

# AND-DNV3N1 Series

## Networking Micro Box

- Intel® Denverton® SoC
- 8 or 4 GbE Copper (1-pair bypass)
- 2 SFP+



## User Manual

Acrosser Technology Co., Ltd.  
[www.acrosser.com](http://www.acrosser.com)

## Disclaimer

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## Purpose

This document is intended to provide the information about the features and use of the product.

## Audience

The intended audiences are technical personnel, not for general audiences.

## WARNING

Danger of explosion if batteries are incorrectly replaced. Always replace the battery with the same specifications. Dispose of used batteries according to the manufacturer's instructions.

Before running the system, make sure the power cord is firmly plugged into the socket.

## CAUTION



IEC 60417-6042 (2010-11)



IEC 60417-6172 (2012-09)

All power cords must be disconnected during product repair.

Ver: 110-001

Date: Dec. 20, 2022

**To read this User Manual on your smart phone, you will have to install an APP that can read PDF file format first. Please find the APP you prefer from the APP Market.**

# Table of Contents

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<b>1. System Introduction</b>	<b>5</b>
1.1. Model Description	5
1.2. Specifications	6
1.3. Package Contents	8
1.4. System Dissection	9
1.4.1. Dimensions	9
1.4.2. Front I/O Panel	10
1.4.3. Rear I/O Panel	11
<b>2. Components Assembly</b>	<b>13</b>
2.1. SIM Card Installation	13
2.2. Open up Top Cover	15
2.3. Memory Module Installation	17
2.4. 4G & WiFi Module Installation	19
2.5. Hard Disk & Top Cover Installation	21
<b>3. BIOS Settings</b>	<b>24</b>
3.1. Main Setup	24
3.2. Advanced Setup	26
3.2.1. Advanced Setup: OnBoard Bypass Controller	26
3.2.2. Advanced Setup: W83627DHG Super IO Configuration	27
3.2.3. Advanced Setup: W83627DHG HW Monitor	28
3.2.4. Advanced Setup: Serial Port Console Redirection	30
3.2.5. Advanced Setup: Network Stack Configuration	32
3.2.6. Advanced Setup: CSM Configuration	33
3.2.7. Advanced Setup: USB Configuration	34
3.3. IntelRCSetup	35
3.3.1. IntelRCSetup: Processor Configuration	35
3.3.2. IntelRCSetup: South Bridge Chipset Configuration	36
3.3.3. IntelRCSetup: SATA Port	37
3.3.4. IntelRCSetup: M.2 SATA Port	37
3.4. Security Setup	38
3.5. Boot Setup	39
3.6. Save & Exit Setup	40
<b>4. Software Installation and Programming Guide</b>	<b>41</b>
4.1. Introduction	41
4.1.1. Environment	41
4.1.2. GPIO	41
4.1.3. Watchdog	41

4.1.4. LAN Bypass Subsystem.....	41
4.2. File Descriptions.....	42
4.2.1. GPIO/Watchdog/LAN Bypass Subsystem Module.....	42
4.3. API List and Descriptions .....	42
4.3.1. GPIO .....	42
4.3.2. Watchdog.....	43
4.3.3. LAN Bypass Subsystem.....	43
4.3.4. Notes.....	45
<b>5. FAQ.....</b>	<b>46</b>
Q 1. Where is the serial number located on my system?.....	46
Q 2. How to active the second SIM card SIERRA EM7455/EM7430 ?.....	46
Q 3. How to active the second SIM card Quectel EM06-A/EM06-E 4G ?.....	46



# 1. System Introduction

AND-DNV3N1 is an entry level networking appliance. In a small box, this appliance equip a powerful Intel Atom C3000 SoC.

This SoC supports multi-core CPU computing and support QAT, USB 3.0 and LAN controller which can be 10GbE capable.

AND-DNV3N1 is an ideal networking appliance for small office. It can support up to 10 LAN ports with both copper and fiber media. Supports two USB 3.0 ports, optional WiFi 5 and 4G wireless connection. AND-DNV3N1 consumes only a few power. In this small yet powerful box, the thermal dissipation is really well designed so no fan is needed. This fanless design not only made a quiet office be possible, but also assure the non-stop LAN connection for the business envionment. For that no fan means no moving part which is the most vulnerable part in the electronic device.

## 1.1. Model Description

Model Name	Description
AND-DNV3N1-04F	Intel Atom C3558 (4-core) SoC, 4 GbE Copper (1-pair bypass), 2x SFP+, 2x USB 3.0, 1x 2.5" SATAIII, 1x mPCIe socket (for WLAN) and 1x M.2B (for 2x 4G LTE or 2242 SSD), and 1x 12V DC-In.
AND-DNV3N1- 4C	Intel Atom C3558 (4-core) SoC, 8 GbE Copper, 2x SFP+, 2x USB 3.0, 1x 2.5" SATAIII, 1x mPCIe socket (for WLAN) and 1x M.2B (for 2x 4G LTE or 2242 SSD), and 1x 12V DC-In.
AND-DNV3N1- 4C1	Intel Atom C3558 (4-core) SoC, 8 GbE Copper (1-pair bypass), 2x SFP+, 2x USB 3.0, 1x 2.5" SATAIII, 1x mPCIe socket (for WLAN) and 1x M.2B (for 2x 4G LTE or 2242 SSD), and 1x 12V DC-In.
AND-DNV3N1-02	Intel Atom C3308 (2-core) SoC, 4 GbE Copper (1-pair bypass), 2 USB 2.0, 1x 2.5" SATAIII, 1x M.2B (for 4G LTE), 1x DC-In.

## 1.2. Specifications

(Specifications are subject to change without notice.)

### General

<b>Thermal Solution</b>	<ul style="list-style-type: none"> <li>Fanless Design</li> </ul>															
<b>CPU</b>	<ul style="list-style-type: none"> <li>Intel® Denverton® C3558 4 cores, 2.2GHz</li> <li>Intel® Denverton® C3308 2 cores, 1.6GHz</li> </ul>															
<b>Memory</b>	<ul style="list-style-type: none"> <li>1x SO-DIMM DDR4</li> </ul>															
<b>BIOS</b>	<ul style="list-style-type: none"> <li>Support Console Re-direction</li> <li>Support Bypass Setting</li> </ul> <table border="1" data-bbox="468 512 1065 671"> <thead> <tr> <th>Status</th> <th>Normal</th> <th>Bypass</th> </tr> </thead> <tbody> <tr> <td>SYS (ON)</td> <td>√</td> <td></td> </tr> <tr> <td>SYS (OFF)</td> <td></td> <td>√</td> </tr> <tr> <td>WDT (Timeout)</td> <td></td> <td>√</td> </tr> <tr> <td>PWR (Lost)</td> <td colspan="2">Remained prior status</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>Support PXE boot from all RJ-45 Coppers</li> </ul>	Status	Normal	Bypass	SYS (ON)	√		SYS (OFF)		√	WDT (Timeout)		√	PWR (Lost)	Remained prior status	
Status	Normal	Bypass														
SYS (ON)	√															
SYS (OFF)		√														
WDT (Timeout)		√														
PWR (Lost)	Remained prior status															

### Network Interface

<b>Ethernet (on-board)</b>	<ul style="list-style-type: none"> <li>For C3308: 4x Copper, Intel i210, LAN [1: 4]</li> <li>For C3538: 8x Copper or 4x Copper + 2x 10G Fiber Intel i210, LAN [1: 8] Copper or Intel i210, LAN [1:4] &amp; SoC embedded SFI, SFP+[1:2]</li> </ul>
<b>LAN bypass (1-pair)</b>	<ul style="list-style-type: none"> <li>LAN bypass by LAN[1:2]</li> </ul>

### Storage

<b>HDD Bay</b>	<ul style="list-style-type: none"> <li>1x 2.5" Internal HDD Bay</li> </ul>
<b>M.2 NVME</b>	<ul style="list-style-type: none"> <li>1x M.2B socket for 2242 SSD (for C3558)</li> </ul>

### I/O

<b>Front Panel</b>	<ul style="list-style-type: none"> <li>8x Ethernet Link/Act LED</li> <li>8x Ethernet 1000M LED</li> <li>2x SFP+ Link LED</li> <li>2x SFP+ Act LED</li> <li>1x Sys Power LED (12V)</li> <li>1x Storage LED</li> <li>1x LAN Bypass LED</li> </ul>
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<b>Rear Panel</b>	<ul style="list-style-type: none"><li>• 1x Reset button</li><li>• 2x USB 3.0</li><li>• 1x RJ45 Console port</li><li>• 2x SFP+(For C3558)</li><li>• 8x or 4x GbE LAN (Copper)</li><li>• 5x SMA for WLAN &amp; WWAN (IEEE 802.11 a/b/g/n/ac &amp; 4G LTE)</li><li>• 1x DC-in connector (12V)</li></ul>
<b>Internal I/O</b>	<ul style="list-style-type: none"><li>• 1x mini-PCIe connector (for Wi-Fi IEEE 802.11 a/b/g/n/ac 3T3R module)</li><li>• 1x M.2B connector (w USB 2.0+3.0 signal &amp; SATA3, for 4G module or 2242 SSD) with 2 SIM socket</li><li>• 1x SATA3+power connectors</li><li>• GPIO pin header</li></ul>

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## Other Features

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<b>Watchdog Timer</b>	<ul style="list-style-type: none"><li>• Software programmable 0~255 Seconds, 0=disable timer.</li></ul>
<b>Battery</b>	<ul style="list-style-type: none"><li>• Lithium Battery, 3V 220mAH (CR2032), for RTC</li></ul>
<b>Hardware Monitoring</b>	<ul style="list-style-type: none"><li>• CPU Voltage</li><li>• CPU Temperature</li><li>• System Temperature</li></ul>
<b>Security &amp; Mgmt.</b>	<ul style="list-style-type: none"><li>• On-board TPM 2.0 (Not for AND-DNV3N1-4C, AND-DNV3N1-4C1)</li></ul>

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## Power Requirement

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<b>Power Adapter</b>	<ul style="list-style-type: none"><li>• 12VDC, 40W Adapter</li></ul>
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## Software

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<b>OS Support</b>	<ul style="list-style-type: none"><li>• Linux Kernel 4.4 &amp; above, (64-bit)</li></ul>
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## Mechanical & Environment

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<b>Dimension</b>	<ul style="list-style-type: none"><li>• 250(L) x 165(W) x 44(H) mm</li></ul>
<b>Operating Temperature</b>	<ul style="list-style-type: none"><li>• 0 ~ 40°C (32 ~ 104°F)</li></ul>
<b>Storage Temperature</b>	<ul style="list-style-type: none"><li>• -20 ~ 80°C (-4 ~ 176°F)</li></ul>
<b>Relative Humidity</b>	<ul style="list-style-type: none"><li>• 0 to 90% @40°C, non-condensing</li></ul>

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## EMC & Safety

<b>Certification</b>	• CE, FCC Class A, RoHS 2, cULus
<b>Vibration Test</b>	• IEC 60068-2-64, 5~500Hz, 3GRMS
<b>Drop Test</b>	• ISTA-2A 2006

## 1.3. Package Contents

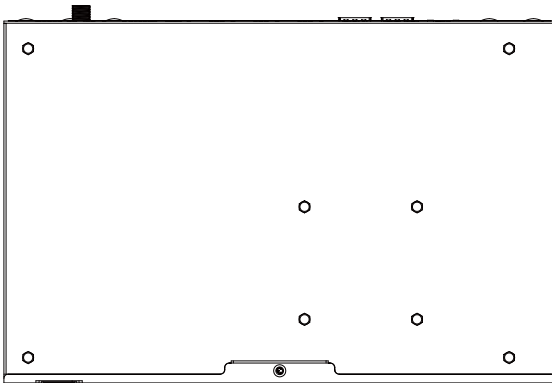
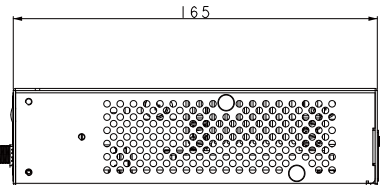
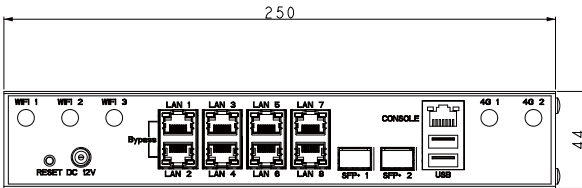
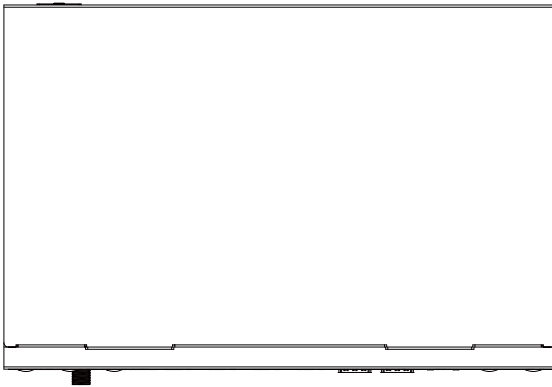
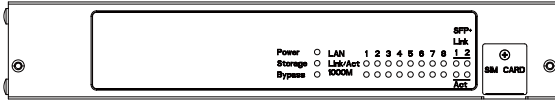
Check if the following items are included in the package.

	<b>Item</b>	<b>Q'ty</b>
<input type="checkbox"/>	AND-DNV3N1 System	1
<input type="checkbox"/>	Power Adapter (12V)	1
<input type="checkbox"/>	Power Cord	1
<input type="checkbox"/>	Screw Pack	1

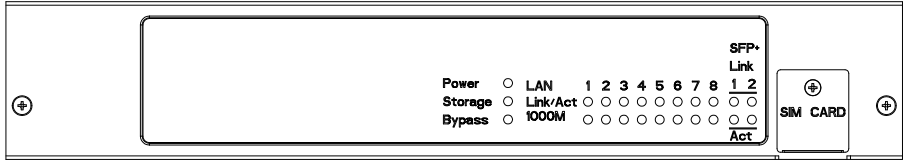
# 1.4. System Dissection

## 1.4.1. Dimensions

(Unit: mm)



### 1.4.2. Front I/O Panel



- **Power**  
System Power LED
- **Storage**  
Storage Active LED
- **Bypass**  
LAN Bypass LED
- **LAN 1~8**  
IEEE802.3 Status LED

	LED	Light	Display
	G	Green	Link with Activity
	Y	Yellow	1000Mbps

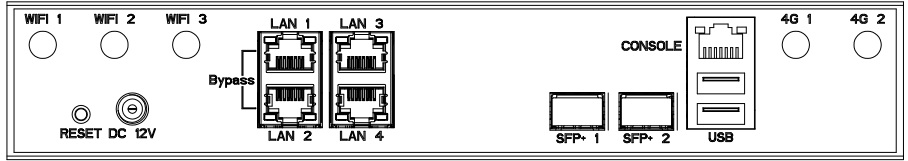
- **SFP+ 1~2**  
SFP+ 1~2 Link/Active LED

	LED	Light	Display
	G	Green	LINK LED
	Y	Yellow	ACTIVE LED

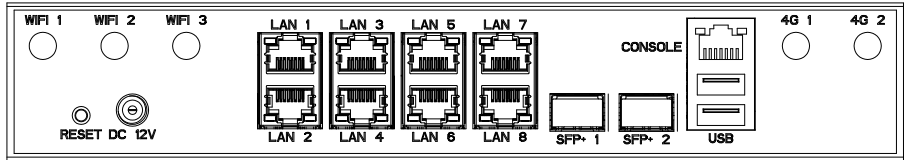
- **SIM CARD**  
Standard SIM Card Socket

### 1.4.3. Rear I/O Panel

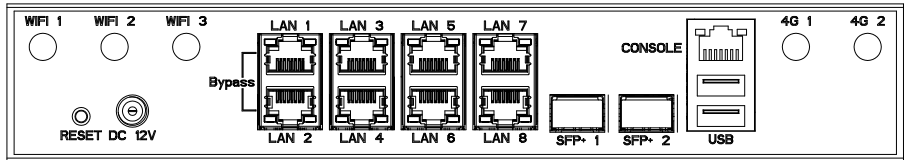
#### AND-DNV3N1-04F



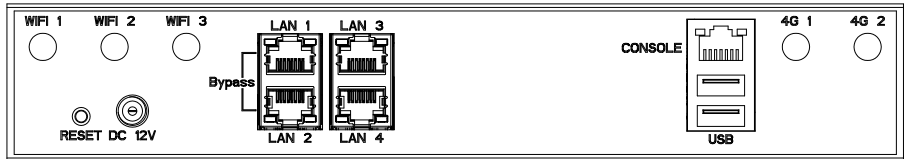
#### AND-DNV3N1-4C



#### AND-DNV3N1-4C1



#### AND-DNV3N1-02



- **WIFI 1~3, 4G 1~2**  
SMA Antenna Hole. Reserved for optional Wi-Fi / BT, 4G LTE antenna.
- **RESET**  
Reset Button
- **DC 12V**  
DC12V Power Input

- **LAN1 ~ LAN8**

Standard IEEE802.3 & RJ45 connector

	<b>LED</b>	<b>Light</b>	<b>Status</b>
	<b>Left</b>	Green (Blink)	Link with Activity
	<b>Right</b>	Off	10Mbps
		Yellow	100Mbps
Green		1000Mbps	

- **SFP1 ~ SFP2**

Standard SFP+ Connector for 10G LAN

- **Console**

Console Port (RJ45)

Pin #	Signal	Pin #	Signal
1	RTS	5	GND
2	DTR	6	RxD
3	TxD	7	DSR
4	GND	8	CTS

- **USB**

Standard USB Port



## 2. Components Assembly

Please follow the instruction to install the inner modules.

### 2.1. SIM Card Installation

Step 1: Remove the screw on the SIM Card cover plate.



Step 2: Take down the SIM Card cover plate.



Step 3: Insert the SIM card.



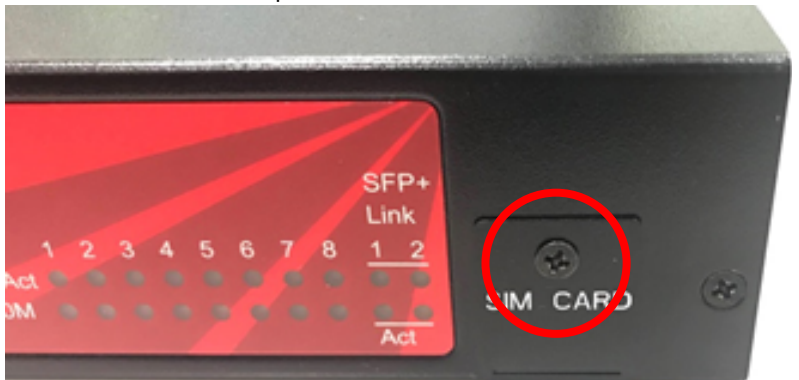
Step 4: Push the SIM card into the socket until it docks in locked position.



Step 5: Put the the SIM Card cover plate back.



Step 6: Lock the SIM Card cover plate with screw.



## 2.2. Open up Top Cover

Step 1: Remove the screw that lock the bottom cover.



Step 2: Remove the screws that lock at the front side.



Step 3: Push forward the top cover to open it.



Step 4: Opem up the top cover.



## 2.3. Memory Module Installation

Step 1: Insert the memory module into the slot.



Step 2: Push the module down into the slot until it docks in locked position.





## 2.4. 4G & WiFi Module Installation

Step 1: Insert the 4G module into socket and lock with screw.



Step 2: Connect with RF Cables.



Step 3: Insert the WiFi module into socket and lock with screw.



Step 4: Connect with RF Cables.



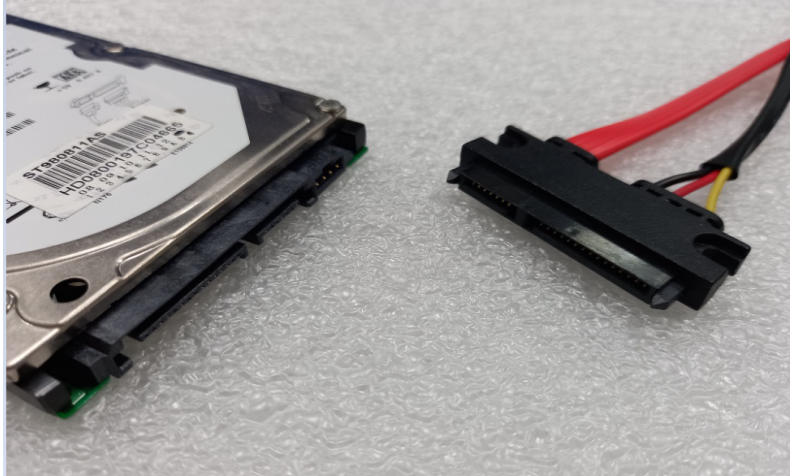
Step 5: Insert antennas according to the panel allocation.  
4G 1, 4G 2 attach with 4G LTE antenna.  
WiFi 1, WiFi 2, and WiFi 3 attach with WiFi antenna.



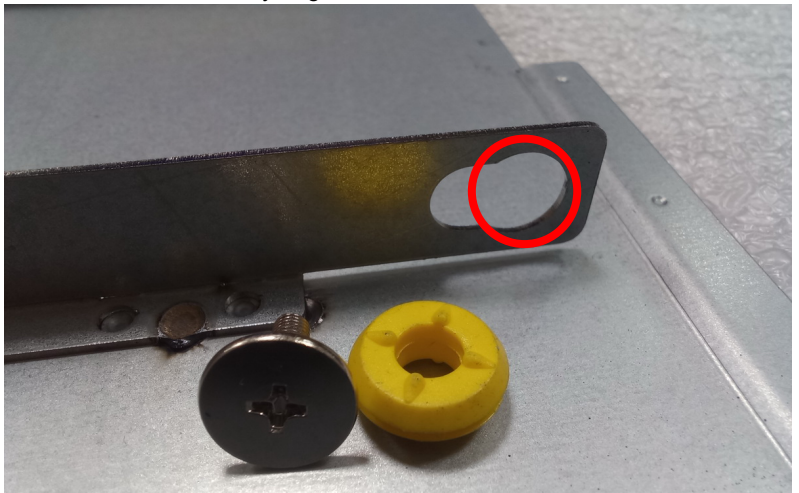


## 2.5. Hard Disk & Top Cover Installation

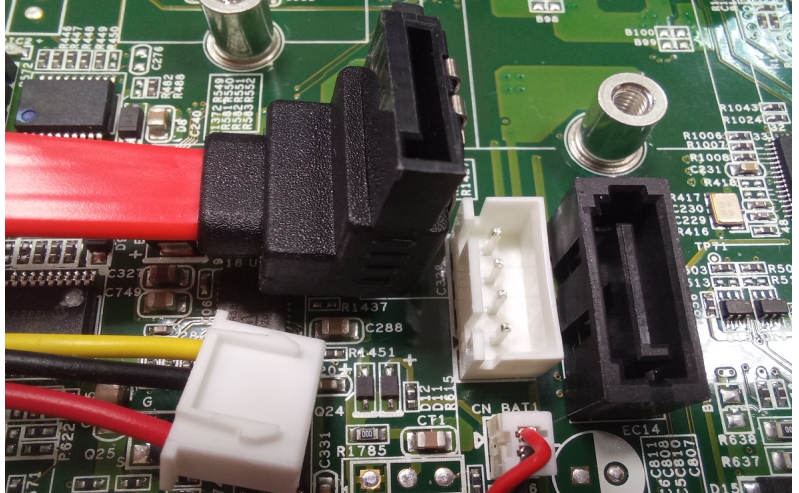
Step 1: The hard drive uses SATA 2.5" type. Connect the hard drive with SATA cable and SATA power cable taken out from the accessory bag, and then fixed it to the top cover. When using HDD 9mm, please place the front side facing the mainboard and fix screws at 4 sides.



Step 2: Before fixing the hard disk, stuff the yellow anti-vibration wire loop in the small circle first, and then use a cross screwdriver to fix the hard disk with screws on 4 sides. The yellow anti-vibration wire loop and the screws are included in the accessory bag.



- Step 3: Connect the SATA cable/SATA power cable to the mainboard. The end of SATA cable is black, SATA power cable is white. Please connect it according to the fool-proof design.



Use cable tie to bundle SATA cable and power cable.



- Step 4: Close the top cover.  
Push the top cover inward until it docks into the slot.



- Step 5: Lock the chassis with screws.



### 3. BIOS Settings

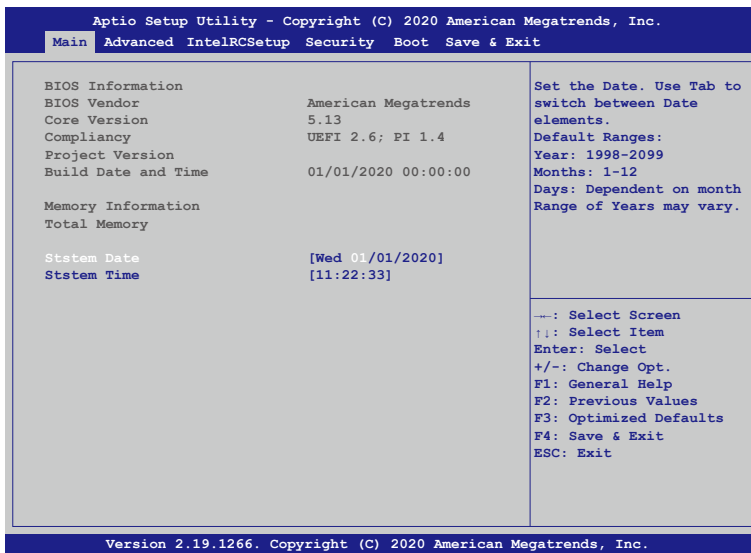
This chapter describes the BIOS menu displays and explains how to perform common tasks needed to get the system up and running. It also gives detailed explanation of the elements found in each of the BIOS menus. The following topics are covered:

- Main Setup
- Advanced Setup
- IntelRCSetup Setup
- Security Setup
- Boot Setup
- Save & Exit Setup

Once you enter the Award BIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. Use the arrow keys to highlight the item and then use the <Pg Up> <Pg Dn> keys to select the value you want in each item.

#### 3.1. Main Setup

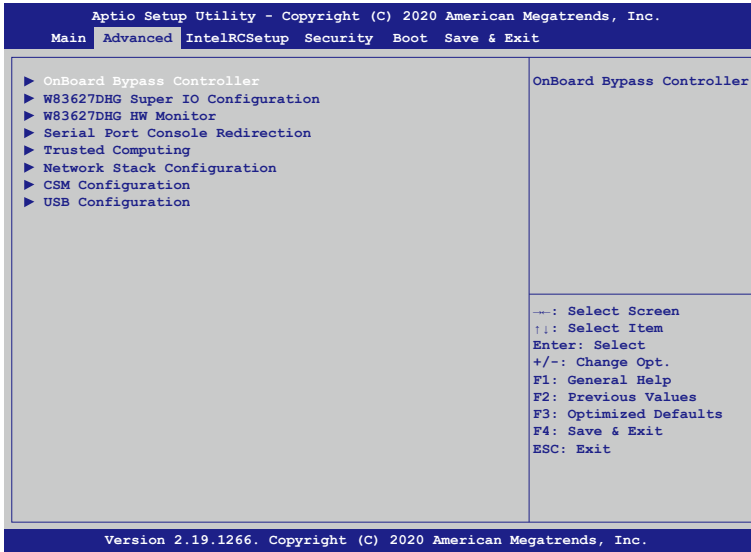
The BIOS setup main menu includes some options. Use the [Up/Down] arrow key to highlight the option, and then press the <Enter> key to select the item and configure the functions.



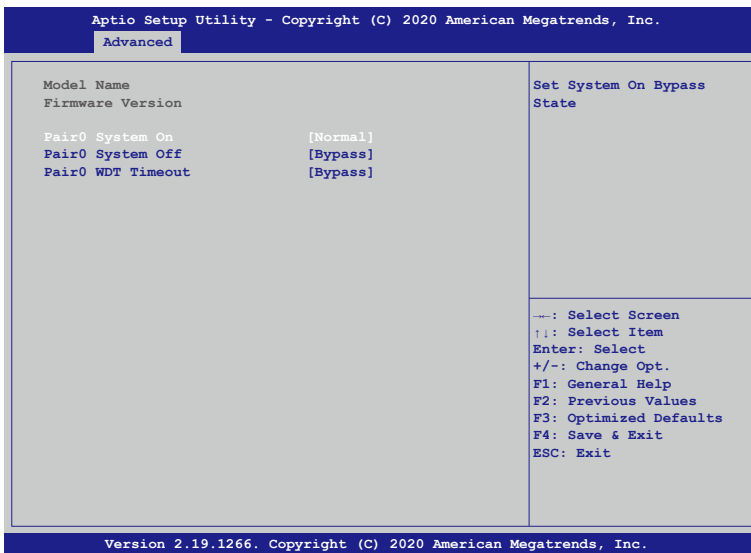
*Note:* Listed at the bottom of the menu are the control keys. If you need any help with the item fields, you can press <F1> key, and it will display the relevant information.

- **Total Memory**  
This item displays the total size of memory available in the system.
- **System Date/System Time**  
Use this option to change the system date and time. Highlight System Date or System Time using the arrow keys. Enter new values using the keyboard. Press the key or the arrow keys to move between fields. The date must be entered in MM/DD/YYYY format. The time is entered in HH:MM:SS format.

## 3.2. Advanced Setup



### 3.2.1. Advanced Setup: OnBoard Bypass Controller



- **Pair0 System On**  
 Each Pair Lan[a] and Lan[b] Bypass State Setting, System On /System off /WDT timeout State.

[Normal] Lan[a] and Lan[b] work on normal mode.  
 [Bypass] Lan[a] data will bypass to Lan[b].

### 3.2.2. Advanced Setup: W83627DHG Super IO Configuration



- **Serial Port 1 Configuration**  
 Set Parameters of Serial Port 1 (COMA).



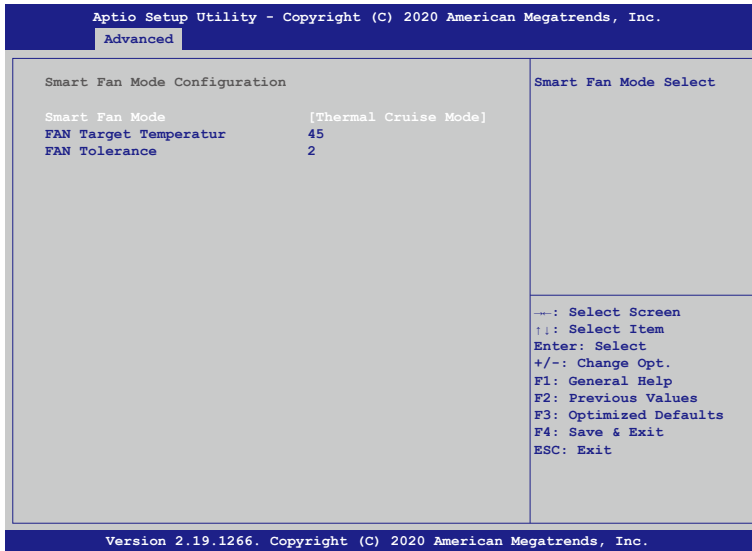
- **Serial Port**  
Select Enabled to enable the onboard serial port.
- **Change Settings**  
This option specifies the base I/O port address and the interrupt Request address of Serial Port.  
Select [Auto] to let the BIOS automatically assign the base I/O and IRQ address.

### 3.2.3. Advanced Setup: W83627DHG HW Monitor



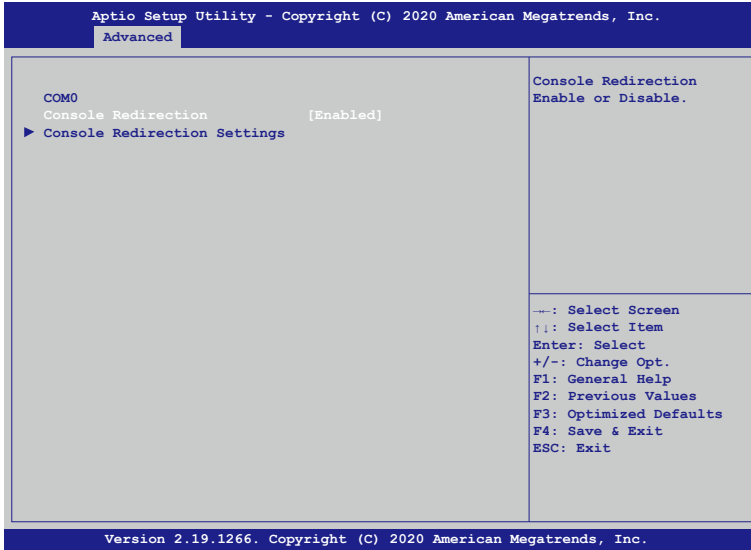
- **Smart Fan Mode Configuration**  
Enable or Disable Smart Fan.





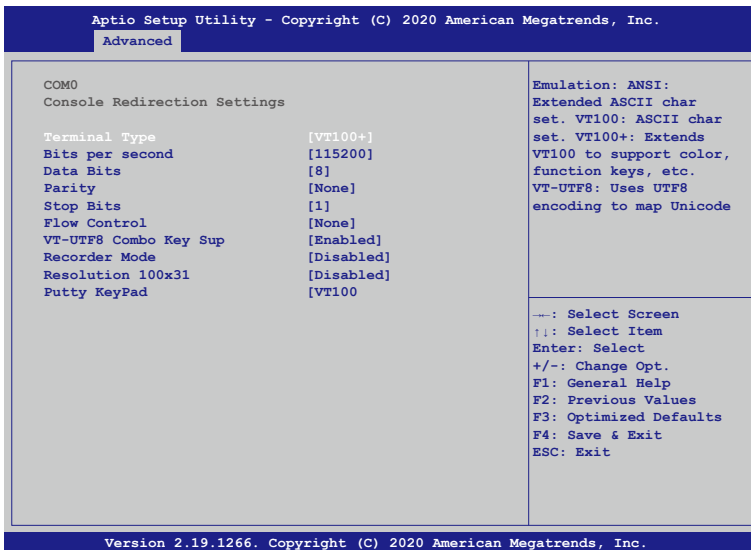
- **Smart Fan Mode**  
 [Thermal Cruise Mode] : You can adjust FAN Target Temperatur and FAN Tolerance manually. If CPU temp is lower than target temp-tolerance, the fan will run at low fan speed. If CPU temp is higher than target temp+tolerance, the fan will run at full fan speed.  
 [Manual Mode] : You can set fixed fan speed.
- **FAN Target Temperature**  
 Input a target temperature between 0 ~ 127°C.
- **FAN Tolerance**  
 Input a target temperature tolerance.

### 3.2.4. Advanced Setup: Serial Port Console Redirection



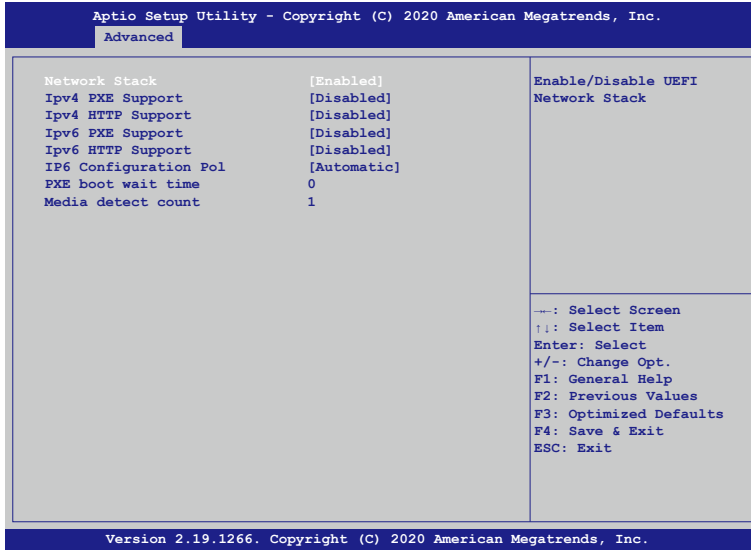
- **Console Redirection**

Use this option to enable or disable Console Redirection. If this item is set to Enabled, you can select a COM Port to be used for Console Redirection.



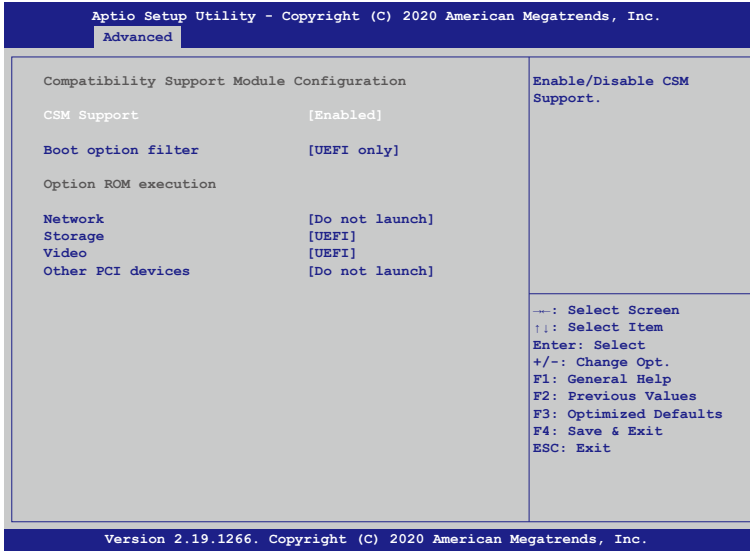
- **Terminal Type**  
Use this item to select the preferred terminal emulation type for out-of-band management.
- **Bits per second**  
Use this item to select the serial port transmission speed. The speed used in the hostcomputer and the client computer must be the same. Long or noisy lines may require lower transmission speed. The options include [9600], [19200], [57600] and [115200].
- **Data Bits**  
Use this item to set the data transmission size. The options include [7] and [8] (Bits).
- **Parity**  
Use this item to select the parity bit. The options include [None], [Even], [Odd], [Mark] and [Space].
- **Stop Bits**  
The item indicates the end of a serial data packet. The standard setting is [1] Stop Bit. Select [2] Stop Bits for slower devices.
- **Flow Control**  
Use this item to set the flow control to prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a “stop” signal can be sent to stop the data flow. Once the buffers are empty, a “start” signal can be sent to restart the flow. Hardware flow uses two wires to send start/stop signals. The options include [None] and [HardwareRTS/CTS].
- **VT-UTF8 Combo Key Support**  
Use this item to enable or disable the VT-UTF8 Combo Key Support for ANSI/VT100 terminals.
- **Recorder Mode**  
Use this item to enable or disable Recorder Mode to capture terminal data and send it as text messages.
- **Resolution 100x31**  
Use this item to enable or disable extended terminal resolution support.
- **Putty KeyPad**  
Use this item to select Function Key and Keypad on Putty.

### 3.2.5. Advanced Setup: Network Stack Configuration



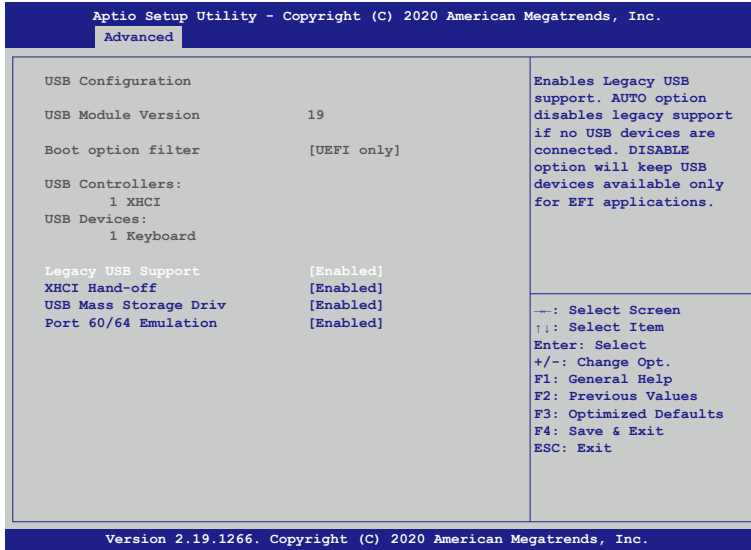
- **Ipv4 PXE Support**  
Enable or disable the Ipv4 PXE support.
- **Ipv4 HTTP Support**  
Enable or disable the Ipv4 HTTP support.
- **Ipv6 PXE Support**  
Enable or disable the Ipv6 PXE support.
- **Ipv6 HTTP Support**  
Enable or disable the Ipv6 HTTP support.
- **PXE boot wait time**  
Click ESC key to cancel the PXE boot wait time.
- **Media detect count**  
Set up the media detecting wait time by seconds.

### 3.2.6. Advanced Setup: CSM Configuration



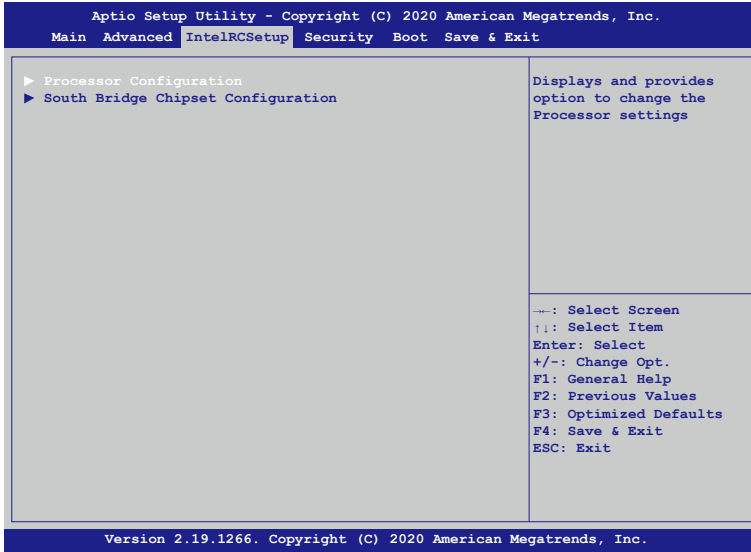
- **CSM Support**  
Use this feature to set the compatibility Option ROM. The options are Enabled, and Disabled. Disabled is the default option.
- **Boot option filter**  
Use this item to control the Legacy/UEFI memory sequence. Options are: [UEFI and Legacy], [Legacy only], [UEFI only].
- **Network**  
This item provides control of the operation UEFI and regular PXE/Storage/Video, randomly read memory (OpROM). Options are: [UEFI], [Legacy], [Do not Launch].

### 3.2.7. Advanced Setup: USB Configuration



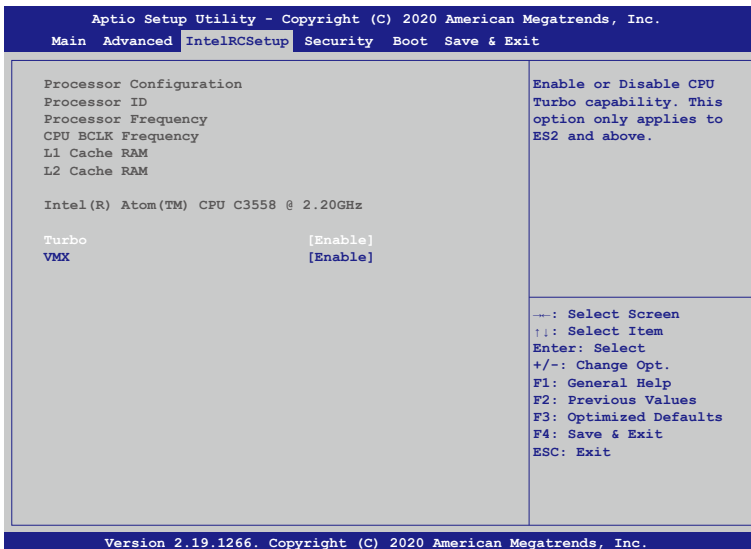
- Legacy USB Support**  
 Select Enabled to support onboard legacy USB devices. Select Auto to disable legacy support if there are no legacy USB devices present. Select Disable to have all USB devices available for EFI applications only.
- XHCI Hand-off**  
 This is a work-around solution for operating systems that do not support XHCI (Extensible Host Controller Interface) hand-off. The XHCI ownership change should be claimed by the XHCI driver.
- USB Mass Storage Driv**  
 Select Enabled for USB Mass Storage Driver support.
- Port 60/64 Emulation**  
 Select Enabled for I/O port 60h/64h emulation support, which in turn, will provide complete legacy USB keyboard support for the operating systems that do not support legacy USB devices.

### 3.3. IntelRCSetup



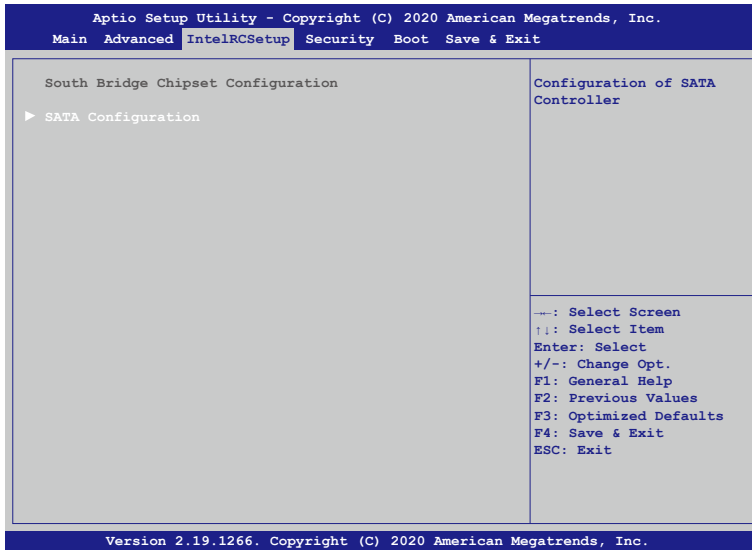
- **Processor Configuration**  
Displays and provides option to change the Processor Settings.

#### 3.3.1. IntelRCSetup: Processor Configuration



- **Turbo**  
This feature allows processor cores to run faster than marked frequency in specific conditions.
- **VMX**  
Enable or Disable Intel Virtual Machine Extensions (VMX) for IA-32 processors that support Intel® Vanderpool Technology.

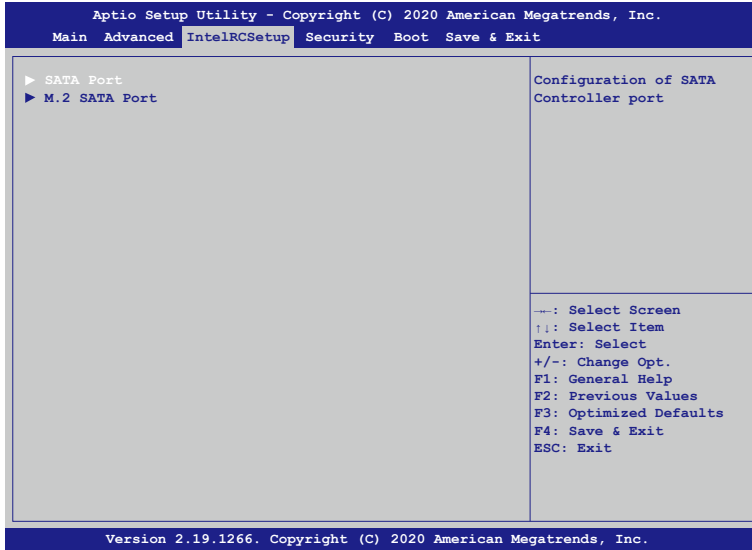
### 3.3.2. IntelRCSetup: South Bridge Chipset Configuration



- **SATA Configuration**  
Configuration of SATA Controller.

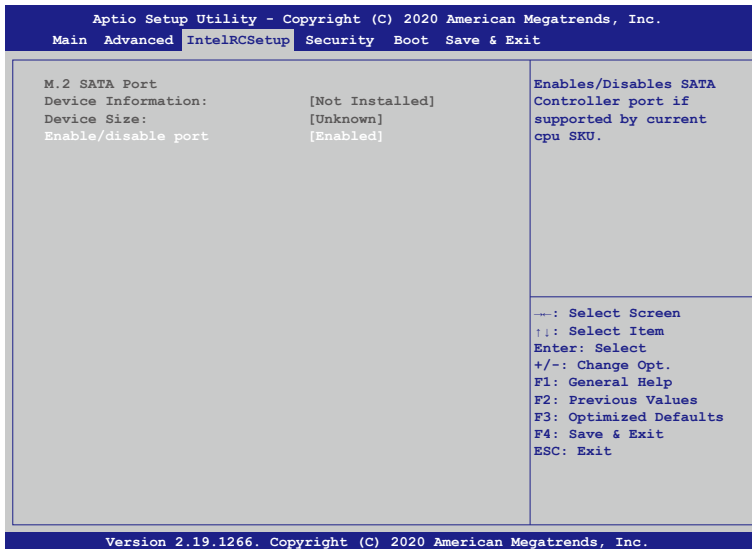


### 3.3.3. IntelRCSetup: SATA Port



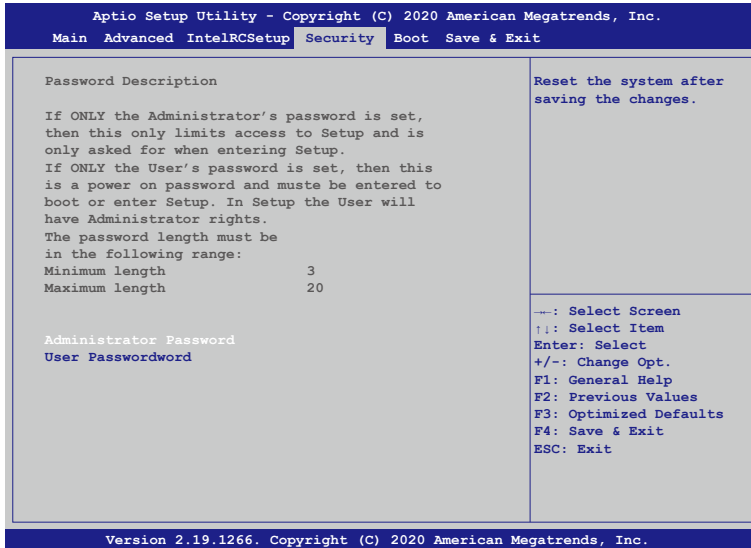
- **SATA Port**  
Configuration of SATA Controller port.

### 3.3.4. IntelRCSetup: M.2 SATA Port



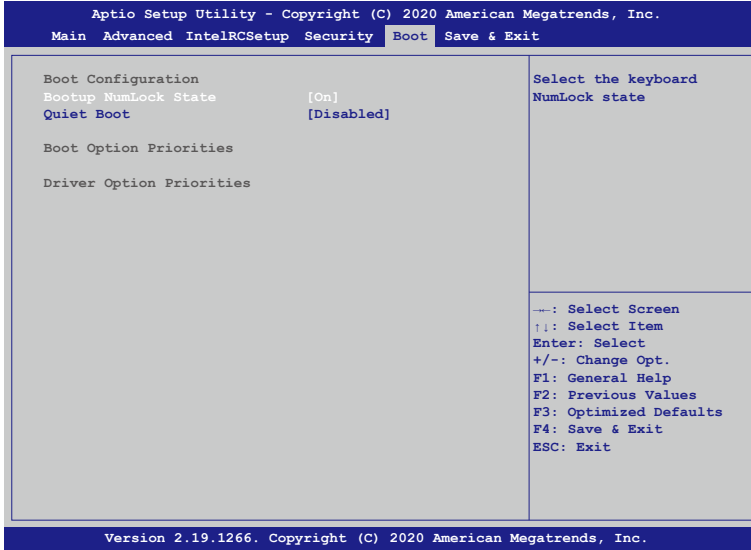
- **Enable/disable port**  
Enables/Disables SATA Controller port if supported by current cpu SKU.

### 3.4. Security Setup



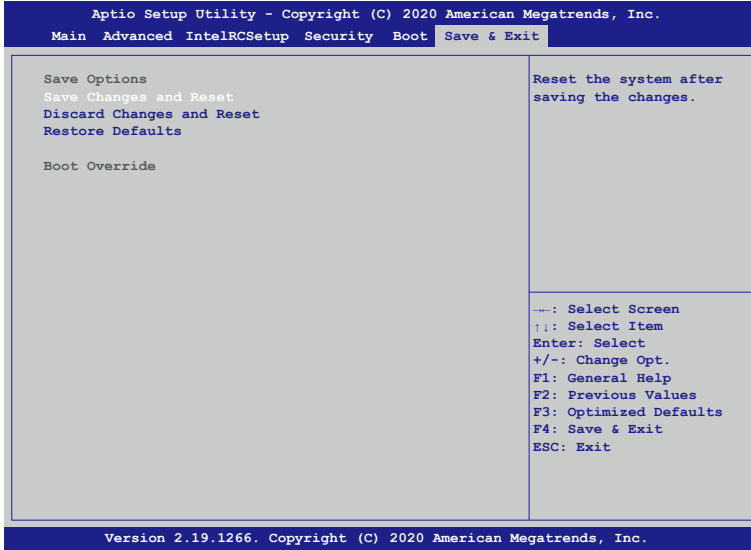
- **Setup Administrator Password**  
Press Enter to create a new, or change an existing Administrator password.
- **User Password**  
Press Enter to create a new, or change an existing User password.

### 3.5. Boot Setup



- Bootup NumLock State**  
 This feature selects the Power-on state for the Numlock key.
- Quiet Boot**  
 Use this feature to select the screen display between POST messages or the OEM logo at bootup. Select Disabled to display the POST messages. Select Enabled to display the OEM logo instead of the normal POST messages.
- Boot Option Priorities**  
 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 Setup



- Save Changes and Reset**  
When you have completed the system configuration changes, select this option to save all changes made and reset the system.
- Discard Changes and Exit**  
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>.
- Restore Optimized Defaults**  
To set this feature, select Restore Optimized Defaults and press <Enter>. These are factory settings designed for maximum system performance but not for maximum stability.
- Boot Override**  
This feature allows the user to override the Boot Option Priorities sequence in the Boot menu and immediately boot the system with another device specified by the user. This is a onetime override.

## 4. Software Installation and Programming Guide

### 4.1. Introduction

#### 4.1.1. Environment

This test utility develop is based on kernel 4.8 above (Ubuntu 18.04.1 Server 64bit).

#### 4.1.2. GPIO

The AND-DNV3N1 series provides GPIO interface. Users can use the GPIO APIs to control GPO Pin.

#### 4.1.3. Watchdog

The AND-DNV3N1 series provides a Watchdog Timer. Users can use the Watchdog APIs to configure and to access the Watchdog timer. The Watchdog timer can be set to 1~255 seconds. Setting the timer to zero disables the timer. The remaining seconds of the timer to reboot can be read from the timer.

#### 4.1.4. LAN Bypass Subsystem

Two pairs of LAN ports on AND-DNV3N1 series implements the bypass function. Users can invoke the LAN Bypass APIs to control the bypass states of the LAN ports.

1. Get bypass firmware version.
2. Set bypass wdt.
3. Set bypass wdt action.
4. Get bypass wdt action.
5. Set bypass power on action.
6. Get bypass power on action.
7. Set bypass power off action.
8. Get bypass power off action.
9. Set bypass current action.
10. Get bypass current action.

## 4.2. File Descriptions

### 4.2.1. GPIO/Watchdog/LAN Bypass Subsystem Module

**1. TestUtility.exe**

The GPIO, Watchdog, Lan Bypass Subsystem bin binary.

**2. Libw83627.h**

This file includes the declarations of the APIs and macro definitions.

**3. Libw83627.a**

The static library for linux.

**4. Libw83627.so**

The dynamic library for linux.

**5. Install\_driver**

This file is linux shell script file. Run this file can help you install environment and modprobe driver on linux.

**6. readme**

Use this utility first. Please read the readme file first.

## 4.3. API List and Descriptions

### 4.3.1. GPIO

<b>Syntax:</b>	<b>Get_gpi_status(int pin)</b>
<b>Description:</b>	Get the status of GPIO input pins status.
<b>Parameters:</b>	This function fills in an integer variable as the parameter. The pin0 ~ pin1 is the status of the input pins.
<b>Return Value:</b>	1: HIGH, 0: LOW.

<b>Syntax:</b>	<b>Get_gpo_status(int pin)</b>
<b>Description:</b>	Get the status of GPIO output pins status.
<b>Parameters:</b>	This function fills in an integer variable as the parameter. The pin0 ~ pin1 is the status of the output pins.
<b>Return Value:</b>	1: HIGH, 0: LOW.

<b>Syntax:</b>	<b>Set_gpo(int pin, int value)</b>
<b>Description:</b>	Set the status of GPIO output value.
<b>Parameters:</b>	Set value 0 is Low, 1 is High
<b>Return Value:</b>	If the function sets the values successfully, it returns 0 or -1, any other returned value stands for error.

### 4.3.2. Watchdog

<b>Syntax:</b>	<b>Void wdt_start(int _timevalue)</b>
<b>Description:</b>	This function gets the watchdog timer register to the timevalue and starts to count down.
<b>Parameters:</b>	The parameter 'val' is the value to set to watchdog timer register. The range is 1 ~ 255.
<b>Return Value:</b>	This function returns the value of the time counter and returns it to the caller as an unsigned integer.

<b>Syntax:</b>	<b>Void wdt_stop(void)</b>
<b>Description:</b>	This function sets the watchdog timer stop.
<b>Parameters:</b>	None.
<b>Return Value:</b>	None.

### 4.3.3. LAN Bypass Subsystem

<b>Syntax:</b>	<b>int get_bypass_firmware_ver(char *ver)</b>
<b>Description:</b>	This function can get bypass firmware version and data to save in char pointer.
<b>Parameters:</b>	char pointer, this pointer to 16 character array.
<b>Return Value:</b>	0: Successful, -1: fail.

<b>Syntax:</b>	<b>int set_bypass_wdt(int pair, int time)</b>
<b>Description:</b>	This function can set which pair bypass Wdt timer.
<b>Parameters:</b>	pair: 1-4 , time: 1-255(sec), 0:stop.
<b>Return Value:</b>	0: Successful, -1: fail.

**Syntax:** `int set_bypass_wdt_action(int pair, int action)`

**Description:** This function can set which pair bypass Wdt time up action.

**Parameters:** pair: 1-4 , action: 0:bypass, 1:normal

**Return Value:** 0: bybpass, 1: normal, -1: fail.

**Syntax:** `int get_bypass_wdt_action(int pair)`

**Description:** This function can get which pair bypass Wdt time up action.

**Parameters:** pair: 1-4

**Return Value:** 0: bybpass, 1: normal, -1: fail.

**Syntax:** `int set_bypass_poweron_action(int pair, int action)`

**Description:** This function can set which pair bypass power on action.

**Parameters:** pair: 1-4, action: 0: bypass, 1: normal.

**Return Value:** 0: Successful, -1: fail.

**Syntax:** `int get_bypass_poweron_action(int pair)`

**Description:** This function can get which pair bypass power on action.

**Parameters:** pair: 1-4.

**Return Value:** 0: bybpass, 1: normal, -1: fail.

**Syntax:** `int set_bypass_poweroff_action(int pair, int action)`

**Description:** This function can set which pair bypass power off action.

**Parameters:** pair: 1-4, action: 0: bypass, 1: normal.

**Return Value:** 0: Successful, -1: fail.

**Syntax:** `int get_bypass_poweroff_action(int pair)`

**Description:** This function can get which pair bypass power off action.

**Parameters:** pair: 1-4.

**Return Value:** 0: bybpass, 1: normal, -1: fail.



<b>Syntax:</b>	<b>int set_bypass_current_action(int pair, int action)</b>
<b>Description:</b>	This function can set which pair bypass current action.
<b>Parameters:</b>	pair: 1-4, action: 0: bypass, 1: normal.
<b>Return Value:</b>	0: bypass, -1: fail.

<b>Syntax:</b>	<b>int get_bypass_current_action(int pair)</b>
<b>Description:</b>	This function can get which pair bypass current action.
<b>Parameters:</b>	pair: 1-4.
<b>Return Value:</b>	0: bypass, 1: normal, -1: fail.

#### 4.3.4. Notes

<b>Syntax:</b>	<b>int libw83627_init(void)</b>
<b>Description:</b>	use the watchdog, gpio function before, must be call this function first.
<b>Parameters:</b>	None.
<b>Return Value:</b>	0: Successful, -1: Fail

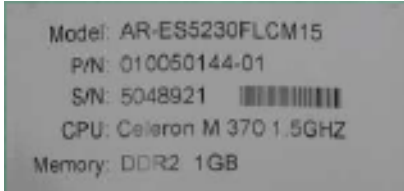
<b>Syntax:</b>	<b>void lib_close(void)</b>
<b>Description:</b>	if watchdog, gpio fuction not use on your program, please call this function.
<b>Parameters:</b>	None.
<b>Return Value:</b>	None.

*Note: If you want to control the LAN module bypass on the LAN card purchased from Accrosser, be sure to take "7" Module H as the module reference for programming.*

## 5. FAQ

### Q 1. Where is the serial number located on my system?

- The serial number (S/N) is an alpha-numeric character located on the bottom or side chassis.



(for reference only)

### Q 2. How to active the second SIM card SIERRA EM7455/EM7430 ?

- Make sure the second SIM card (UIM2) is enabled by check AT!CUSTOM?

UIM2ENABLE	0-1	Disable/Enable UIM2 slot support 0 - Not enabled (default) 1 - Enabled
------------	-----	--

- Make sure SIM hot swap for both SIMs (UIM1 & UIM2).

SIMHOTSWAPDIS	0-3	Configure SIM hotswap feature on UIM1 and/or UIM2 <b>0 - enable UIM1 and UIM2</b> 1 - disable UIM1 while enable UIM2 2 - disable UIM2 while enable UIM1 3 - disable UIM1 and UIM2
---------------	-----	---

Use AT!UIMS to select active SIM between the two SIM cards.

Argument	Range	Description
<uim_slot>	0-1	Selection of active SIM Card: 0 - UICC1: External UIM Interface 1 1 - UICC2: External UIM Interface 2

### Q 3. How to active the second SIM card Quectel EM06-A/EM06-E 4G ?

- AT+QDSIM=?**  
+QDSIM: (0,1) //List the number of currently supported card slots  
OK
- AT+QDSIM?**  
+QDSIM: 0 //The current card slot is 1  
OK
- AT+QDSIM=1** //Switch to card slot 2  
OK

//reboot module

- **AT+QDSIM?**  
+QDSIM: 1 //Enable SIM error reports  
OK
- The configuration will be automatically saved to NVRAM.
- This function takes effect after restart.

## Technical Support Form

We deeply appreciate your purchase of Acrosser products. Please find the “**tech\_form.doc**” file in our utility CD. If you have any questions or problems about Acrosser products, please fill in the following information. We will answer your questions in the shortest time possible.

### Describe Your Info and Acrosser System Info

- Your Company Name: \_\_\_\_\_
- Your Contact Info: \_\_\_\_\_ Phone Number: \_\_\_\_\_
- Your E-Mail Address: \_\_\_\_\_
- Your Company Address: \_\_\_\_\_  
\_\_\_\_\_
- Acrosser Model Name: \_\_\_\_\_
- Acrosser Serial Number: \_\_\_\_\_

### Describe System Configuration

- CPU Type: \_\_\_\_\_
- Memory Size: \_\_\_\_\_
- Storage Device (e.g. HDD, CF, or SSD): \_\_\_\_\_
- Additional Peripherals (e.g. Graphic Card): \_\_\_\_\_
- Operating System & Version (e.g. Windows 7 Embedded): \_\_\_\_\_
- Special API or Driver: \_\_\_\_\_  
(If yes, please provide it for debug.)
- Running Applications: \_\_\_\_\_
- Others: \_\_\_\_\_

### Describe Your Problems or Questions:

### Send the above information to one of the following Acrosser contacts:

- Acrosser Local Sales Representative
- Acrosser Authorized Sales Channels
- Acrosser Inquiry --- <http://www.acrosser.com/inquiry.html>
- Acrosser FAX Number --- 886-2-29992887

# To Make Your **Embedded** Idea a Reality



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