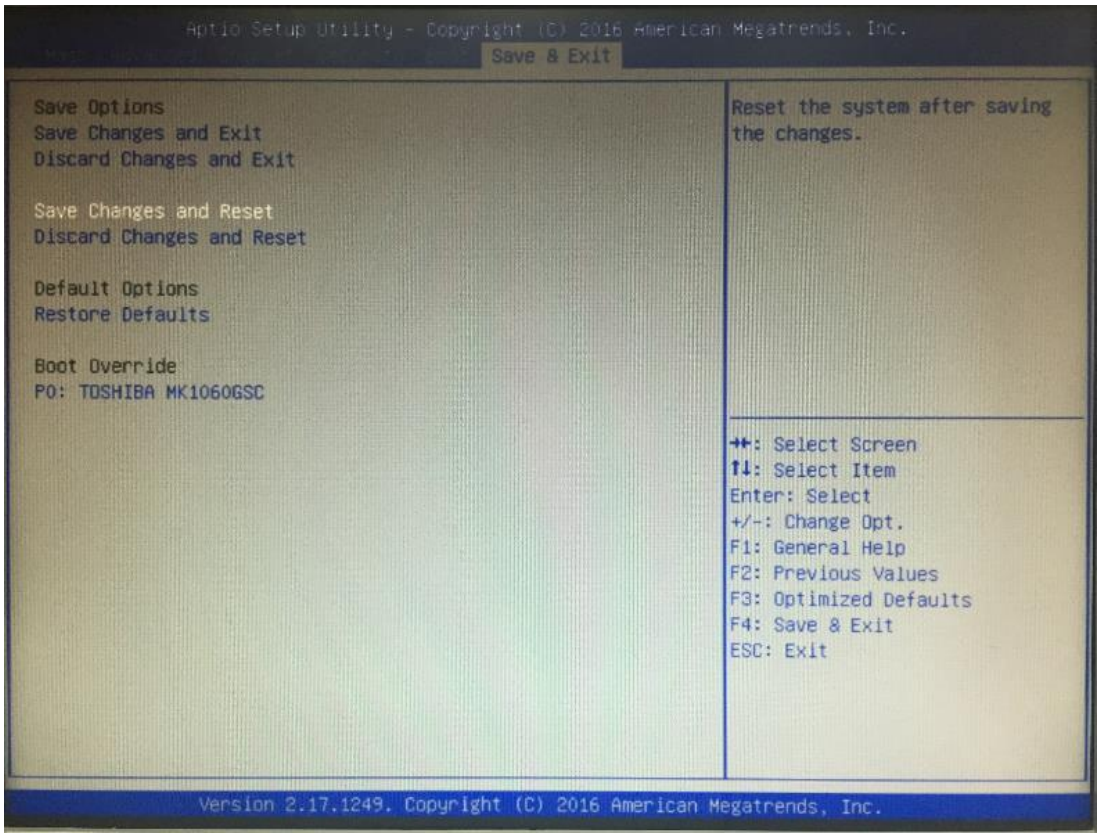
3.7 Save & Exit

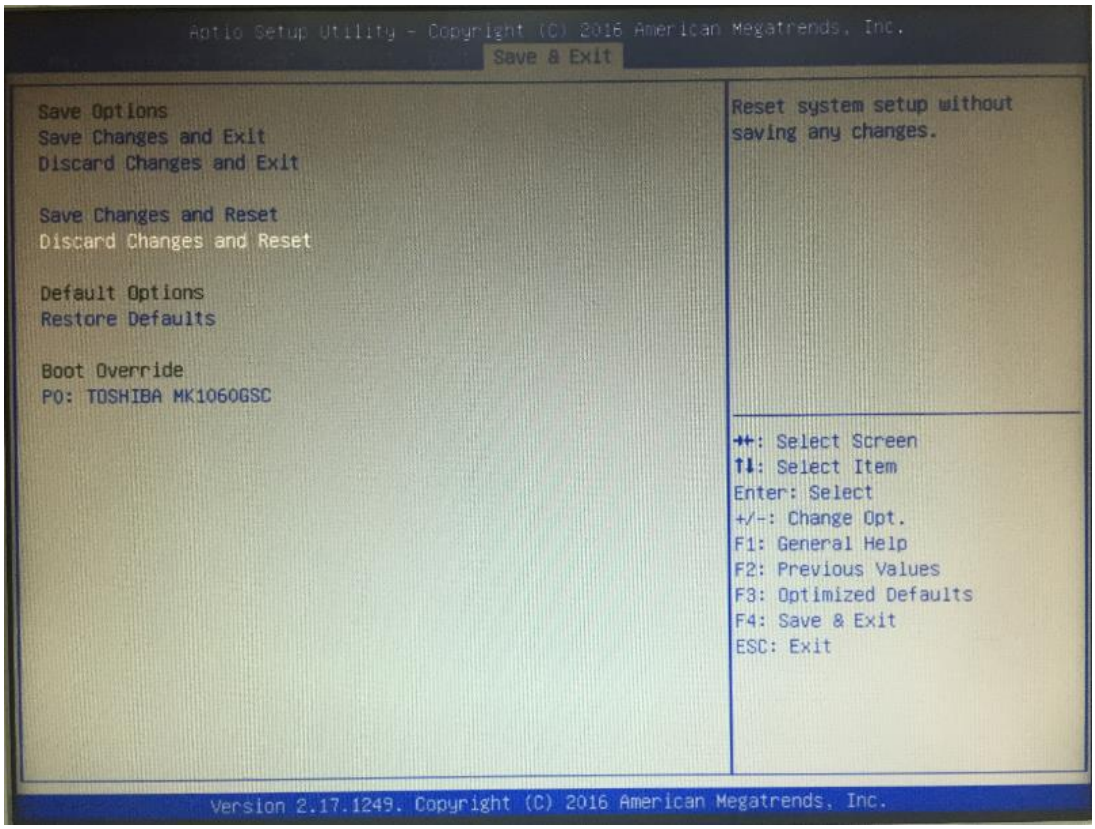
This section allows you to determine whether or not to accept your modifications. Type "Y" to quit the setup utility and save all changes. Type "N" to bring you back to the Previous Setup utility.

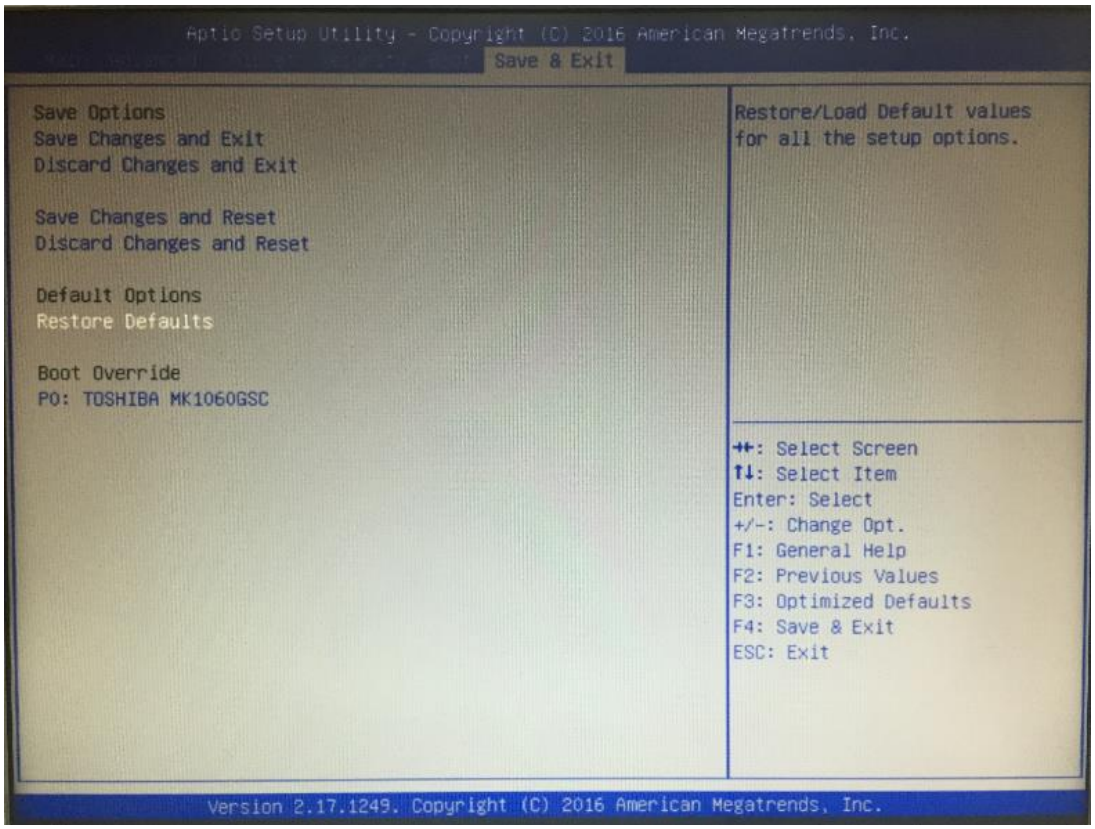
(Please refer below graphics.)




Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Save & Exit
Save Options
Save Changes and Exit
Discard Changes and Exit
Save Changes and Reset
Discard Changes and Reset
Default Options
Restore Defaults
Boot Override
P0: TOSHIBA MK1060GSC
Exit system setup without saving any changes.
→←: 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) 2016 American Megatrends, Inc.


Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc.
Save & Exit
Save Options
Save Changes and Exit
Discard Changes and Exit
Save Changes and Reset
Discard Changes and Reset
Default Options
Restore Defaults
Boot Override
P0: TOSHIBA MK1060GSC
Reset the system after saving the changes.
→←: 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) 2016 American Megatrends, Inc.


Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
Save & Exit
Save Options
Save Changes and Exit
Discard Changes and Exit
Save Changes and Reset
Discard Changes and Reset
Default Options
Restore Defaults
Boot Override
P0: TOSHIBA MK1060GSC
Reset system setup without saving any changes.
→←: 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) 2016 American Megatrends, Inc.


Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
Save & Exit
Save Options
Save Changes and Exit
Discard Changes and Exit
Save Changes and Reset
Discard Changes and Reset
Default Options
Restore Defaults
Boot Override
P0: TOSHIBA MK1060GSC
Restore/Load Default values for all the setup options.
→←: 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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APPENDIX A
WATCHDOG TIMER

About Watchdog Timer

After the system stops working for a while, it can be auto-reset by the watchdog timer. The integrated watchdog timer can be set up in the system reset mode by program.

How to Use Watchdog Timer

The following example enables configuration using debug tool.

Enable WDT

↓

Enable configuration:

O 2E 87 ; Un-lock super I/O

O 2E 87

↓

Select logic device:

O 2E 07

O 2F 07

↓

WDT device enable:

O 2E 30

O 2F 01

↓

Activate WDT:

O 2E F0

O 2F 80

↓

Set base timer:

O 2E F6

O 2F M ; **M** = time value

00h~FFh: Time-out disable~ Time-out occurs after 255 seconds when **N**=71h.

↓

Set Second or Minute :

O 2E F5

O 2F N ; **N**=71h or 79h

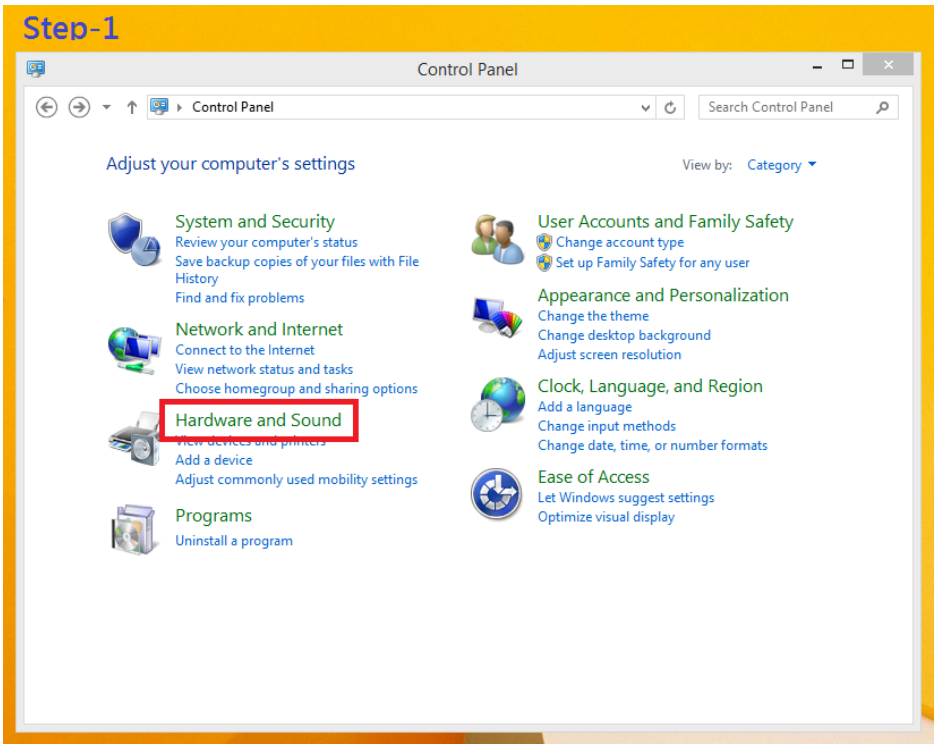
N=71h, the time base is set to second.

N=79h, the time base is set to minute.

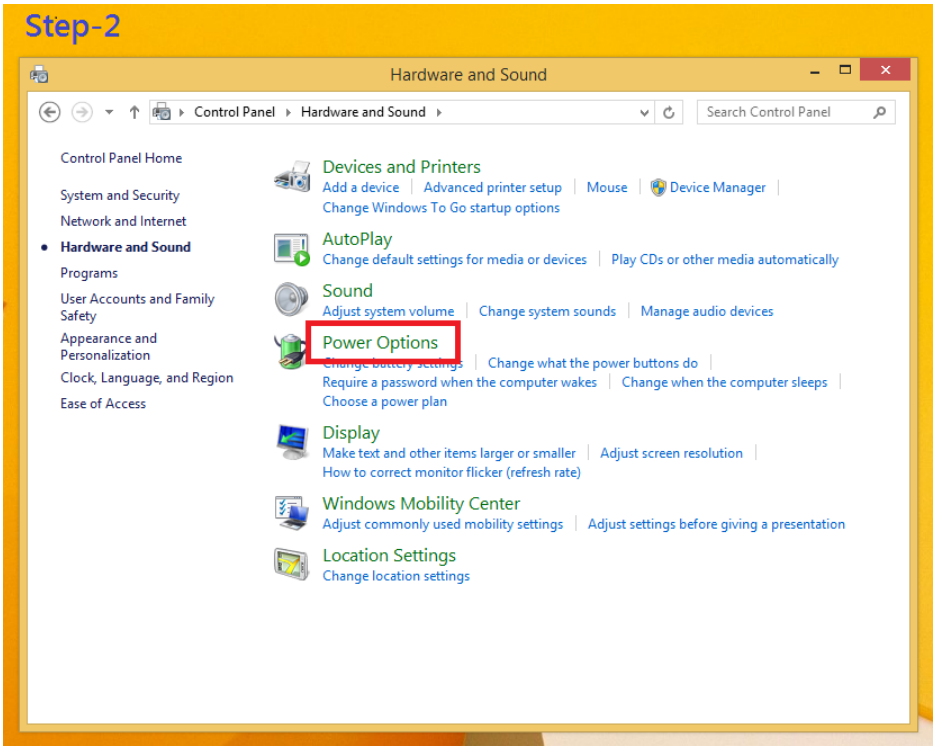
APPENDIX B
POWER BUTTON SETTING FOR WINDOW SOFTWARE

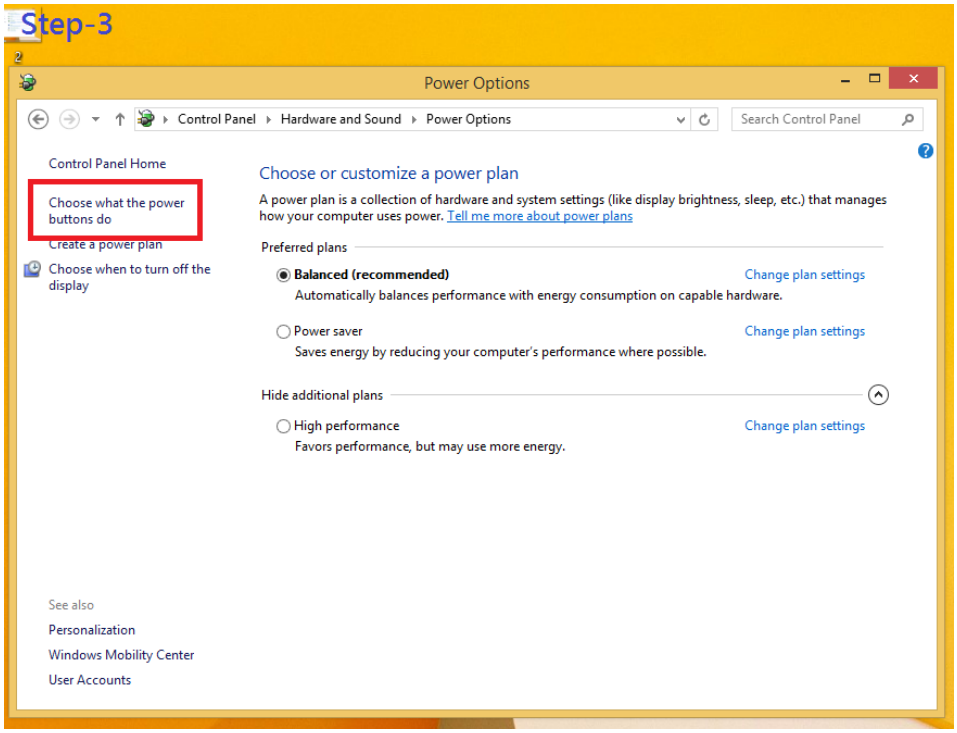
Please make the power button setting from the console of PC, then follow up below pictures to do the setting.

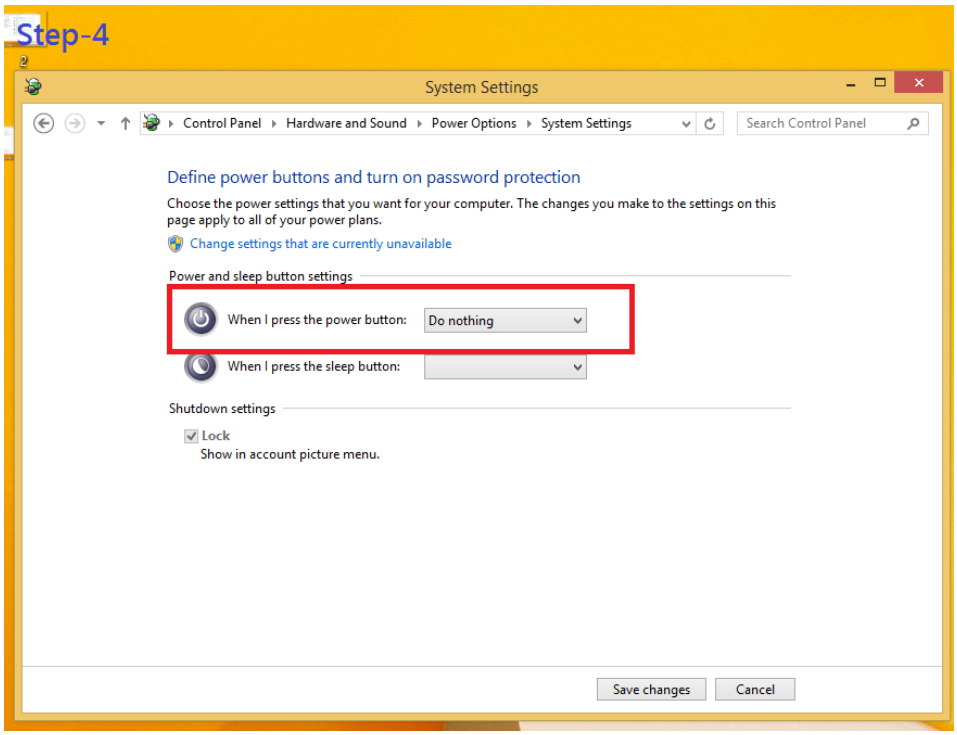
Step-1



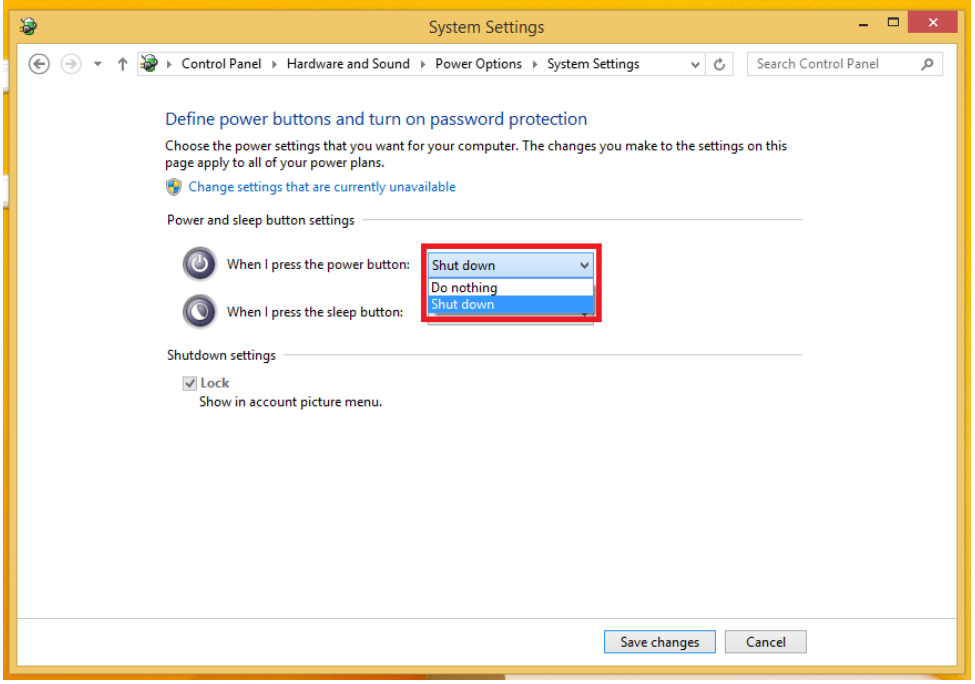
Step-2



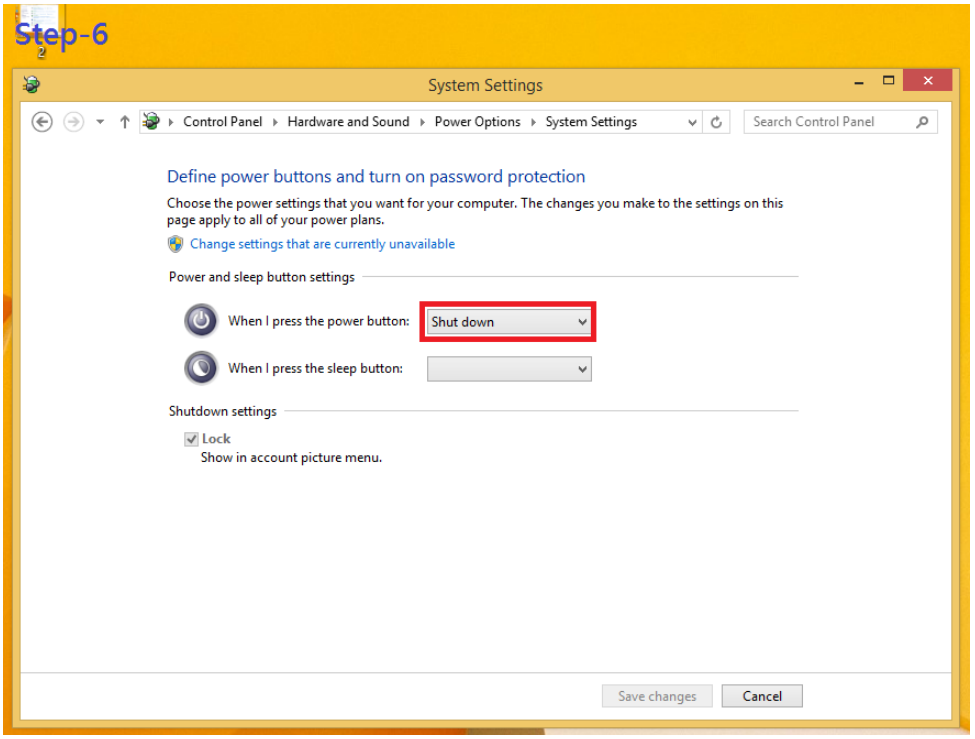

Step-3
Power Options
Control Panel ▸ Hardware and Sound ▸ Power Options
Search Control Panel
Control Panel Home
Choose what the power buttons do
Create a power plan
Choose when to turn off the display
Choose or customize a power plan
A power plan is a collection of hardware and system settings (like display brightness, sleep, etc.) that manages how your computer uses power. Tell me more about power plans
Preferred plans
Balanced (recommended)
Change plan settings
Automatically balances performance with energy consumption on capable hardware.
Power saver
Change plan settings
Saves energy by reducing your computer's performance where possible.
Hide additional plans
High performance
Change plan settings
Favors performance, but may use more energy.
See also
Personalization
Windows Mobility Center
User Accounts


Step-4
System Settings
Control Panel ▸ Hardware and Sound ▸ Power Options ▸ System Settings
Search Control Panel
Define power buttons and turn on password protection
Choose the power settings that you want for your computer. The changes you make to the settings on this page apply to all of your power plans.
Change settings that are currently unavailable
Power and sleep button settings
When I press the power button:
Do nothing
When I press the sleep button:
Shutdown settings
Lock
Show in account picture menu.
Save changes
Cancel

Step-5


System Settings
Control Panel ▸ Hardware and Sound ▸ Power Options ▸ System Settings
Search Control Panel
Define power buttons and turn on password protection
Choose the power settings that you want for your computer. The changes you make to the settings on this page apply to all of your power plans.
Change settings that are currently unavailable
Power and sleep button settings
When I press the power button:
Shut down
Do nothing
Shut down
When I press the sleep button:
Shutdown settings
Lock
Show in account picture menu.
Save changes
Cancel

Step-6


System Settings
Control Panel ▸ Hardware and Sound ▸ Power Options ▸ System Settings
Search Control Panel
Define power buttons and turn on password protection
Choose the power settings that you want for your computer. The changes you make to the settings on this page apply to all of your power plans.
Change settings that are currently unavailable
Power and sleep button settings
When I press the power button:
Shut down
When I press the sleep button:
Shutdown settings
Lock
Show in account picture menu.
Save changes
Cancel