AXIOMTEK

GOT107W-319

All-in-One
7" WSVGA TFT Fanless Touch Panel Computer with Intel® Celeron® Processor N3350 onboard or Intel® Pentium® Processor N4200

User's Manual

RoHS

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CAUTION

Wrong type of batteries may cause explosion. It is recommended that users only replace with the same or equivalent type of batteries as suggested by the manufacturer once properly disposing of any used ones.

Safety Precautions

Before getting started, read the following important precautions.

1. Be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and place all electronic components in any static-shielded devices. Most electronic components are sensitive to static electrical charge.

2. Disconnect the power cords from the GOT107W-319 Series before making any installation. Be sure both the system and the external devices are turned OFF. Sudden surge of power could ruin sensitive components. Make sure the GOT107W-319 series is properly grounded.

3. Do not open the top cover of the system. If opening the cover for maintenance is a must, only a trained technician is allowed to do so. Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:

   ■ Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on your body.

   ■ When handling boards and components, wear a grounding wrist strap, available from most electronic component stores.

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Chapter 1
Introduction

This chapter contains general information and detailed specifications of the GOT107W-319, including the following sections:

- General Description
- Specifications
- Dimensions
- I/O Outlets
- Package List

1.1   General Description

The GOT107W-319 is a fanless and compact-size medical touch panel computer, equipped with a 7" TFT LCD display and low power consumption Intel® Celeron® Processor N3350 (with 2M cache, up to 2.4 GHz) or Intel® Pentium® Processor N4200 (with 2M Cache, up to 2.5 GHz). This panel computer is compatible with Windows 10 and can house an mSATA for storage and one M.2 card slot for wireless connection. Its excellent ID and friendly user interface make it a professional yet easy-to-use panel computer. The GOT107W-319 is ideal for applications with limited spaces in factory automation, building automation and more.

GOT107W-319: 7" TFT WSVGA Fanless Touch Panel Computer

- Reliable and stable design
  The GOT107W-319 adopts a fanless cooling system which makes it suitable for environments prone to vibration.

- Embedded O.S. supported
  The GOT107W-319 supports not only Windows 10(64bit), but also embedded O.S. In terms of storage device, the GOT107W-319 supports an mSATA.

- Industrial-grade product design
  The GOT107W-319 was adaptively designed to be used in different industrial environments.

The GOT107W-319 comes with an IP65-rated front panel and its whole enclosure meets the IPX1 standard.

For connecting other devices, the GOT107W-319 also features several interfaces: USB, Ethernet, and RS-232/422/485.

1.2　GOT107W-319 Specifications

1.2.1 Main CPU Board

● **CPU**
  ■ Intel® Celeron® Dual Core Processor N3350 (2M Cache, up to 2.4 GHz) onboard.
  ■ Intel® Pentium® Quad Core Processor N4200 (2M Cache, up to 2.5 GHz) onboard.

● **System memory**
  ■ One 204-pin DDR3L-1600 SO-DIMM socket
  ■ Maximum memory up to 8 GB

● **BIOS**
  ■ American Megatrends BIOS

1.2.2 I/O System

● **Standard I/O**
  ■ One RS-232/422/485 port
  ■ One RS-232 port
  ■ Two USB 3.0 ports

● **Ethernet**
  ■ Two RJ45 Giga Ethernet ports

● **Expansion**
  ■ One M.2(E Key) slot for wireless module

● **Storage**
  ■ One mSATA
  ■ MicroSD Card slot

● **Power connector**
  ■ GOT107W-319: 12 VDC with an external 36W AC adapter and a screw type connector.

1.2.3 System Specifications

- **7" WSVGA (1024 x 600) LCD with LED backlight**

- **Projected capacitive multi-touch**

- **Fanless heat dissipation design**

- **Disk drive housing**
  - mSATA
  - MicroSD card slot

- **Net weight**
  - 0.7 kg

- **Dimension (main body size)**
  - 192 mm x 145 mm x 37.4 mm

- **Operation temperature**
  - 0℃ to 50℃

- **Relative humidity**
  - 10% to 90% @ 40℃, -non-condensing

- **Vibration**
  - 2.0 G, 5 to 500 Hz, random (with mSATA storage)

- **Power input**
  - External 12V 36W AC adapter
    — Power input: 100 to 240 VAC
    — Power output: 12 VDC, Max. 3A
  - Cable for AC screw type connector to DC source for 9~24V DC

NOTE *All specifications and images are subject to change without notice.*

1.3   Dimensions

This diagram shows you dimensions and outlines of the GOT107W-319.
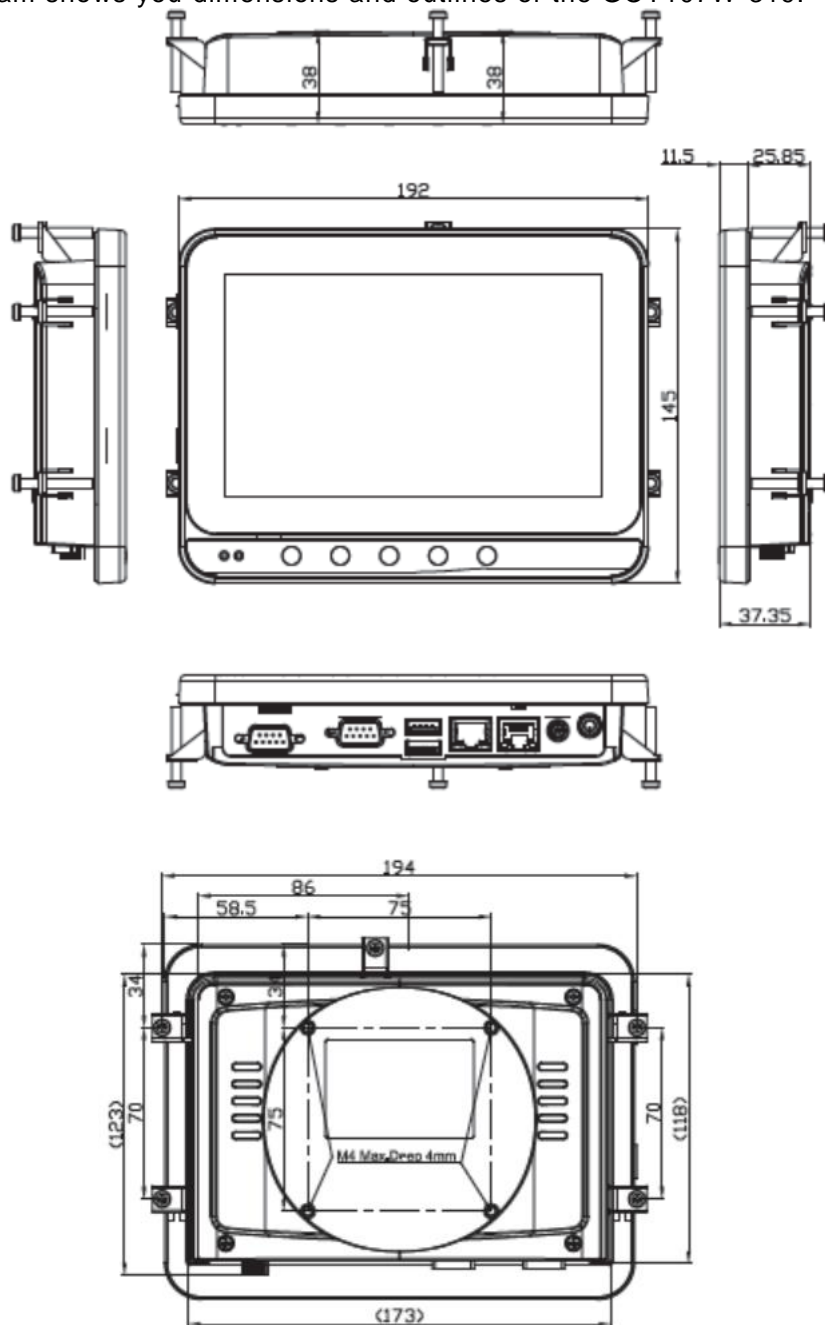
This diagram shows you the dimensions of the GOT107W-319 cutout
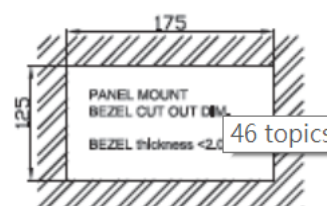
1.4   I/O Outlets

Please refer to Figures 1-1 and Table 1-1 for I/O locations at the bottom of the GOT107W-319.

Figure 1-1 Front view of the GOT107W-319

1. Power LED
2. HDD LED
3. Brightness adjust +/-
4. Display on/off
5. Volume adjust +/-

Figure 1-1 Bottom view and back view of the GOT107W-319

Table 1-1 Descriptions of I/O functions at the bottom of the GOT107W-319

No	Function	No	Function
1	Power button	6	COM 1 (RS-232/422/485)
2	Power input connector	7	COM2
3	AT/ATX switch	8	Micro SD Card slot
4	Ethernet (RJ-45) x 2	9	Speaker x 2
5	USB3.0 x 2		

1.5　Packing List

A complete bundled package of the GOT107W-319 should contain the following items:

- **GOT107W-319 x 1**
- **Driver disc x 1**
- **Power adapter & power cord (GOT107W-319-J)**
- **AC to DC cable (GOT107W-319-DC)**

Please contact an Axiomtek distributor immediately if you cannot find the package or any of the above-mentioned items is missing.

Chapter 2
Hardware and Installation

The GOT107W-319 provides rich I/O ports and flexible expansions for users to meet different demands. The section is describing hardware installation, including the following subsections:

- Jumper and Connector Settings
- Port Definitions
- Hardware Installation
- Mounting Methods
- Connecting the Power Input

2.1   Jumper and Connector Settings

Diagram 2-1 Component side of the board

Diagram 2-2 Solder side of the board

SCN1

SW2
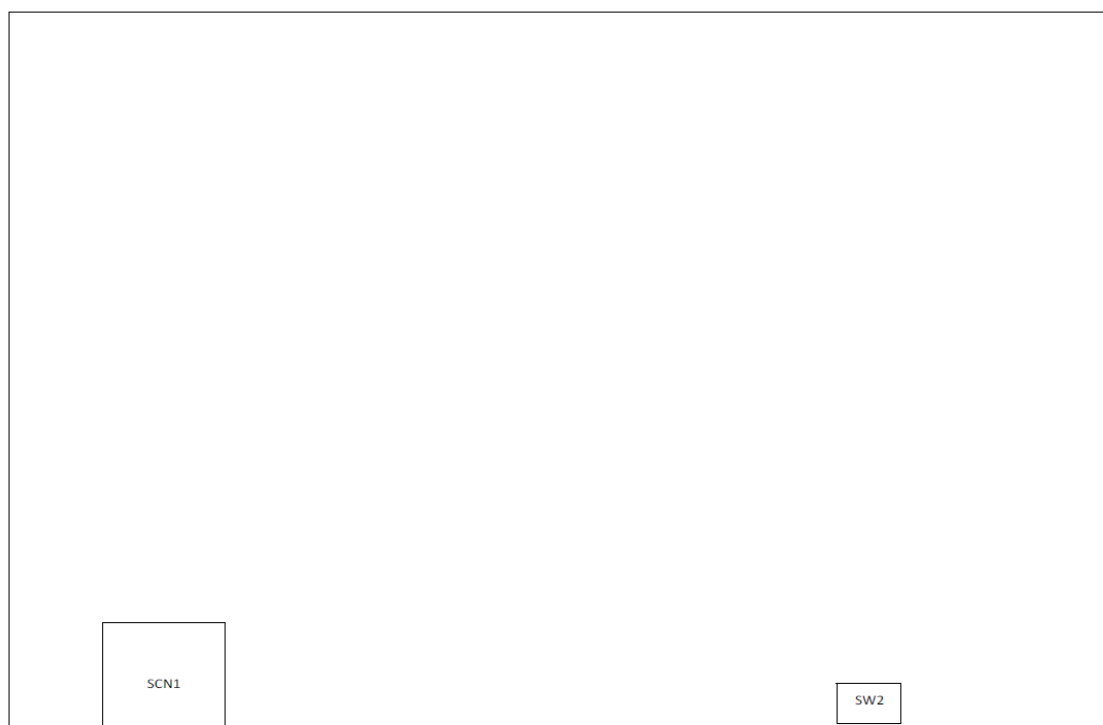
2.1.1 Jumper Settings

By making proper jumper settings, users can configure the board **SBC87319** to suit the needs of their applications.

Table 2-1 shows the default jumper settings for the SBC87319.

Table 2-1 Default jumper settings

Jumper	★ Default Setting	Jumper Setting
JP3	★ Normal	Short 1-2
	Clear CMOS	Short 2-3

NOTE: Items marked with ★ are for default settings.

2.1.2 Connector Settings

The connectors on the CPU Board allow the CPU Board to connect with other parts of the system. Ensure that all connectors are in place and firmly attached. Table 2-2 lists the function of each connector on the Board SBC87319.

Table 2-2 Connector Settings

Label	Connectors
CN4	Speaker connector
CN5	SIM socket
CN7	Mini PCI-Express Card socket
CN11	USB2.0 connector *(optional with touch controller)*
CN15	USB2.0 connector
CN17	DIO connector
CN19	M.2 E key 2230 type
CN23	USB3.0 connector
CN24	Power DC in connector
SW1	Power button
LAN1/LAN2	Ethernet connector
COM1	COM Port connector
COM2	COM Port connector
SW2	AT/ATX switch
SCN1	SD card connector

Speaker connector: CN4

Pin	Description
1	SPKOUT_L+
2	SPKOUT_L-
3	SPKOUT_R+
4	SPKOUT_R-
5	GND
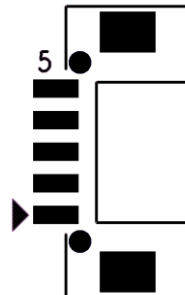
USB2.0 connector: CN11

Pin	Description
1	USB Power
2	D-
3	D+
4	GND
5	GND

USB2.0 connector: CN15

Pin	Description	Pin	Description
1	USB2_PWR	2	USB2_PWR
3	USB_DN	4	USB_DN
5	USB_DP	6	USB_DP
7	GND	8	GND
9	GND	10	GND
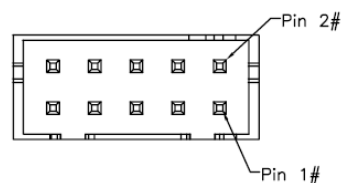
DIO connector: CN17

Pin	Description	Pin	Description
1	+5V	2	+5V
3	GPIO1	4	GPIO2
5	GPIO3	6	GPIO4
7	GPIO5	8	GPIO6
9	GPIO7	10	GPIO8
11	GND	12	GND
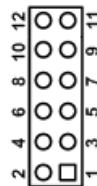
COM Port connector: COM1

Pin	RS232 [*]	RS422 [*]	RS485 [*]
1	DCD#	TX-	485-
2	RXD	TX+	485+
3	TXD	RX+	NC
4	DTR#	RX-	NC
5	GND	GND	GND
6	DSR#	NC	NC
7	RTS#	NC	NC
8	CTS#	NC	NC
9	RI# [**]	NC	NC
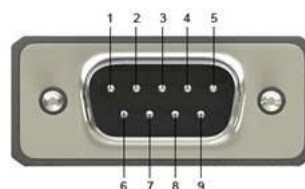
[*]: Signals of COM1 can be RS-232/422/485 by selecting BIOS table.
[**]: Pin 9 of COM1 can be RI/5V/12V by selecting BIOS table.

COM Port connector: COM2

Pin	RS232
1	DCD#
2	RXD
3	TXD
4	DTR#
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#
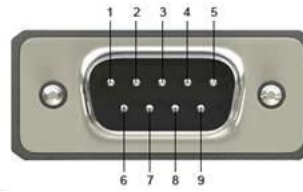
AT/ATX switch: SW2

Pin	Description
1	Disable auto power on (Default)
2	Enable auto power on
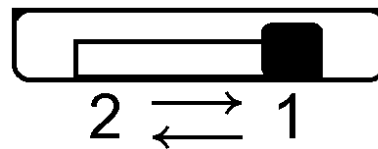
2.2   Mountings – Panel/Wall/Desktop/VESA

There are several mounting ways for the GOT107W-319: Wall, desktop, VESA and panel mountings.

2.2.1 Panel-Mounting (optional)

The GOT107W-319 is designed for panel mount application.

Step1   Sticks four sealing pads on the edges of the chassis.
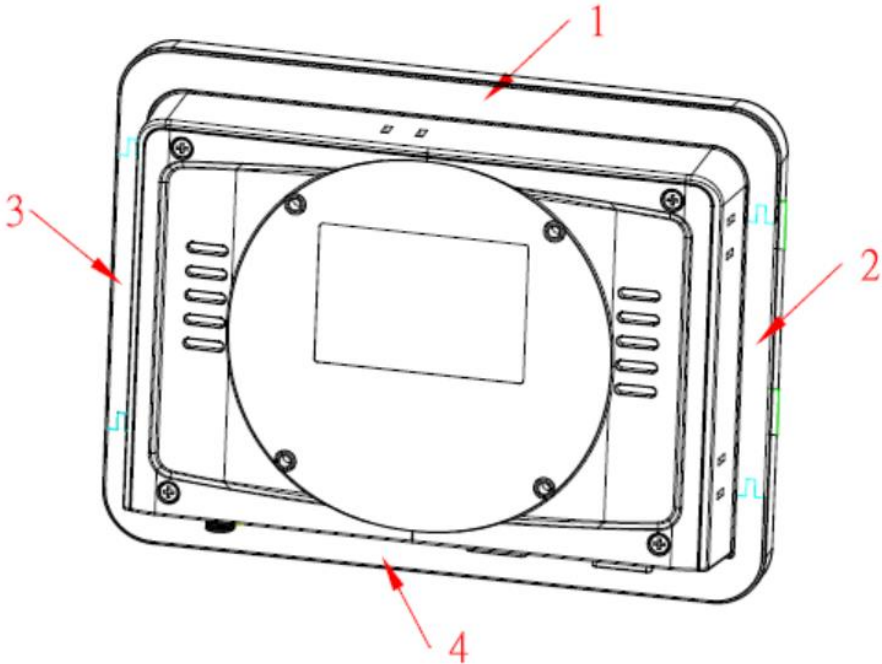
Step2   Assemble the panel kit onto the chassis and fasten the five screws.
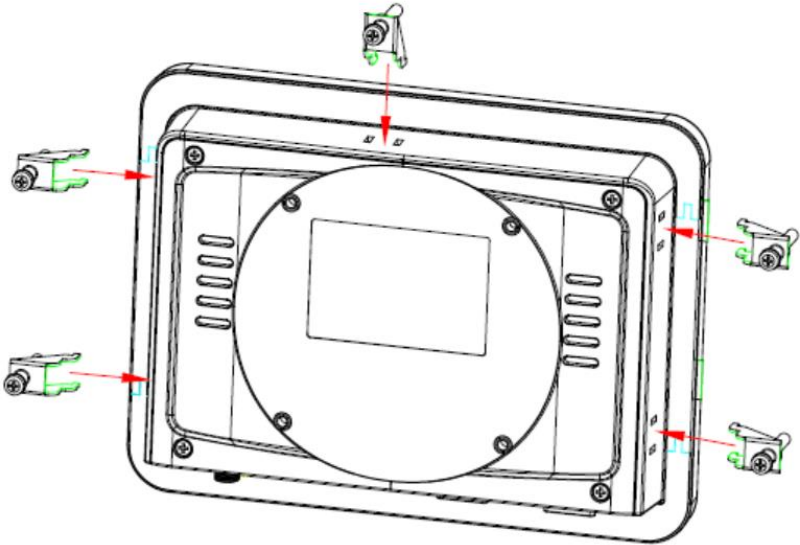
Panel Mount Dimension
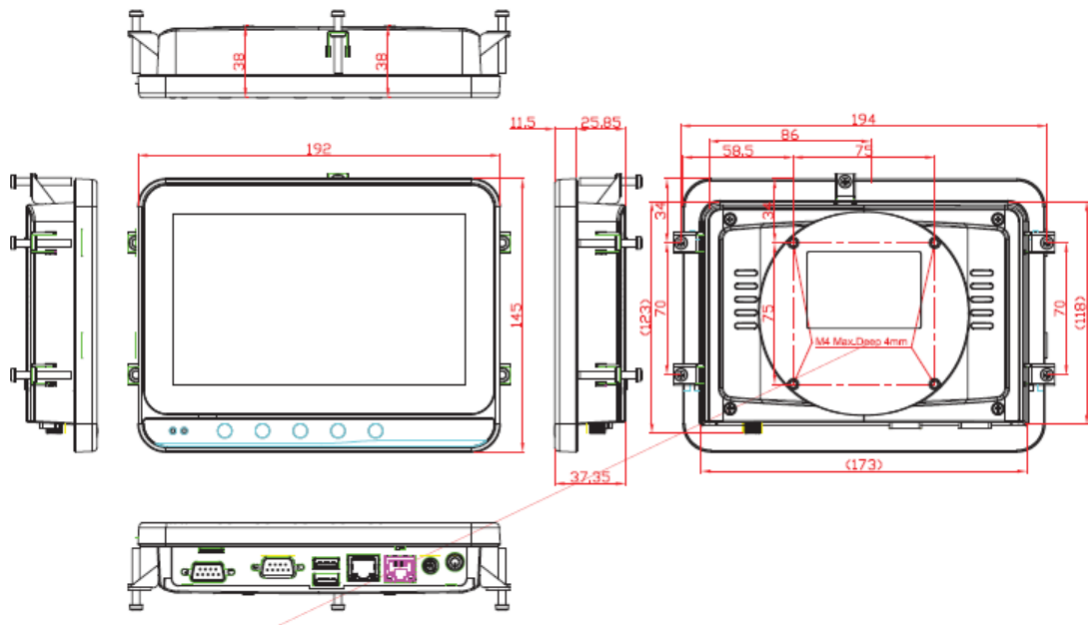
2.2.2 Assembling the Wall-Mount Bracket

The GOT107W-319 provides VESA mount: 75 x 75 mm. Screw four screws to fix the kit in the back chassis.

Step 1   **Find out the Screw holes to assemble the wall mount bracket on the back side of the chassis with 4 screws**
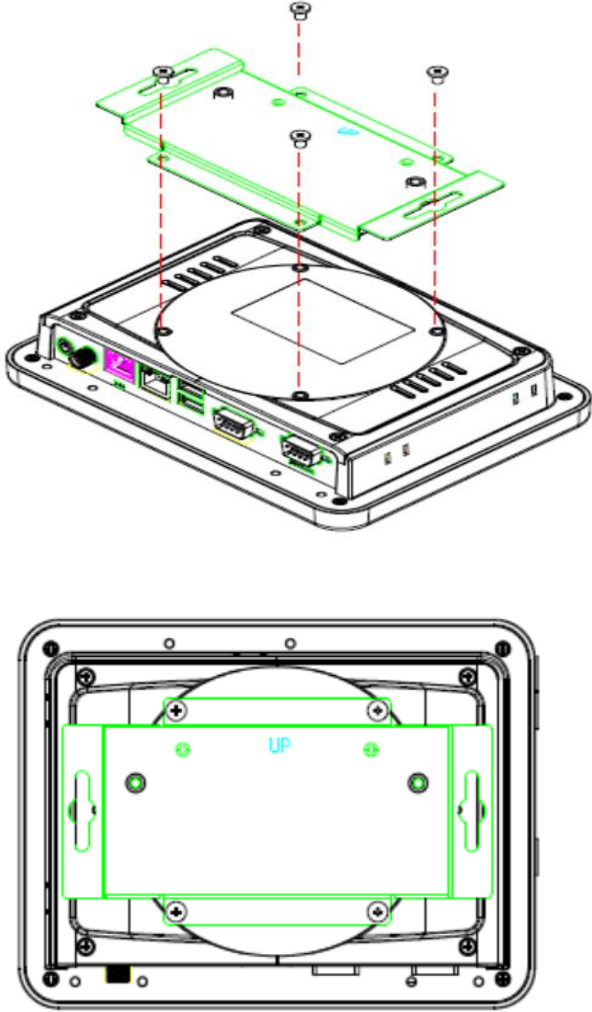
Wall-Mount Bracket Dimension
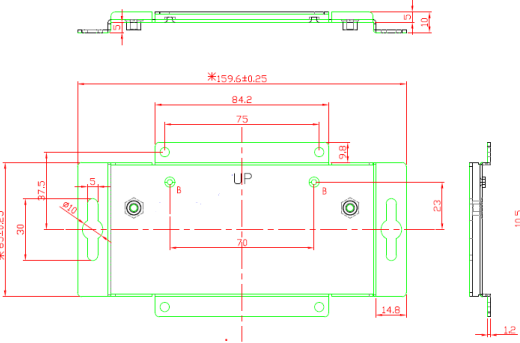
2.2.3 Assembling the stand

The GOT107W-319 provides VESA mount: 75 x 75 mm. Screw four screws to fix the stand kit in the back chassis.

Find out the Screw holes to assemble the stand kit with 4 screws as red mark shown in the below picture
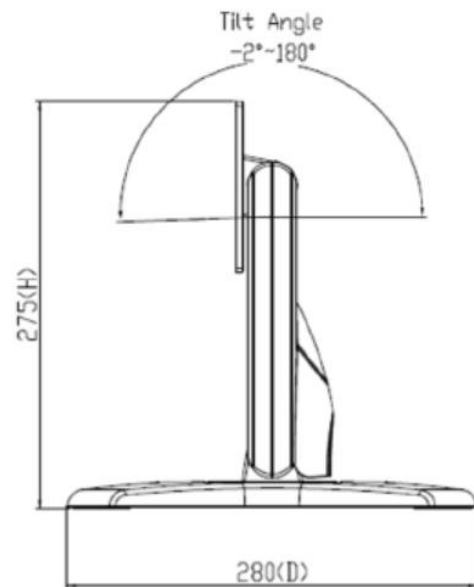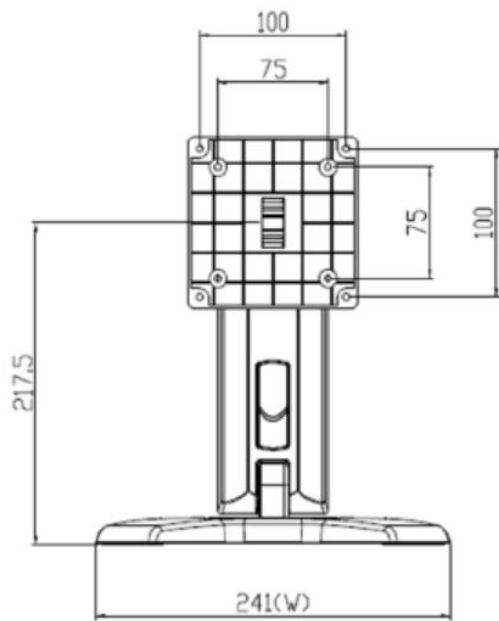
2.3   Storage Installation

2.3.1 mSATA Installation

The GOT107W-319 provides a Mini Card slot for users to install mSATA. Please refer to the following instructions for installation:

Step 1   Turn off the system, and unplug the power cord.

Step 2   Remove the back cover.

Step 3   Locate the Mini Card slot on the main board.
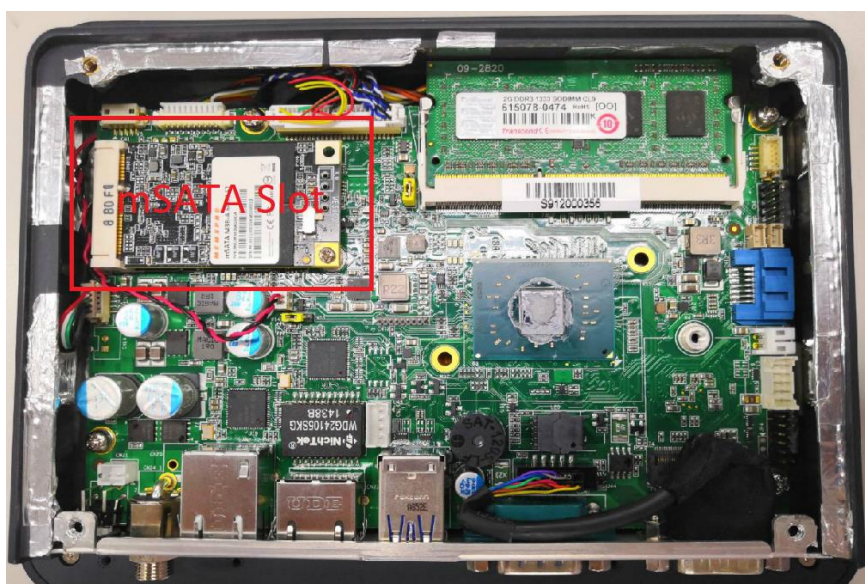
Step 4   Insert the mSATA card into slot 1. Screw it firmly on the slot.
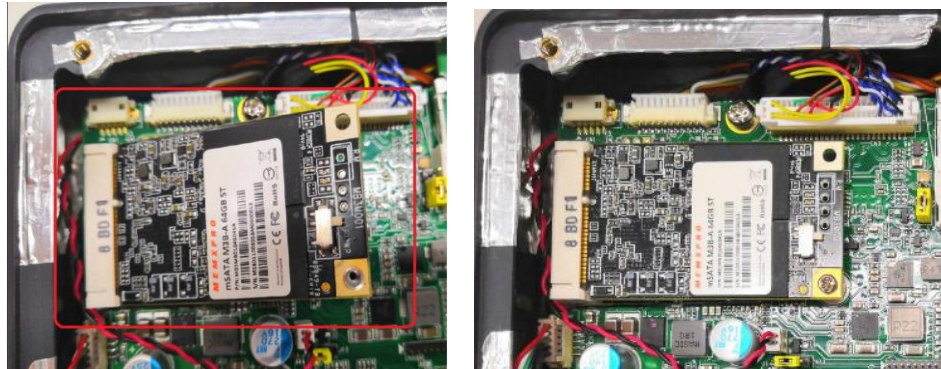
NOTE   The type of screws used for the Mini Card slot is M12.

2.3.2 MicroSD Card Installation

The GOT107W-319 provides one MicroSD card slot for users to install a MicroSD card. Please choose slot 1 when installing an mSATA card and refer to the following instructions and illustrations.

Step 1 Push the MicroSD card into the slot until it has been locked firmly.

2.4   DRAM Installation

The GOT107W-319 provides one 204-pin DDR3L SODIMM socket that supports system memory up to 8GB. Please follow steps below to install the memory modules:

Step 1   Insert the DRAM into the DIMM socket, and then push it down firmly until it is clipped by the socket.

Step 2   Insert the DRAM into the DIMM socket, and then push it down firmly until it is clipped by the socket.
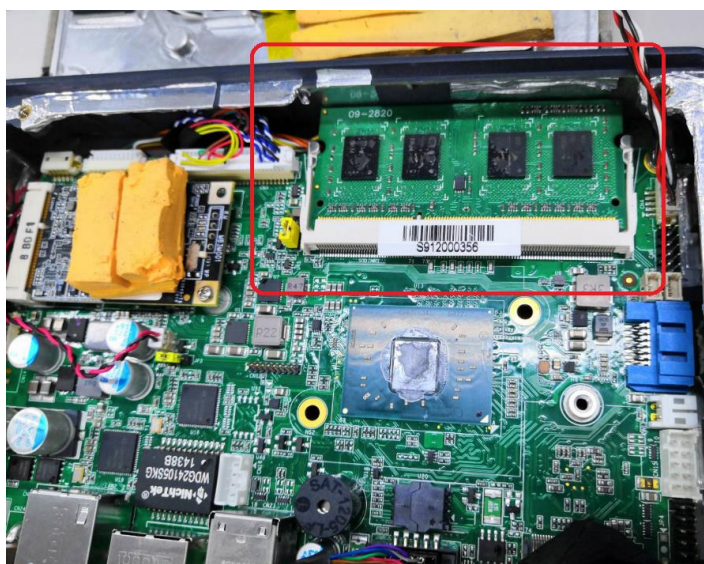
2.5   M.2 Wireless Card Installation

The GOT107W-319 provides one Mini card slot for users to install mSATA. Please choose slot 1 when installing an mSATA card and refer to the following instructions and illustrations:

Step 1   **Open the back cover and locate the M.2 card slot on the main board in the marked area below.**
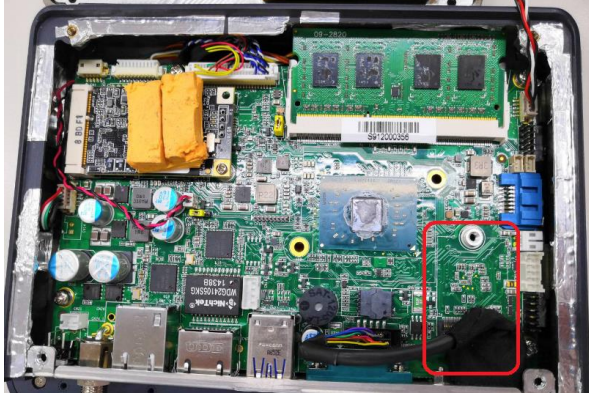
Step 2   **Insert the M.2 wireless card into the M.2 slot as shown in the red mark area.**

Step 3   **Screw the card firmly on the slot and connect the antenna cable, as shown in the red mark area.**

2.6   Power Input (AC to DC cable)

Axiomtek provides an optional cable for the DC jack connector to connect to a DC source. It adopts 9~24VDC. Please follow the signs on the power connector to connect to a DC power source.
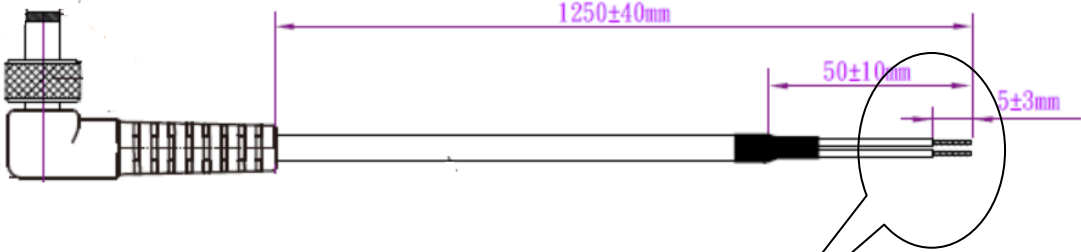
Pin	Description	Color
1	+: Power positive	White
2	—:Power negative	Black

NOTE   *The safety ground must be connected to ensure proper operation of the unit.*

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Chapter 3
AMI BIOS Setup Utility

This section provides users with detailed descriptions about how to set up basic system configuration through the AMI BIOS setup utility.

3.1   Navigation Keys

The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process.
These keys include <F1>, <F2>, <F3>, <F4>, <Enter>, <ESC>, arrow keys, etc. (as listed in Table 3-1).

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

Table 3-1 Descriptions of hot keys

Hot Keys	Descriptions
<→> and <←> Left/Right	The <→> and <←> keys are used to select a setup screen.
<↑> and <↓> Up/Down	The <↑> and <↓> keys are used to select a setup screen or sub-screen.
<+> and <−> Plus/Minus	The <+> and <−> keys you are used to change the field value of a particular setup item.
<Tab>	The <Tab> key is used to select setup fields.
<F1>	The <F1> key is used to display the general help screen.
<F2>	The <F2> key is used to load previous values.
<F3>	The <F3> key is used to load optimized defaults.
<F4>	The <F4> key is used to save any changes made then exit the setup. Press the <F4> key to save any changes.
<Esc>	The <Esc> key is used to discard any changes made then exit the setup. Press the <Esc> key to exit the setup without saving your changes.
<Enter>	The <Enter> key is used to display or change the setup option listed for a particular setup item. The <Enter> key is also used to display the setup sub- screens.

3.2   Main Menu

Figure 3-1 Main menu
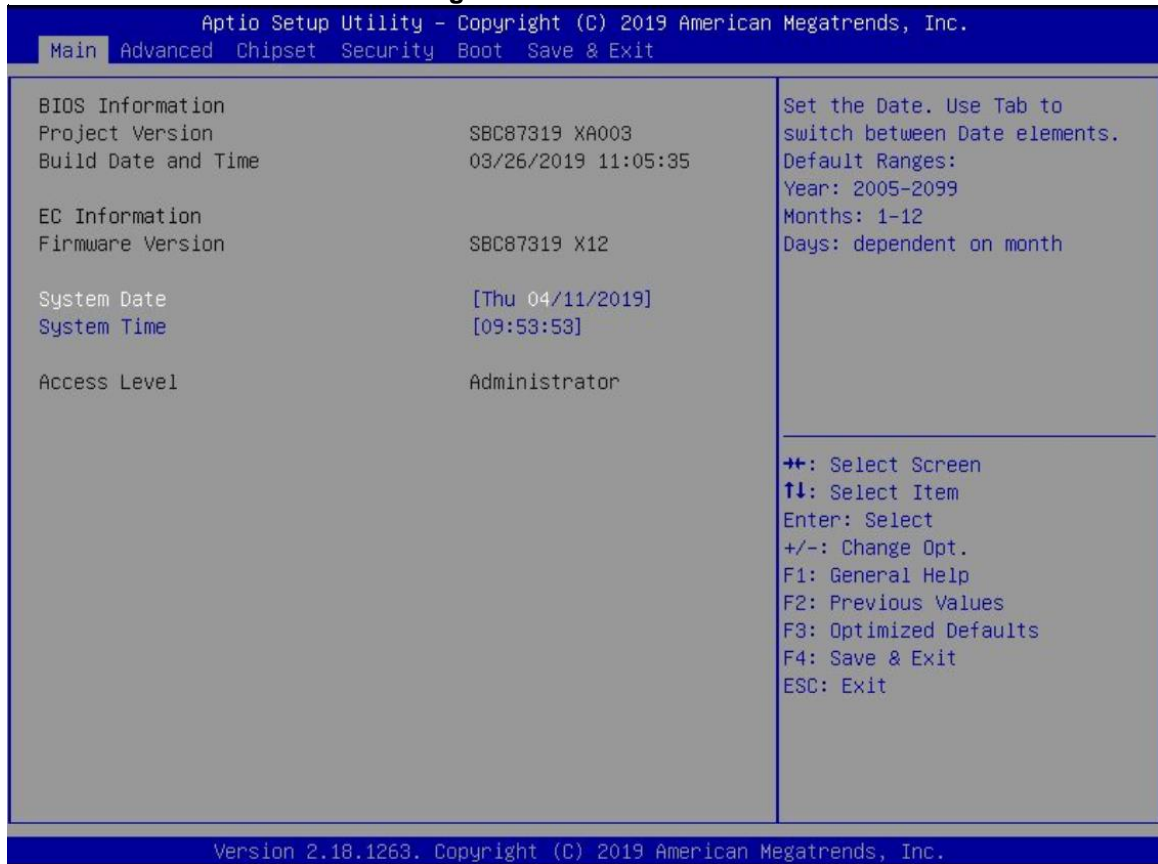
System Time/Date

Use this option to change the system time and date. Highlight *System Time* or *System Date* using the up/ down/ left and right arrow keys (see Figure 3-1). Enter new values through the keyboard. Press the <Tab> key or the arrow keys to move between fields. The date entered must be in MM/DD/YY format. The time is entered in HH:MM:SS format.

3.3 Advanced Menu

Figure 3-2 Advanced menu

```
        Aptio Setup Utility – Copyright (C) 2019 American Megatrends, Inc.
    Main  Advanced  Chipset  Security  Boot  Save & Exit

 ▶ Serial Port Configuration                        System Serial Port Parameters.
 ▶ Hardware Monitor
 ▶ Trusted Computing
 ▶ ACPI Settings
 ▶ CPU Configuration
 ▶ SATA Configuration
 ▶ USB Configuration




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




        Version 2.18.1263. Copyright (C) 2019 American Megatrends, Inc.
```

The Advanced menu allows users to set configurations of the CPU and other system devices. Select any item on the left to go to the sub-menus (as shown in Figure 3-2).

- ► *Serial Port Configuration*
- ► *Hardware Monitor*
- ► *Trusted Computing*
- ► *ACPI Settings*
- ► *CPU Configuration*
- ► *SATA Configuration*
- ► *USB Configuration*

Simply highlight the item of choice, then press <Enter> to go to sub-menus for more specific options.

3.3.1 Serial Port Configuration

► **Serial Port 1 Configuration (COM1)**
► **Serial Port 2 Configuration (COM2)**

Serial port

This option is used to enable or disable serial port COM1/COM2.

Device Setting

This item specifies the base I/O port address and Interrupt Request (IRQ) address of a serial port.
Optimal setting for Port 1 is [3F8h/IRQ4].
Optimal setting for Port 2 is [2F8h/IRQ5].

COM 1 Port Type

This option is used to select COM Port Type: [RS-232] *or* [RS-422] *or* [RS-485].
This option is used to select COM Port Type: [RI] *or* [5V] *or* [+12V]

Figure 3-4 'Serial Port Configuration' -> 'COM Port Type'

```
          Aptio Setup Utility – Copyright (C) 2019 American Megatrends, Inc.
    Advanced

   Serial Port Configuration                          Set Parameters of Serial Port
                                                       1 (COMA)
   Super IO Chip                   ECSUPERIO
▶  Serial Port 1 Configuration
▶  Serial Port 2 Configuration
   COM1 RI Setting                 [RI]




                                                      ↔: 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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```

3.3.2 Hardware Monitor
Figure 3-5 shows a screen reflecting the 'PC Health Status' of the hardware in real time.

Figure 3-5 Entering 'Hardware Monitor'

```
          Aptio Setup Utility – Copyright (C) 2019 American Megatrends, Inc.
      Advanced

  Pc Health Status

  CPU Temperature              : +49 %
  System Temperature           : +33 %
  VBAT                         : +2.96 V
  +3.3V                        : +3.27 V
  +3.3VSB                      : +3.33 V
  +5VSB                        : +5.03 V




                                                  ⇄: 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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```
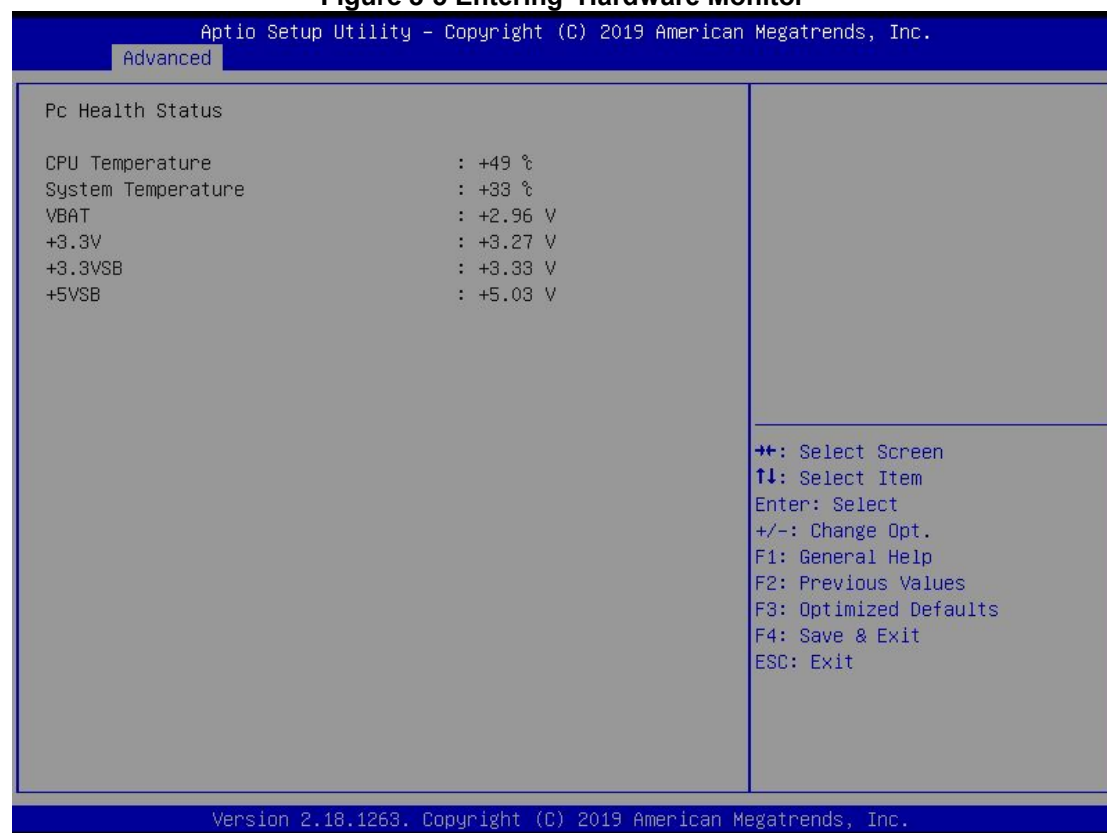
3.3.3 Trusted Computing

This screen is used to select options of the TPM2.0 Configuration, and then change the value of the selected option. A description of the selected item appears on the right side of the screen.

```
         Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
   Advanced

 TPM20 Device Found                                     Enables or Disables BIOS
 Firmware Version:             301.9                    support for security device.
 Vendor:                       INTC                     O.S. will not show Security
                                                        Device. TCG EFI protocol and
 Security Device Support       [Enable]                 INT1A interface will not be
 Active PCR banks              SHA-1,SHA256             available.
 Available PCR banks           SHA-1,SHA256


 Pending operation             [None]


                                                        ↔: 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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```

3.3.4 ACPI Settings

This screen is used to select options of the ACPI Configuration, and then change the value of the selected option. A description of the selected item appears on the right side of the screen.

ACPI Sleep State
This item allows users to select the *Advanced Configuration and Power Interface* (ACPI) state to be used for system suspension. There are two choices under this selection: [Suspend Disable] or [S3 (Suspend to RAM)] (as shown in Figure 3-6).

Figure 3-6 Entering 'ACPI Settings'

```
          Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
    Advanced

  ACPI Settings                                          Select the highest ACPI sleep
                                                         state the system will enter
  ACPI Sleep State              [S3 (Suspend to RAM)]    when the SUSPEND button is
                                                         pressed.




                                                         →←: 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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```

3.3.5 CPU Configuration

Figure 3-7 shows a page of CPU configuration with the item *Intel Virtualization Technology* highlighted for [Enabled] or [Disabled].

Figure 3-7 Entering 'CPU Configuration'

```
              Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
   Advanced

 CPU Configuration                                         When enabled, a VMM can
                                                           utilize the additional
 Intel(R) Pentium(R) CPU N4200 @ 1.10GHz                   hardware capabilities provided
 CPU Signature                      506C9                  by Vanderpool Technology
 Microcode Patch                    2E
 Max CPU Speed                      1100 MHz
 Min CPU Speed                      800 MHz
 Processor Cores                    4
 Intel HT Technology               Not Supported
 Intel VT-x Technology             Supported
 64-bit                            Supported

 L1 Data Cache                     24 kB x 4
 L1 Code Cache                     32 kB x 4               ++: Select Screen
 L2 Cache                          1024 kB x 2             ↑↓: Select Item
 L3 Cache                          Not Present             Enter: Select
                                                           +/-: Change Opt.
 Intel Virtualization Technology   [Enabled]               F1: General Help
 Turbo Mode                        [Enabled]               F2: Previous Values
 VT-d                              [Enabled]               F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit




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```

3.3.6 SATA Configuration

This screen allows users to select options for SATA Configuration, and then change the value of the selected option (see Figure 3-8).

SATA Controller
Highlight this item to set up SATA Controller to be [Enable] or [Disable].

Figure 3-8 Entering 'SATA Configuration'

```
          Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
    Advanced

 SATA Configuration

 Chipset SATA                          [Enable]
 SATA Mode Selection                   [AHCI]

   SATA Port 1                         [Not Installed]




                                                     →←: 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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```
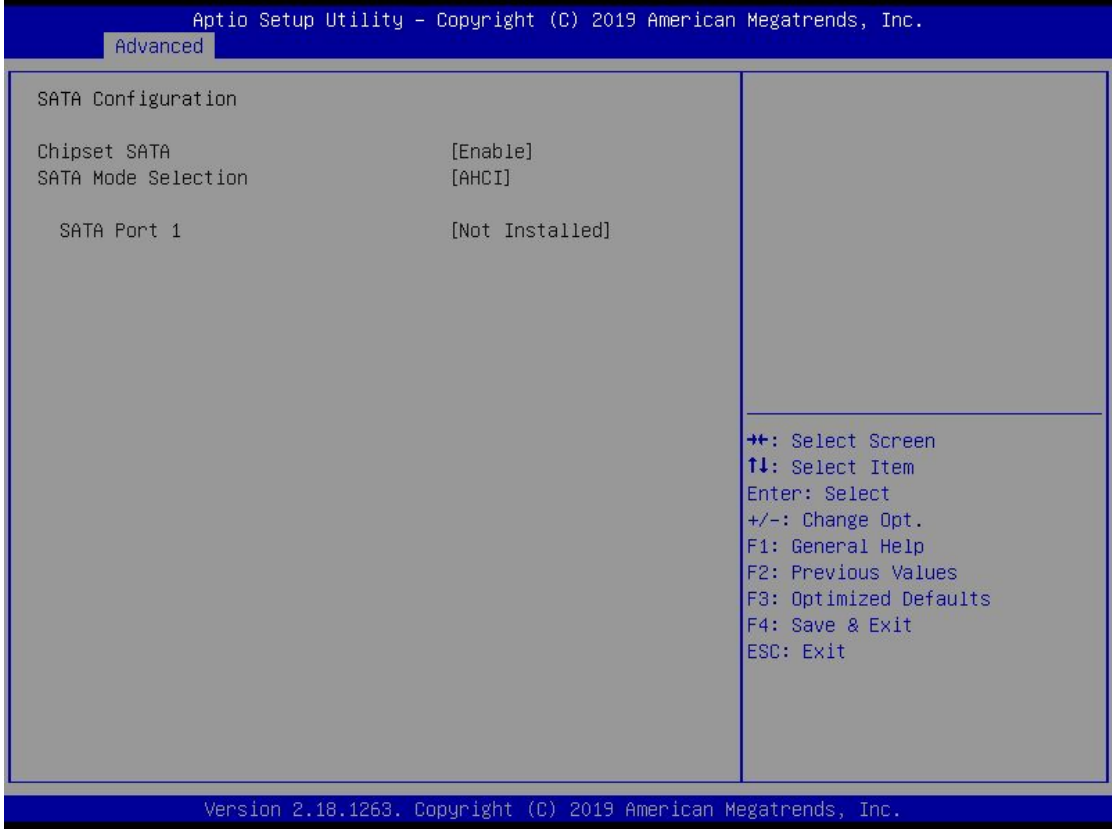
3.3.7 USB Configuration

Please see Figure 3-9 to find out what items can be set up under the page of *USB Configuration*.

Figure 3-9 Entering 'USB Configuration'
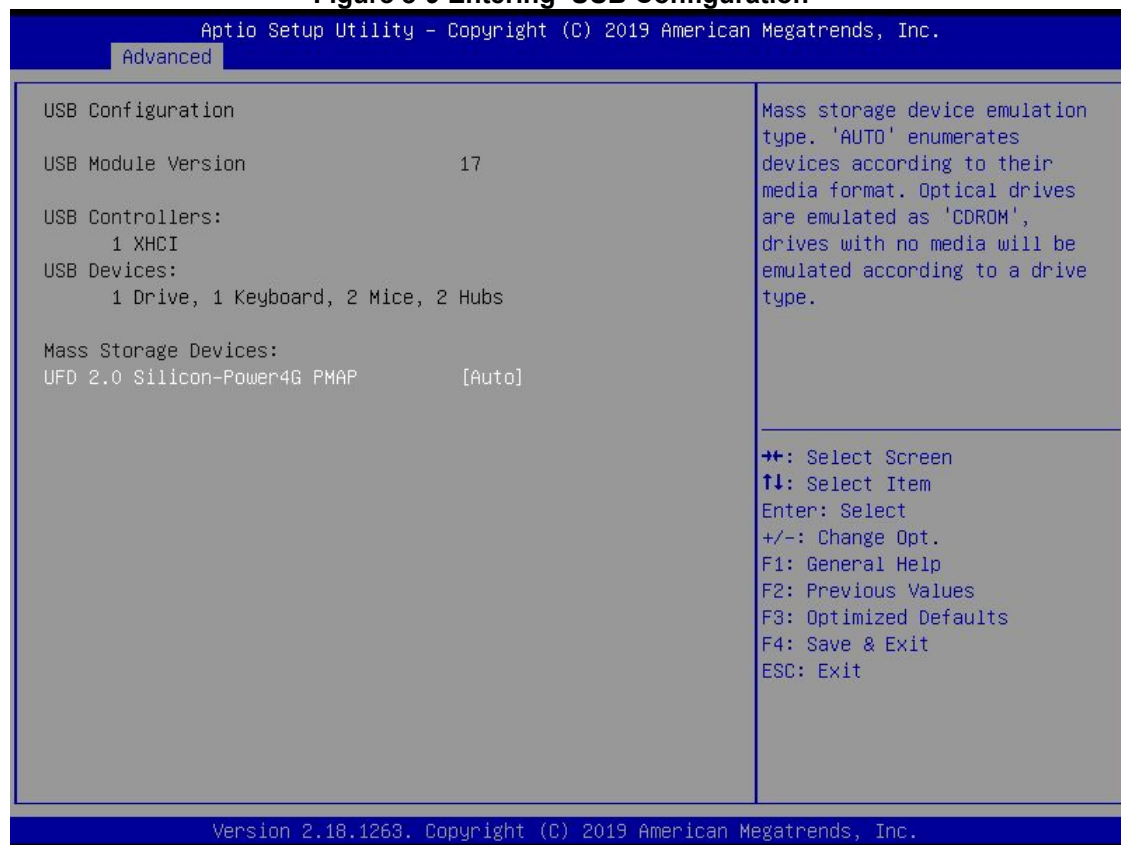
3.4 Chipset Menu

The Chipset menu gives memory information about the North Bridge and South Bridge (see Figure 3-12).

Figure 3-12 Chipset menu

```
           Aptio Setup Utility – Copyright (C) 2019 American Megatrends, Inc.
     Main  Advanced  Chipset  Security  Boot  Save & Exit

  ▶ North Bridge                                          North Bridge Parameters
  ▶ South Bridge




                                                          ➜←: 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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```
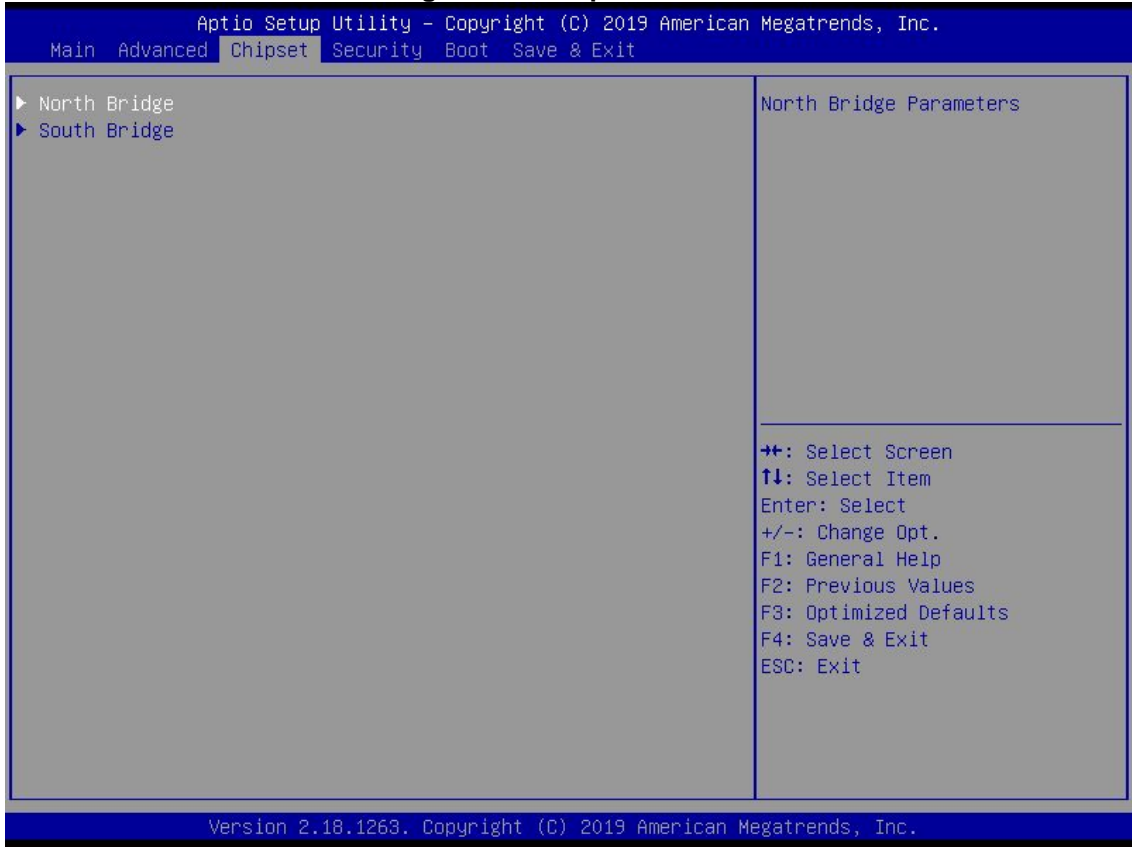
3.4.1 North Bridge

North Bridge memory information is shown in Figure 3-13.

Figure 3-13 Entering 'North Bridge'

```
          Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
         Chipset

    Memory Information

    Total Memory                     8192 MB (DDR3L)




                                                    →←: 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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```

3.4.2 South Bridge

South Bridge TXE information is shown in Figure 3-14.

Figure 3-14 Entering 'South Bridge'

```
           Aptio Setup Utility – Copyright (C) 2019 American Megatrends, Inc.
          Chipset

   TXE Information

   MRC Version                         0.56
   PMC FW                              03.29
   TXE FW                              3.1.55.2269




                                                        →←: 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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```
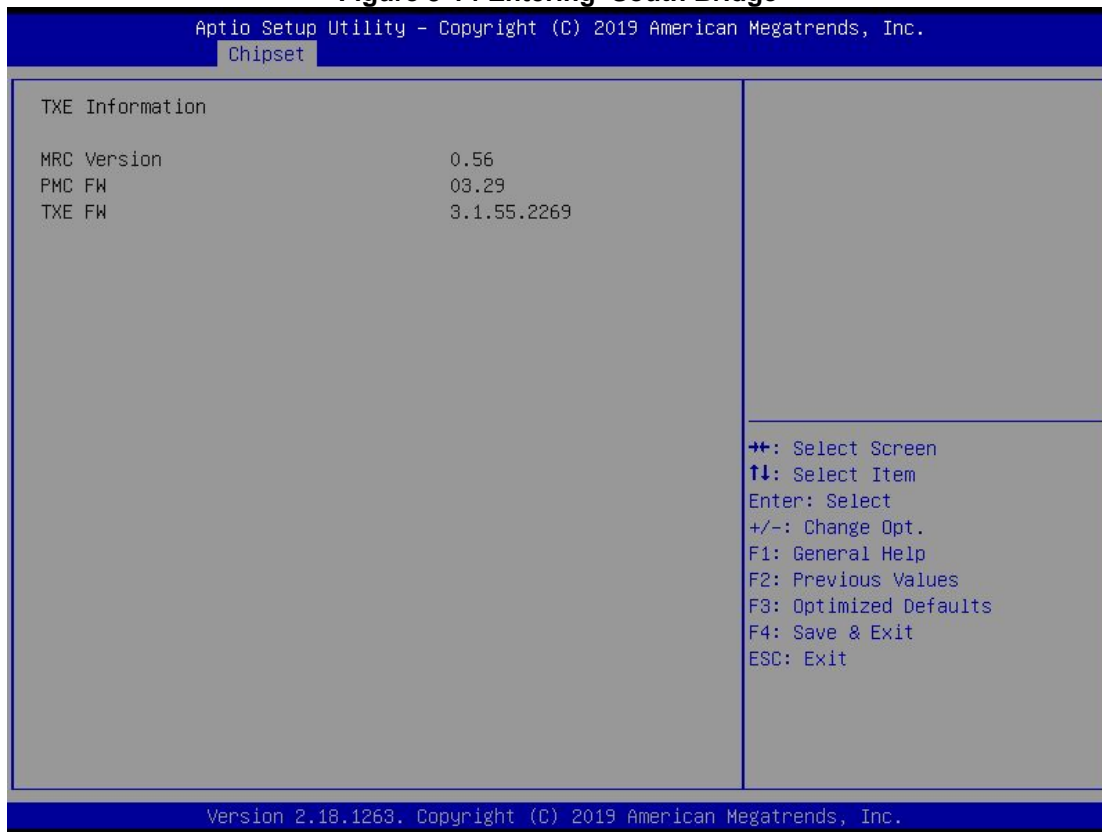
3.5   Security Menu

You may set the administrator/user password for the system.

Figure 3-15 Security Menu

```
            Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
     Main  Advanced  Chipset  Security  Boot  Save & Exit

     Password Description                              Set Setup Administrator
                                                       Password
     If ONLY the Administrator's password is set,
     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
                                                       ➔←: Select Screen
                                                       ↑↓: Select Item
     Setup Administrator Password                      Enter: Select
     User Password                                     +/-: Change Opt.
                                                       F1: General Help
                                                       F2: Previous Values
                                                       F3: Optimized Defaults
                                                       F4: Save & Exit
                                                       ESC: Exit



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```

3.6   Boot Menu

The Boot menu allows users to change boot options of the system. Users can highlight any of the items on the left frame of the screen to go to any particular sub menus (as shown in Figure 3-16).

Figure 3-16 Boot Menu

```
              Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
     Main  Advanced  Chipset  Security  Boot  Save & Exit

     Boot Configuration                                        Number of seconds to wait for
                                                               setup activation key.
     Setup Prompt Timeout               1                      65535(0xFFFF) means indefinite
     Bootup NumLock State               [On]                   waiting.

     Quiet Boot                         [Disabled]
     Launch UEFI PXE OpROM policy       [Disabled]

     Boot Option Priorities
     Boot Option #1                     [UEFI: UFD 2.0 Silic...]
     Boot Option #2                     [UEFI: Built-in EFI ...]

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


              Version 2.18.1263. Copyright (C) 2019 American Megatrends, Inc.
```
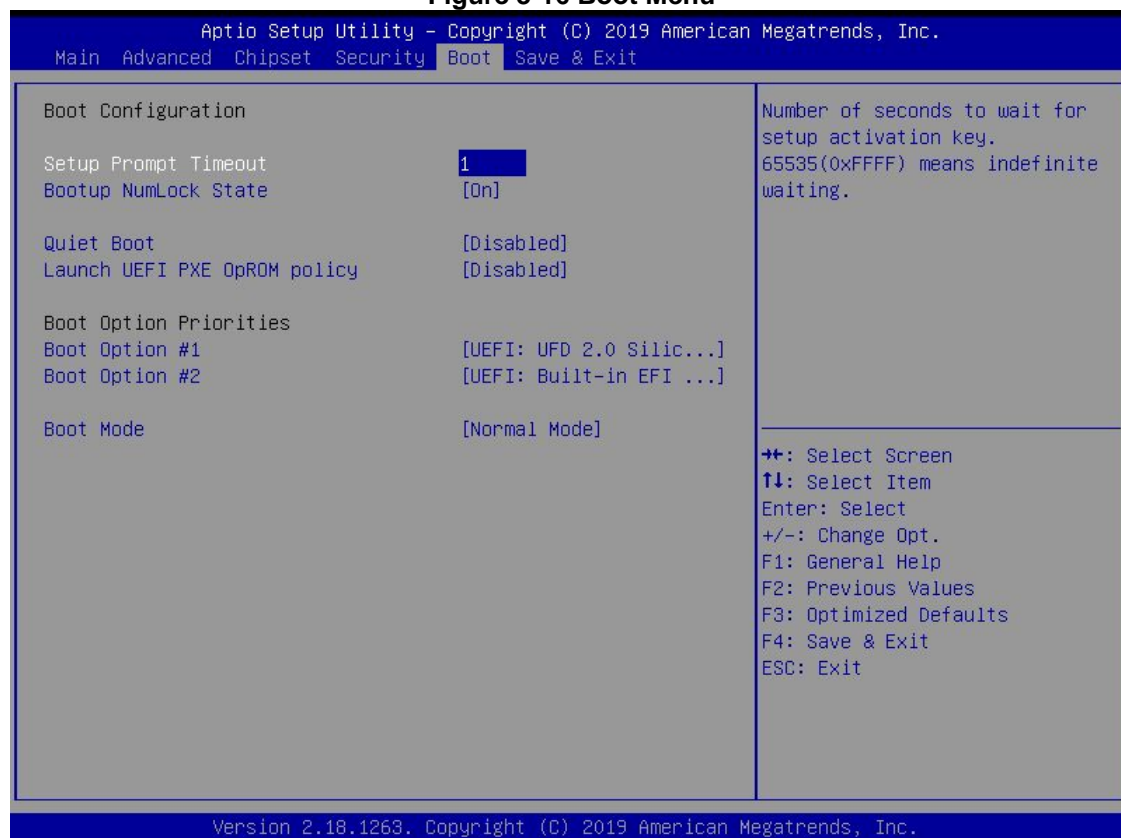
Setup Prompt Timeout
Enter a numeric value here as the length for timeout.

Bootup NumLock State
Use this item to select the power-on state for the NumLock. The default setting is [On].

Quiet Boot
Use this item to enable or disable the Quite Boot state. The default setting is [Disabled].
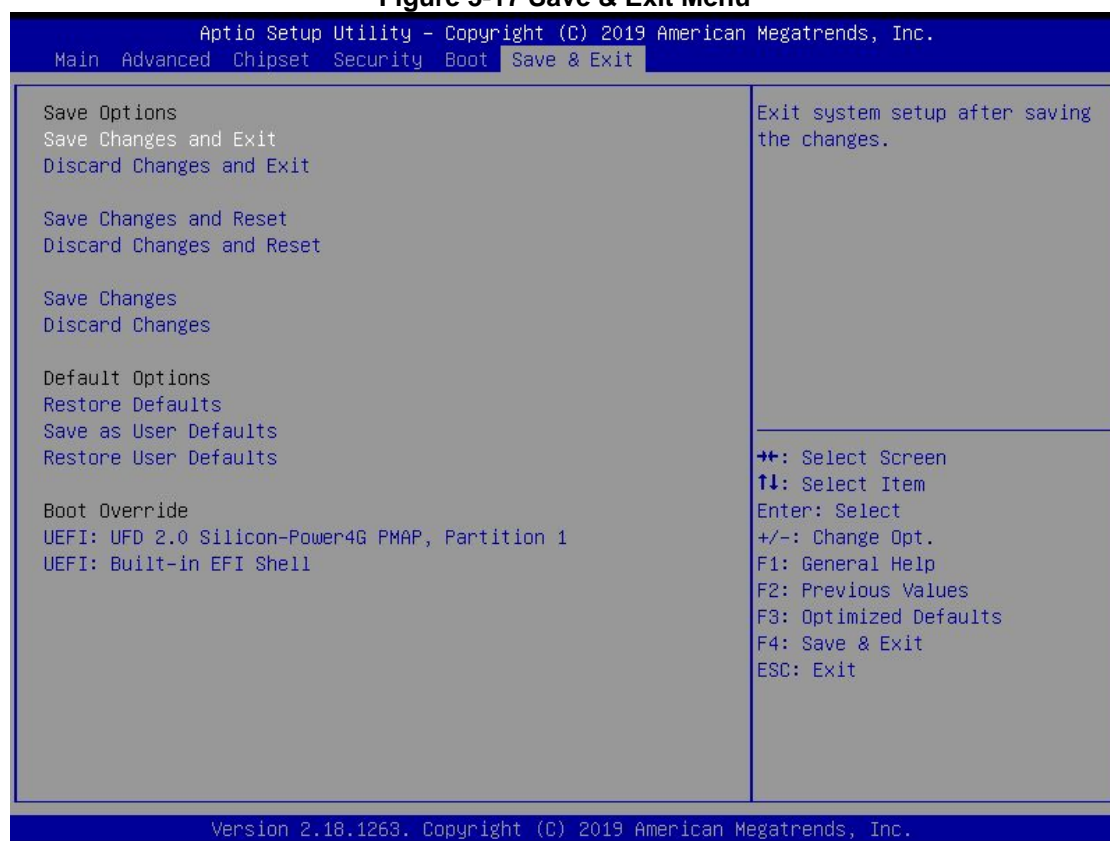
Launch UEFI PXE OpROM policy
Use this item to enable or disable the Pre-boot Execution Environment (PXE) under UEFI mode. The default setting is [Disabled].

Boot Option Priorities
Use this item to specify the overall boot order among the available devices.

3.7 Save & Exit Menu

Figure 3-17 Save & Exit Menu

```
           Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
  Main   Advanced  Chipset   Security   Boot   Save & Exit

 Save Options                                      Exit system setup after saving
 Save Changes and Exit                             the changes.
 Discard Changes and Exit

 Save Changes and Reset
 Discard Changes and Reset

 Save Changes
 Discard Changes

 Default Options
 Restore Defaults
 Save as User Defaults                             →←: Select Screen
 Restore User Defaults                             ↑↓: Select Item
                                                   Enter: Select
 Boot Override                                     +/-: Change Opt.
 UEFI: UFD 2.0 Silicon-Power4G PMAP, Partition 1   F1: General Help
 UEFI: Built-in EFI Shell                          F2: Previous Values
                                                   F3: Optimized Defaults
                                                   F4: Save & Exit
                                                   ESC: Exit



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```

Chapter 4
Drivers Installation

4.1 System

The GOT107W-319 supports Windows 10 pro and Windows 10 IoT Enterprise. To facilitate the installation of the system driver, please carefully read the instructions in this chapter before installation.

4.1.1 Windows 10

1. Insert the driver CD and select the files from step 1 to step 5.

2. Select all files and follow the installing procedure.

Step 1. Chipset   Step 2. Graphic   Step 3. LAN   Step 4. HD Audio   Step 5. TXE

4.2 Touch Screen

The GOT107W-319 adopts a Projected Capacitive Multi-touch screen. The specification is listed in Table 4-1 below. The touch driver will be installed automatically to enable the touch panel's two fingers touch functions based on the Windows 10 and Windows IoT Enterprise support.

Table 4-1 Touch screen specification

Touch Screen	Projected Capacitive Multi-touch
Touch Screen Controller	COF
Communications	USB interface
Resolution	4096 x 4096 resolution
Power Input	5V
Power Consumption	Active: <100mA / Idle Mode: 50mA
Input Method	Finger or Cap.Stylus
Calibration	Non-Calibration

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Appendix A
Watchdog Timer & DIO
Programming

About Watchdog Timer

Software stability is a major issue in most applications. Some embedded systems are not watched by humans for 24 hours. It is usually too slow to wait for someone to reboot when a computer hangs. The system needs to be able to reset automatically when things go wrong. The watchdog timer gives us that solution.

The watchdog timer is a counter that triggers a system reset when it counts down to zero from a preset value. The software starts the counter with an initial value and must reset it periodically. If the counter ever reaches zero which means the software has crashed, the system will reboot.

How to Use Watchdog Timer

The I/O port base addresses of the watchdog timer are 2E (hex) and 2F (hex). The 2E (hex) and 2F (hex) are address and data port respectively.

Assume that program A is put in a loop that must execute at least once every 10ms. Initialize the watchdog timer with a value bigger than 10ms. If the software has no problems, the watchdog timer will never expire because software will always restart the counter before it reaches zero.
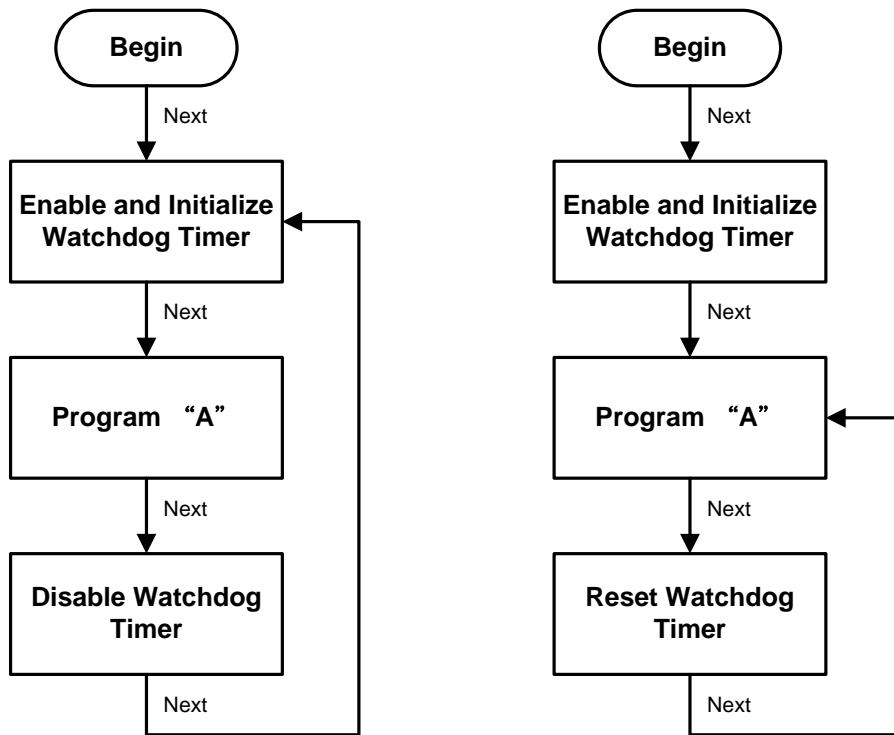
WDT Sample Program

Enable WDT

    1.Enable configuration:

        -O 2E 87

         -O 2E 87

    2. Select Logic device:

        -O 2E 07

        -O 2F 07

    3. WDT device enable:

        -O 2E FA

        -O 2F 01

    4. Set base timer:

        -O 2E F6

        -O 2F 0A ➜Set reset time (Ex.0A:10 Sec/Minute)

    5. Set timer unit (bit[3]=0: Sec; bit[3]=1: Minute):

    Enable watchdog time counting (bit5=1)

        -O 2E F5

        -O 2F 20 (Set timer unit to sec and enable counting)

How to Use DIO Software Programming

Digital I/O Software Programming

- I2C to GPIO PCA9535PW GPIO
- I2C address: 0b01000100.

Command byte

The command byte is the first byte to follow the address byte during a write transmission. It is used as a pointer to determine which of the following registers will be written or read.

Table 4.   Command byte

Command	Register
0	Input port 0
1	Input port 1
2	Output port 0
3	Output port 1
4	Polarity Inversion port 0
5	Polarity Inversion port 1
6	Configuration port 0
7	Configuration port 1

Registers 0 and 1: Input port registers

This register is an input-only port. It reflects the incoming logic levels of the pins, regardless of whether the pin is defined as an input or an output by Register 3. Writes to this register have no effect.

The default value 'X' is determined by the externally applied logic level.

Table 5.   Input port 0 Register

Bit	7	6	5	4	3	2	1	0
Symbol	I0.7	I0.6	I0.5	I0.4	I0.3	I0.2	I0.1	I0.0
Default	X	X	X	X	X	X	X	X

Table 6.   Input port 1 register

Bit	7	6	5	4	3	2	1	0
Symbol	I1.7	I1.6	I1.5	I1.4	I1.3	I1.2	I1.1	I1.0
Default	X	X	X	X	X	X	X	X

Registers 2 and 3: Output port registers

This register is an output-only port. It reflects the outgoing logic levels of the pins defined as outputs by Registers 6 and 7. Bit values in this register have no effect on pins defined as inputs. In turn, reads from this register reflect the value that is in the flip-flop controlling the output selection, **not** the actual pin value.

Table 7.   Output port 0 register

Bit	7	6	5	4	3	2	1	0
Symbol	O0.7	O0.6	O0.5	O0.4	O0.3	O0.2	O0.1	O0.0
Default	1	1	1	1	1	1	1	1

Table 8.   Output port 1 register

Bit	7	6	5	4	3	2	1	0
Symbol	O1.7	O1.6	O1.5	O1.4	O1.3	O1.2	O1.1	O1.0
Default	1	1	1	1	1	1	1	1

Registers 4 and 5: Polarity Inversion registers

This register allows the user to invert the polarity of the Input port register data. If a bit in this register is set (written with '1'), the Input port data polarity is inverted. If a bit in this register is cleared (written with a '0'), the Input port data polarity is retained.

Table 9.   Polarity Inversion port 0 register

Bit	7	6	5	4	3	2	1	0
Symbol	N0.7	N0.6	N0.5	N0.4	N0.3	N0.2	N0.1	N0.0
Default	0	0	0	0	0	0	0	0

Table 10.   Polarity Inversion port 1 register

Bit	7	6	5	4	3	2	1	0
Symbol	N1.7	N1.6	N1.5	N1.4	N1.3	N1.2	N1.1	N1.0
Default	0	0	0	0	0	0	0	0

Registers 6 and 7: Configuration registers

This register configures the directions of the I/O pins. If a bit in this register is set (written with '1'), the corresponding port pin is enabled as an input with high-impedance output driver. If a bit in this register is cleared (written with '0'), the corresponding port pin is enabled as an output. At reset, the device's ports are inputs.

Table 11.   Configuration port 0 register

Bit	7	6	5	4	3	2	1	0
Symbol	C0.7	C0.6	C0.5	C0.4	C0.3	C0.2	C0.1	C0.0
Default	1	1	1	1	1	1	1	1

Table 12.   Configuration port 1 register

Bit	7	6	5	4	3	2	1	0
Symbol	C1.7	C1.6	C1.5	C1.4	C1.3	C1.2	C1.1	C1.0
Default	1	1	1	1	1	1	1	1