

# **R3/R4 Motherboard (with UEFI BIOS)**

User Manual

01750356875A



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# 1 Symbols



## **DANGER**

This warning note describes a hazard with a high degree of risk, which, if not avoided, will result in death or grave bodily injury.



## **WARNING**

This warning note describes a hazard with a medium degree of risk, which, if not avoided, will result in death or grave bodily injury.



## **CAUTION**

This warning note describes a hazard with a low degree of risk, which, if not avoided, will result in death or grave bodily injury.



## **NOTE**

This note provides application tips and information that help prevent errors and material damage.

---

## 2 Important notes

Take note of the following precautions before you install motherboard components or change any motherboard settings.

Unplug the power cord from the wall socket before touching any component.

Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity.

Hold components by the edges to avoid touching the ICs on them.

Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.

Before you install or remove any component, always remove the AC power by unplugging the power cord from the power outlet. Failure to do so may cause severe damage to the motherboard, peripherals, or components.

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## 3 Warranty

Generally Diebold Nixdorf guarantees a warranty engagement for 12 months beginning with the date of delivery. This warranty engagement covers all damages which occur despite a normal use of the product.

Damages because of improper or insufficient maintenance, improper use of the product or unauthorized modifications of the product, inadequate location or surroundings will not be covered by the warranty.

For further information on the stipulation consult your contract.

All parts of the product which are subject to wear and tear are not included in the warranty engagement. For detailed warranty arrangements please consult your contract documents.



### NOTE

Please contact your local service provider for all questions concerning your service contract.

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## 4 ESD (Electrostatic Sensitive Devices)



### NOTE

Electrostatic sensitive devices (ESD) may be marked with this sticker.

When you handle components fitted with ESDs, you must observe the following points under all circumstances:

Make sure that the device is de-energized before connecting, removing or installing components with ESD.

Always use the antistatic equipment.

Unplug the power before inserting or removing components containing ESDs.

While working with ESDs you must discharge yourself by using an ESD wrist strap or grounding cable to connect yourself at all times to the earth connector of power socket or a grounded object.

Place all components containing ESDs on a static-safe base.

The equipment and tools you use must be free of static charges.

Always hold boards with ESDs by their edges. Do not touch the components.

Never touch pins or conductors on boards fitted with ESDs.

## 5 Specifications of R3/R4 Motherboard

| Model Name                   | R3                                                                                                                                                                    | R4                                                                            |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
|                              |                                                                                                                                                                       |                                                                               |
| Processor Support            | 9th/8th Generation Intel® Core™ i5 processors for LGA 1151 socket                                                                                                     | 9th/8th Generation Intel® Core™ i3 or Celeron® processors for LGA 1151 socket |
|                              |                                                                                                                                                                       |                                                                               |
| Chipset                      | Q370                                                                                                                                                                  | H310                                                                          |
|                              |                                                                                                                                                                       |                                                                               |
| Memory socket                | DDR4 1866/2133 MT/s SODIMM up to 32GB                                                                                                                                 |                                                                               |
|                              |                                                                                                                                                                       |                                                                               |
| Network                      |                                                                                                                                                                       |                                                                               |
| Wired                        | Intel I219LM                                                                                                                                                          | Intel I219V                                                                   |
|                              | Realtek RTL8153 (Multi-I/O Hub)                                                                                                                                       |                                                                               |
| Wireless/Bluetooth           | Intel Wireless-AC 9462 / 9560 (M.2 2230 E-Key)                                                                                                                        |                                                                               |
|                              |                                                                                                                                                                       |                                                                               |
| Super IO                     | NCT6116D                                                                                                                                                              |                                                                               |
|                              |                                                                                                                                                                       |                                                                               |
| Display Interface            |                                                                                                                                                                       |                                                                               |
| Primary Display Interface    | EDP / LVDS                                                                                                                                                            |                                                                               |
| External Display Interface   | USB-C (Alternate Mode)                                                                                                                                                |                                                                               |
| Number of Displays Supported | 3                                                                                                                                                                     | 2                                                                             |
|                              |                                                                                                                                                                       |                                                                               |
| M.2 2280 Socket M-Key        | SATA/PCIE SSD                                                                                                                                                         |                                                                               |
|                              |                                                                                                                                                                       |                                                                               |
| User I/O Ports               | 3x USB 2.0 Type A<br>1x USB 3.0 Type A<br>1x RJ12 Cash Drawer<br>1x RJ45 Gigabit LAN<br>3x RJ50 Powered COM port<br>1x USB Type-C, PD 2.0, DP1.2, DFP/DRP (5V/12/24V) |                                                                               |

## Specifications of R3/R4 Motherboard

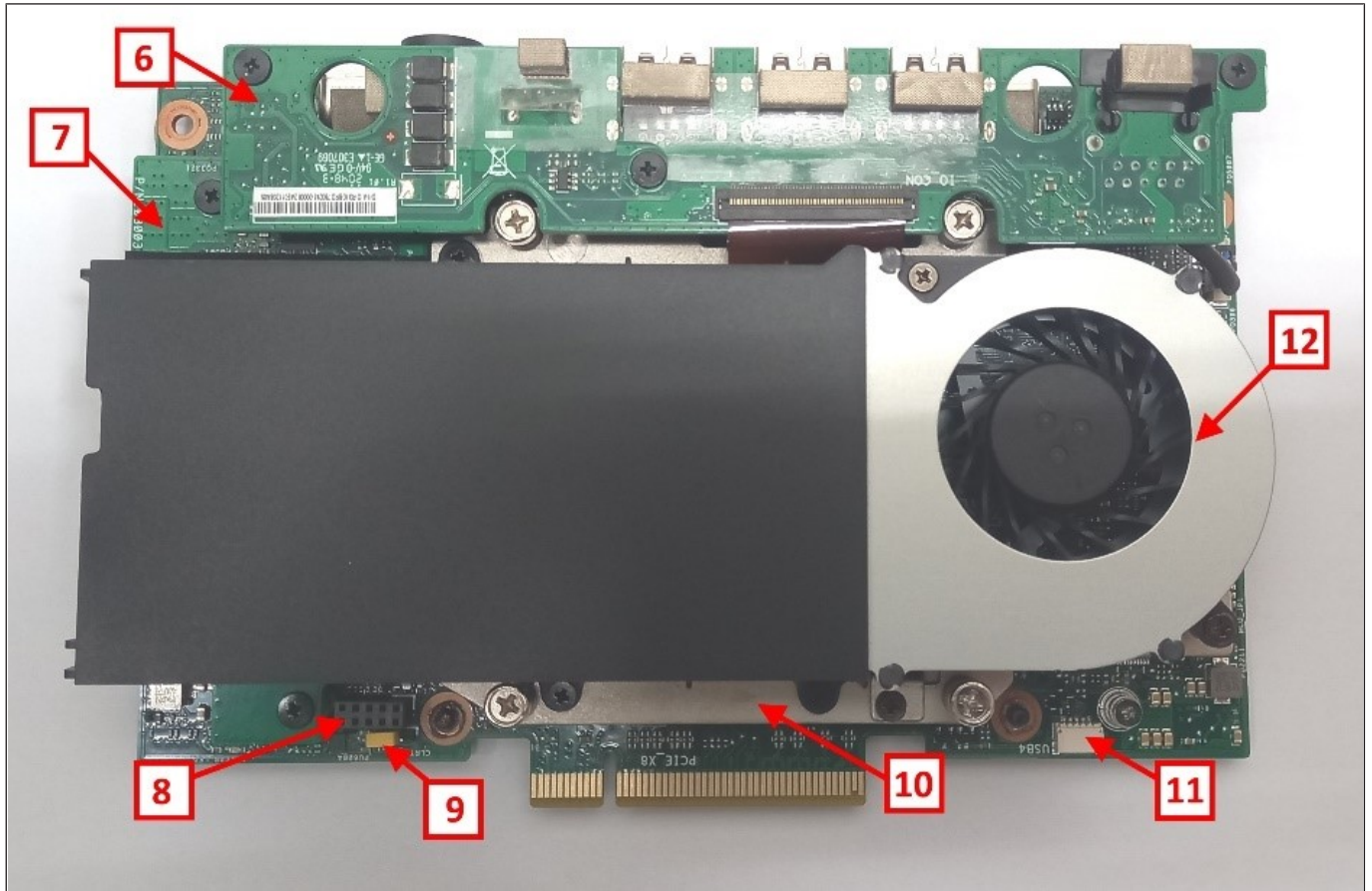
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|                        |                                             |
|------------------------|---------------------------------------------|
|                        | 1x USB Type-C, PD 2.0, DP 1.2, DFP (5V/12V) |
|                        |                                             |
| <b>TPM 2.0 Support</b> | TPM Daughter board interface                |

## 6 Motherboard Variants

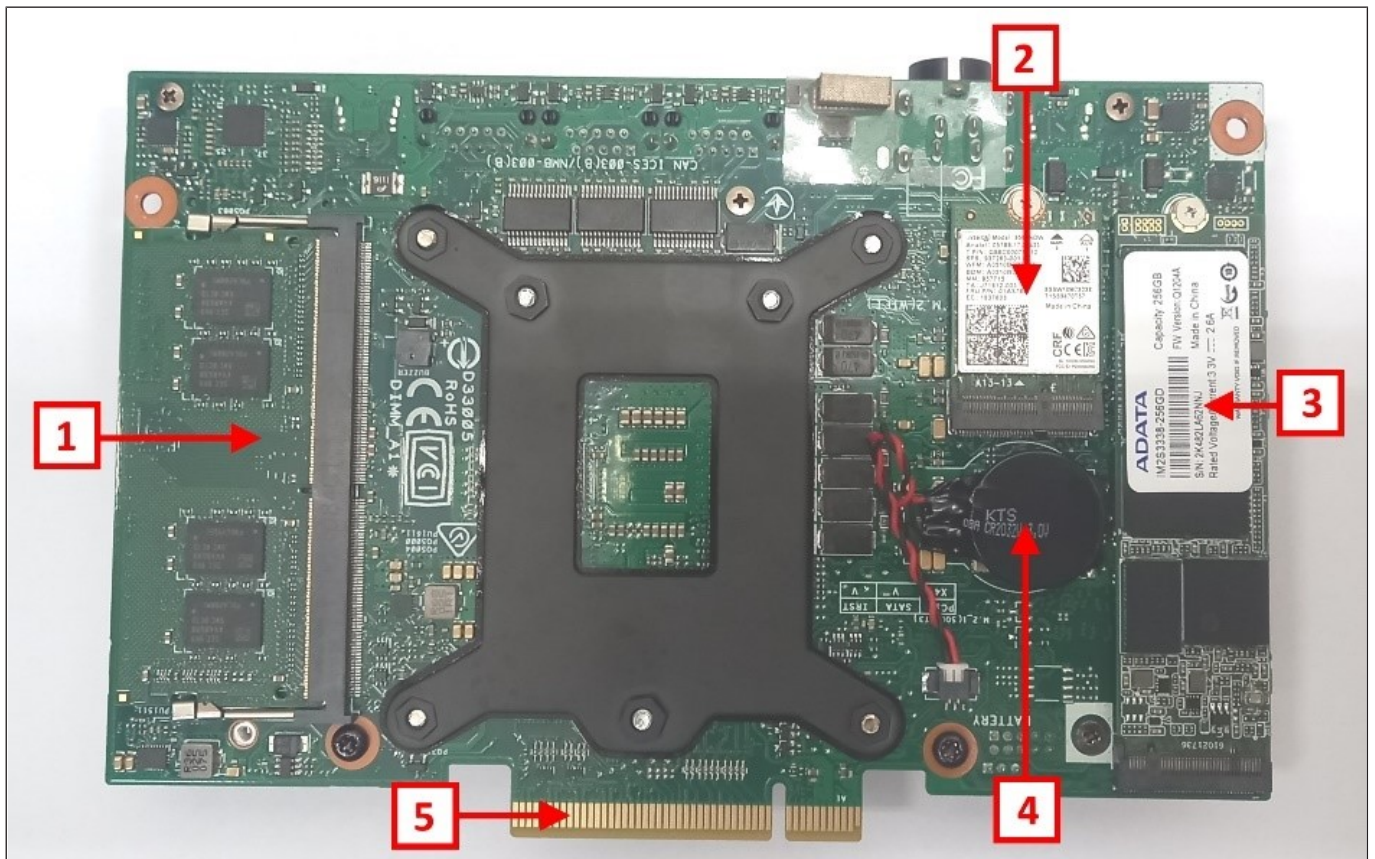
### 6.1 R3/R4 Motherboard

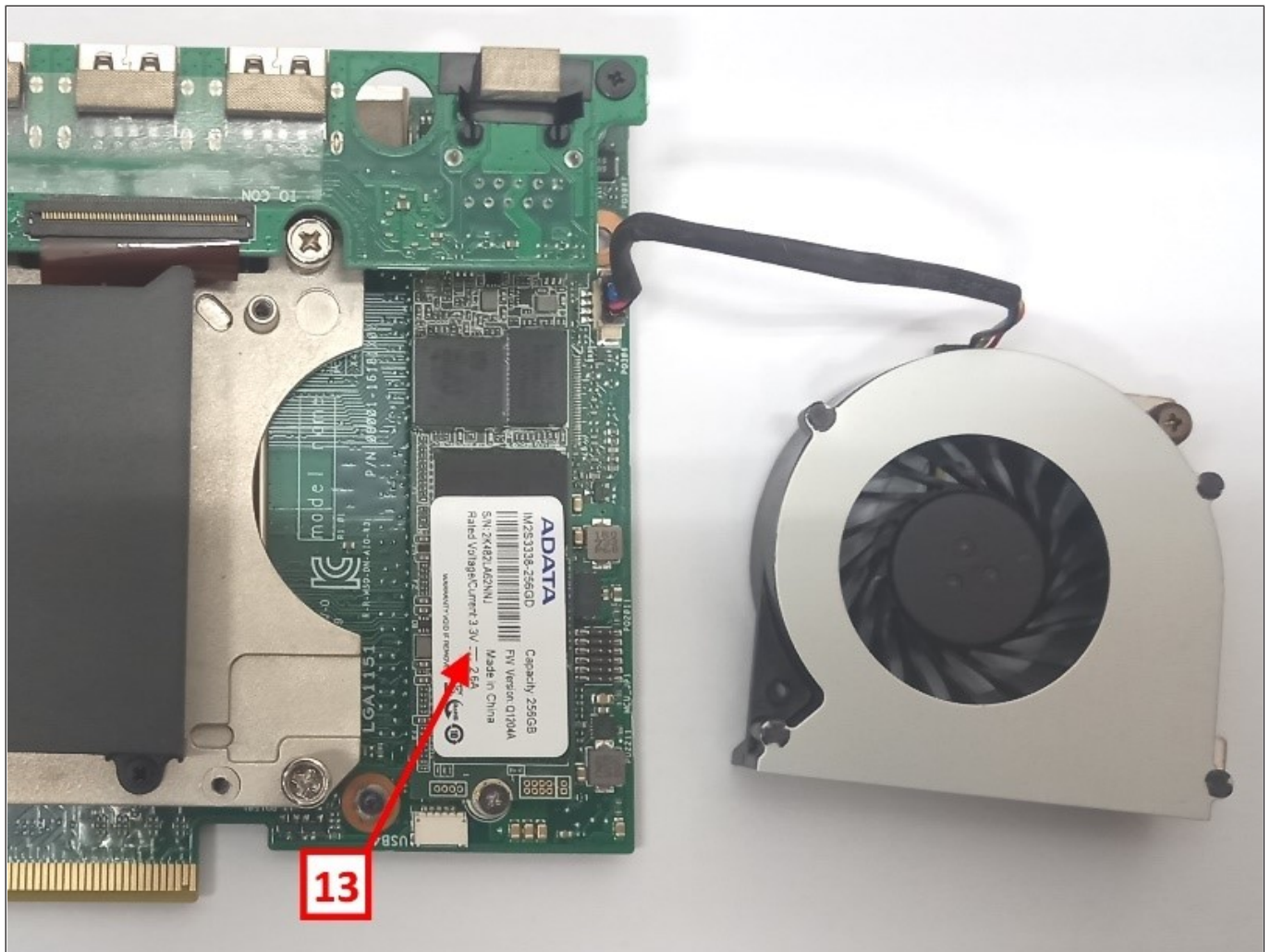
#### 6.1.1 Front view



|   |                         |   |             |
|---|-------------------------|---|-------------|
| 1 | SODIMM socket           | 2 | WLAN module |
| 3 | M.2 2280 socket (SSD)   | 4 | RTC battery |
| 5 | Docking board interface |   |             |

## 6.1.2 Back view

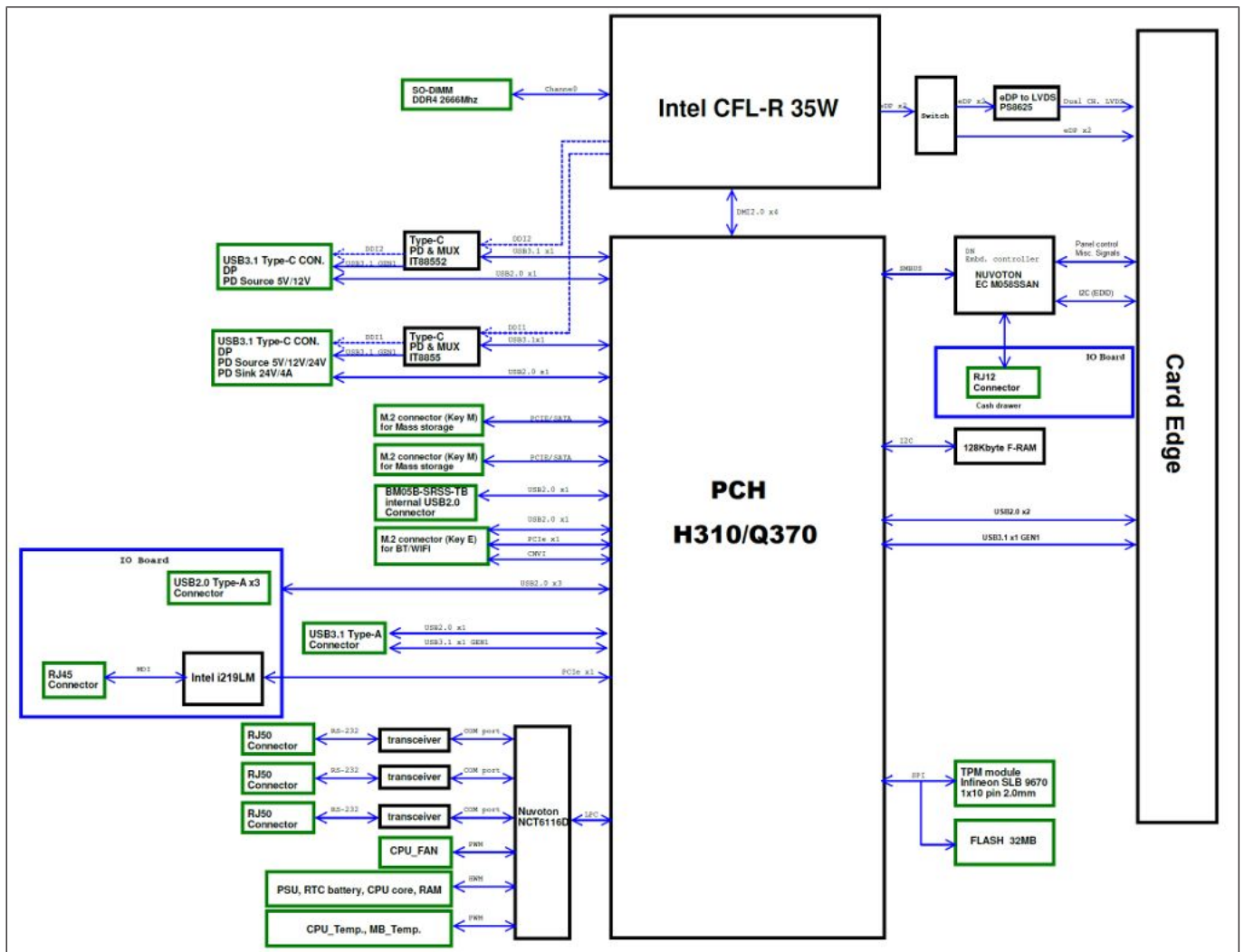




|    |               |    |                              |
|----|---------------|----|------------------------------|
| 6  | IO Board      | 7  | Power Board                  |
| 8  | TPM option    | 9  | CMOS clear                   |
| 10 | Heat sink     | 11 | Connection for TSE/MF module |
| 12 | Heat Sink Fan | 13 | M.2 2280 socket (SSD)        |

## 7 Block diagram

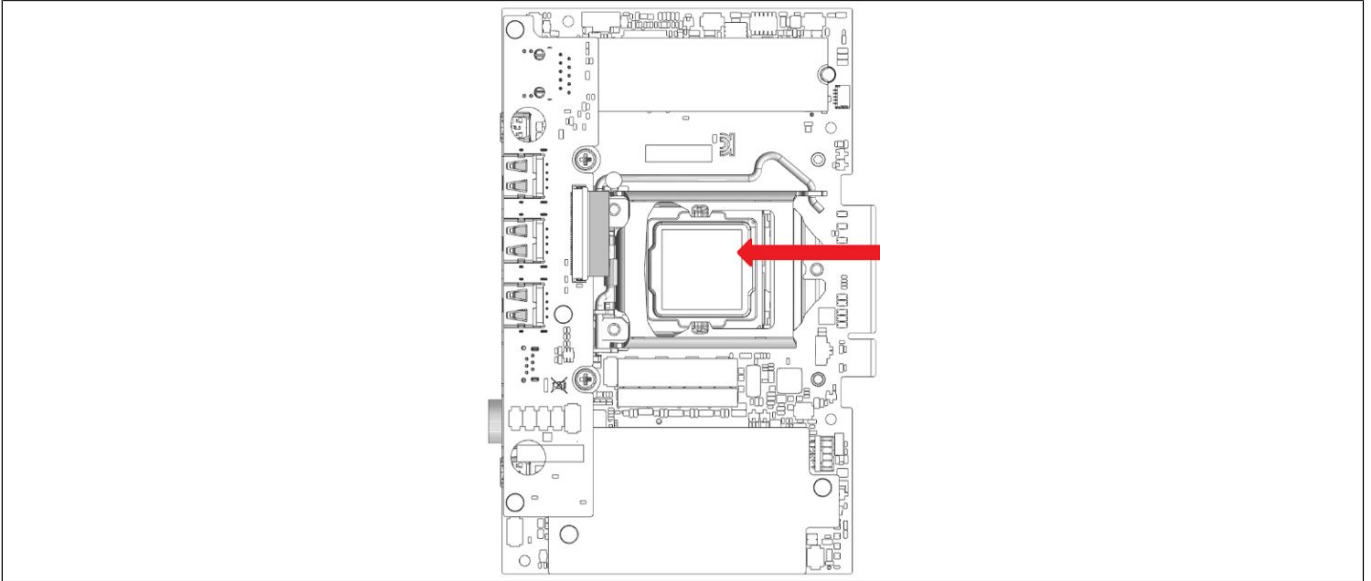
### 7.1 R3/R4 Motherboard



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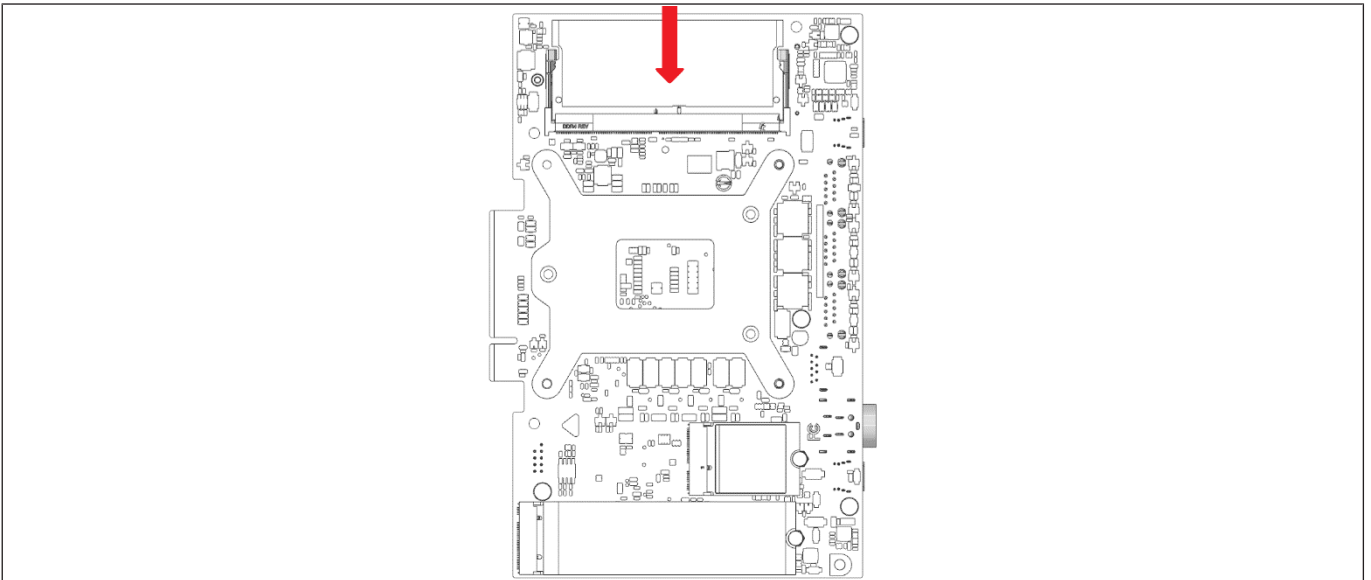
## 8 Central Processing Unit

This Motherboard supports 9th/8th Generation Intel® Core™ i5/i3 or Celeron® processors for LGA 1151 socket.



### 8.1 System Memory

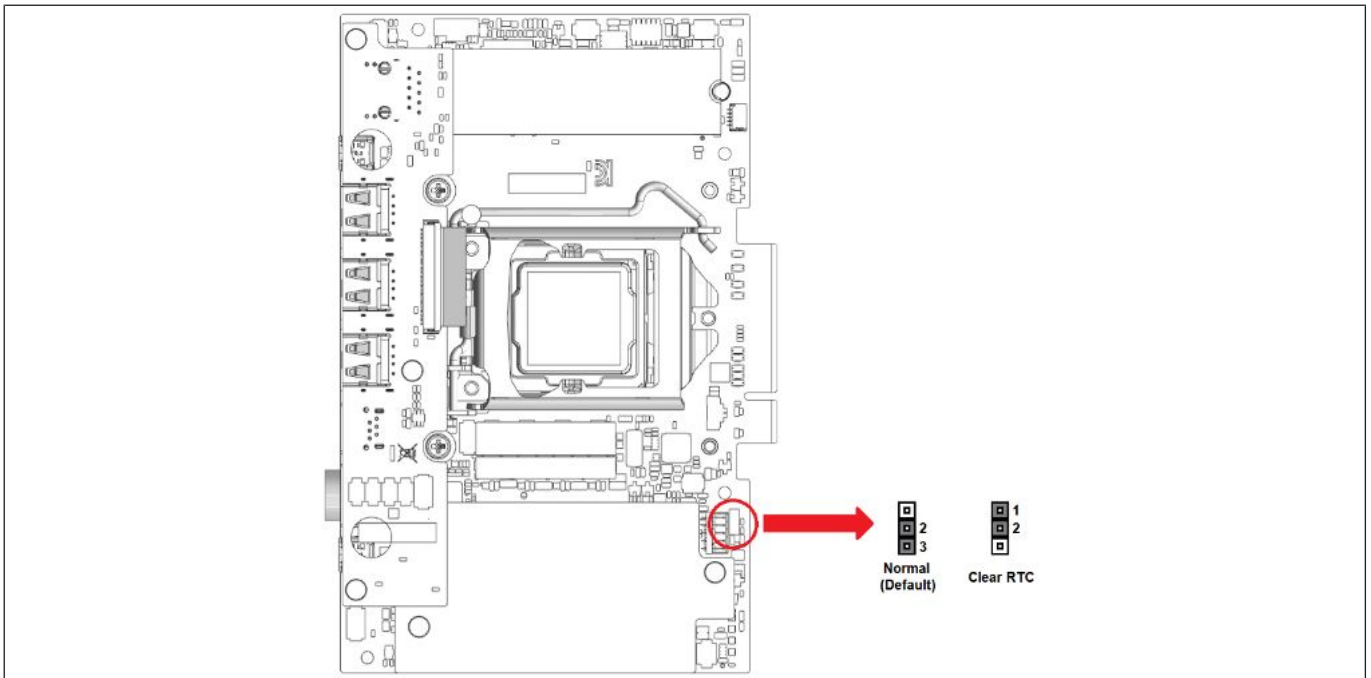
This Motherboard Supports 1 piece Double Data Rate 4 (DDR4) Small Outline Dual Inline Memory Module (SO-DIMM). The figure below illustrates the location of the DDR4 SO-DIMM socket..



## 8.2 Jumpers

- Clear RTC RAM (3-pin CLRTC)

This header allows you to clear the CMOS RTC RAM data.



To erase the RTC RAM:

- Turn OFF the computer and unplug the power cord.
- Move the jumper cap from pins 2-3 (default) to pins 1-2. Keep the cap on pins 1-2 for about 5~10 seconds, then move the cap back to pins 2-3.
- Plug the power cord and turn ON the computer.
- Hold down the <Del> key during the boot process and enter BIOS setup to reenter data.



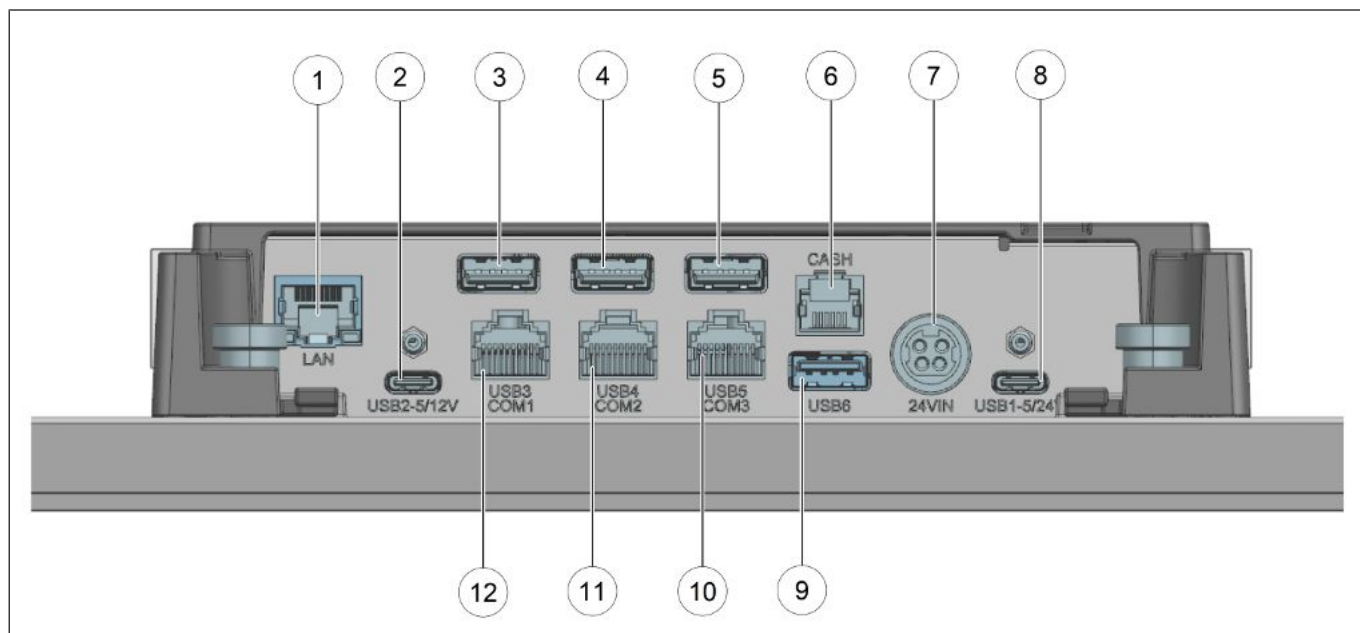
### NOTE

You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the CPU Parameter Recall (C.P.R) feature. Shut down and reboot the system so the BIOS can automatically reset parameter settings to default values.

This jumper will just load BIOS defaults, and will not clear BIOS password.

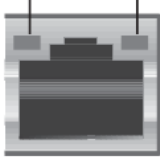
## 8.3 Connectors

### 8.3.1 Rear Panel Connectors



|    | Port label | Description of port                                                 |
|----|------------|---------------------------------------------------------------------|
| 1  | LAN        | RJ45 LAN port                                                       |
| 2  | USB2       | USB 3.0 (Type C with DP and PD 5/12V)                               |
| 3  | USB3       | USB 2.0 (Type A)                                                    |
| 4  | USB4       | USB 2.0 (Type A)                                                    |
| 5  | USB5       | USB 2.0 (Type A)                                                    |
| 6  | CASH       | RJ12 (Cash drawer)                                                  |
| 7  | 24V IN     | Connection to power (24V DC Input)                                  |
| 8  | USB1       | USB 3.0 (Type C with DP and PD 5/24V)<br>Power source/sink function |
| 9  | USB6       | USB 3.0 (Type A)                                                    |
| 10 | COM3       | RJ50 powered COM port (5V/12V)                                      |
| 11 | COM2       | RJ50 powered COM port (5V/12V)                                      |
| 12 | COM1       | RJ50 powered COM port (5V/12V)                                      |

**LAN Port LED Indications**

| Activity/Link LED |                               | Speed LED |                    | Activity Link LED                                                                   | Speed LED |
|-------------------|-------------------------------|-----------|--------------------|-------------------------------------------------------------------------------------|-----------|
| Status            | Description                   | Status    | Description        |                                                                                     |           |
| Off               | No link                       | OFF       | 10Mbps connection  |  | LAN port  |
| Green             | Linked                        | ORANGE    | 100Mbps connection |                                                                                     |           |
| Green (blinking)  | Data activity                 | GREEN     | 1Gbps connection   |                                                                                     |           |
| Green (blinking)  | Ready to wake up from S5 mode |           |                    |                                                                                     |           |

**NOTE**

USB 3.1 Gen 2 devices can only be used for data storage.

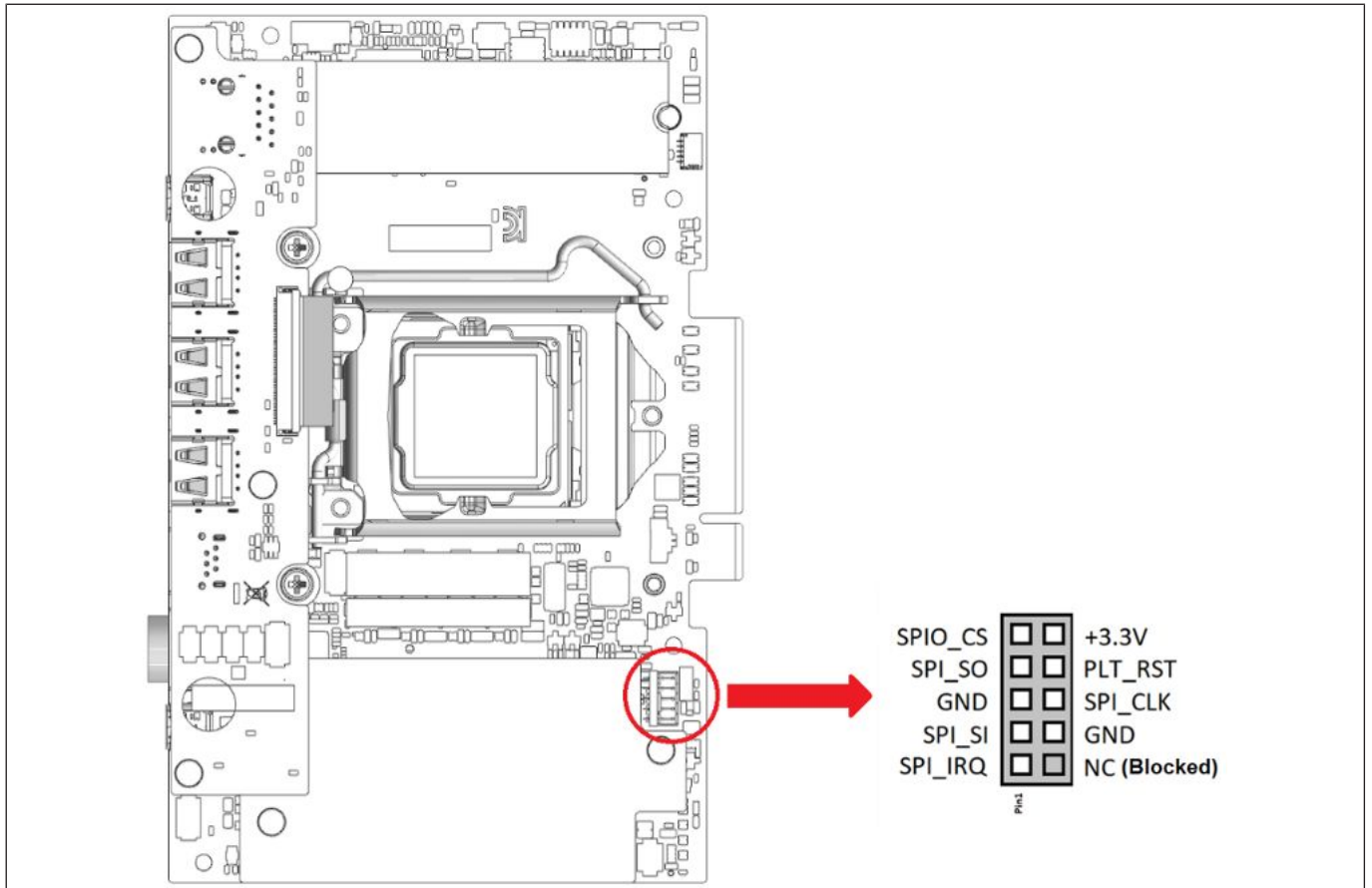
We strongly recommend that you connect USB 3.1 Gen 2 devices to USB 3.1 Gen 2 ports for faster and better performance from your USB 3.1 Gen 2 devices.

Due to the design of the Intel® 300 series chipset, all USB devices connected to the USB 2.0 and USB 3.1 Gen 2 ports are controlled by the xHCI controller. Some legacy USB devices must update their firmware for better compatibility.

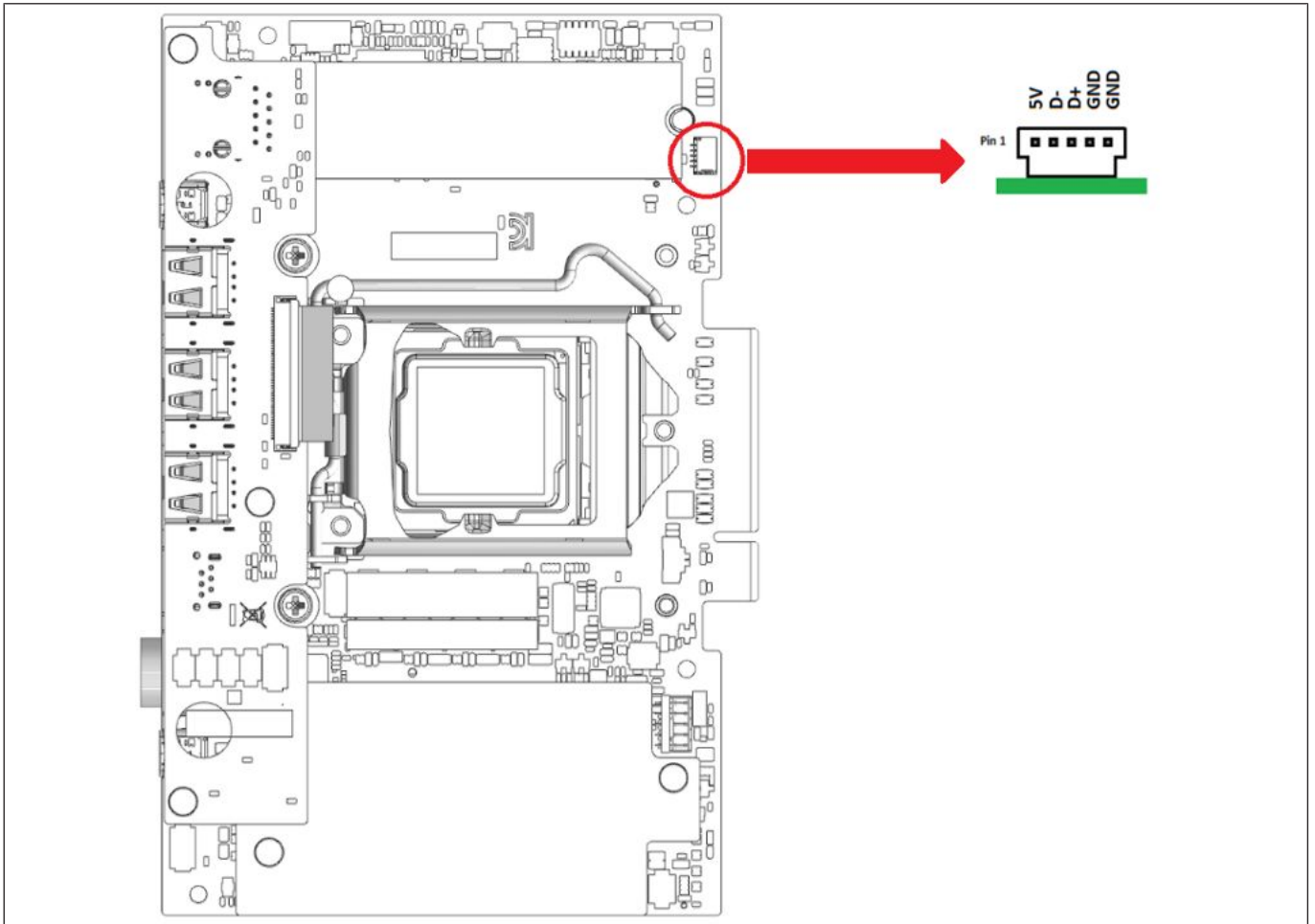
## 8.3.2 Internal Connectors

### 1. TPM connector (10-pin TPM)

This connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

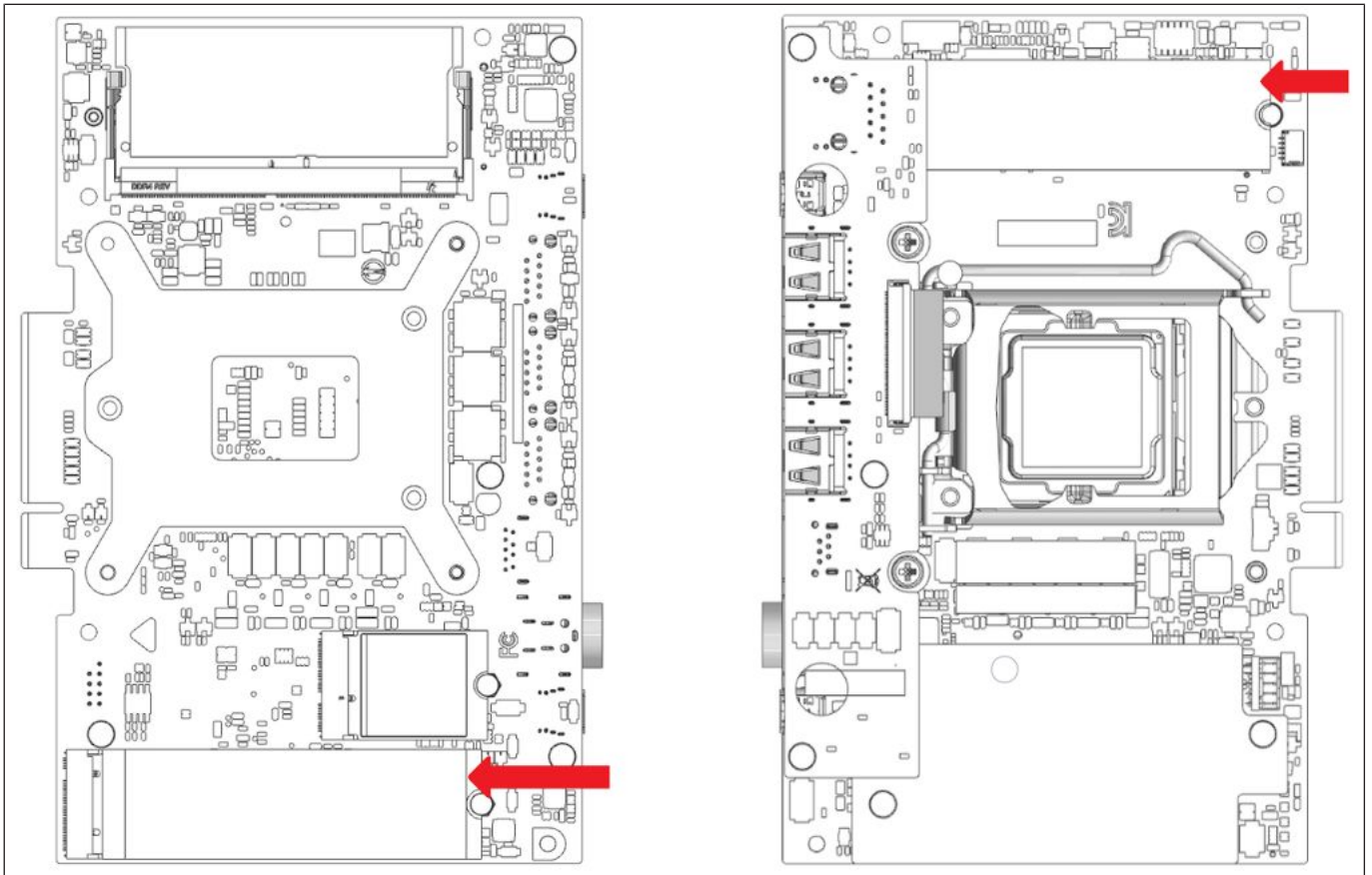


## 2. Connection for TSE/MF module



### 3. M.2 sockets (M-Key SSD)

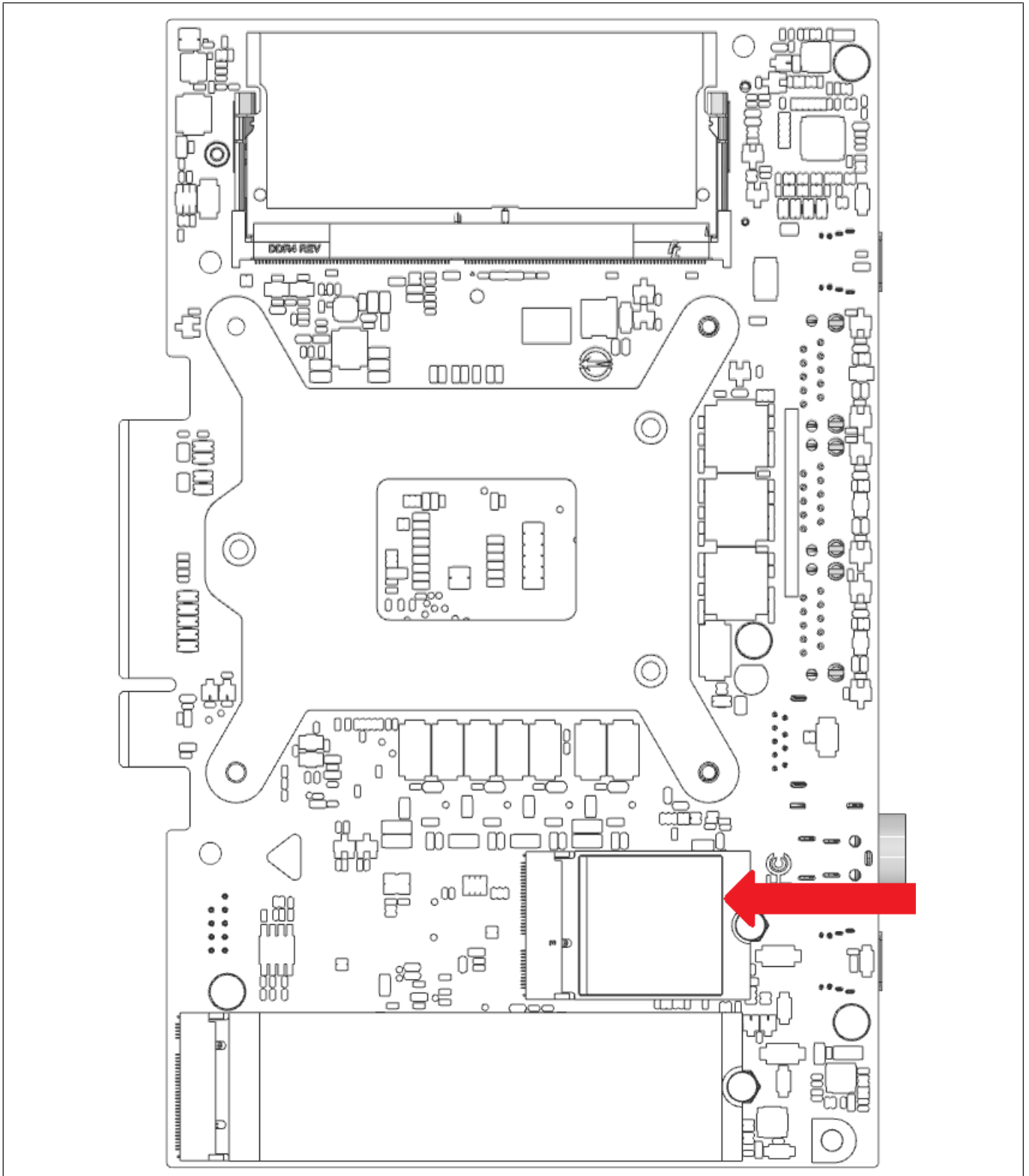
These sockets allows you to install M.2 (NGFF) SSD modules. One module is installed on back side of Motherboard while the other is installed on the top side of Motherboard (under Heat Sink Fan)



#### NOTE

The M.2 SSD module is purchased separately.  
This socket supports M-Key and 2260/2280 SATA/PCIe mode storage devices.

#### 4. M.2 Socket (E-Key WIFI Module)



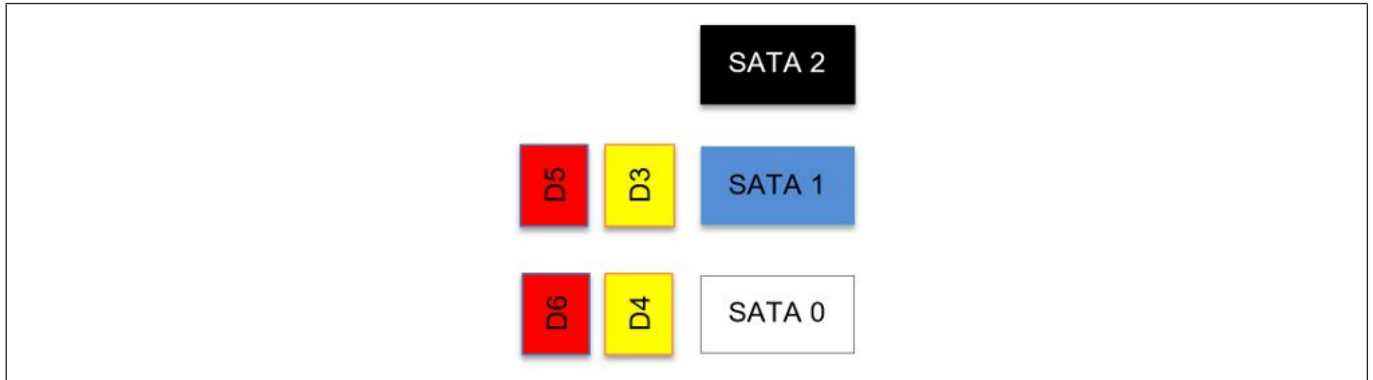
#### NOTE

The M.2 WIFI module is purchased separately.  
This socket supports E-Key WIFI Modules Intel® Wireless-AC 9462 (Celeron/i3/i5 variant motherboards) and Intel® Wireless-AC 9560 (i5 Variant motherboard)

## 8.4 RAID

This motherboard provides RAID functionality for the SATA interface. Raid level 0 (striping), 1 (mirroring) and 5 (striping with distributed parity) are supported. For RAID 5 three HDD/SSD devices are needed.

To enable the RAID functionality please see the corresponding chapter in the BIOS setup description.



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## 9 BIOS Setup Program

Use the BIOS Setup program to update the BIOS or configure its parameters. The BIOS screens include navigation keys and brief online help to guide you in using the BIOS Setup program.

### 9.1 Entering BIOS Setup at startup

To enter BIOS Setup at startup:

Press <F2> during the Power-On Self Test (POST). If you do not press <F2>, POST continues with its routines.

### 9.2 Entering BIOS Setup after POST

To enter BIOS Setup after POST:

- Press <Ctrl>+<Alt>+<Del> simultaneously.
- Press the reset button on the system chassis.
- Press the power button to turn the system off then back on. Do this option only if you failed to enter BIOS Setup using the first two options.



#### NOTE

Using the power button, reset button, or the <Ctrl>+<Alt>+<Del> keys to reboot a running operating system can cause damage to your data or system.

Always shut down the system properly from the operating system.

The default BIOS settings for this motherboard apply to most working conditions and ensures optimal performance. If the system becomes unstable after changing any BIOS settings, load the default settings to regain system stability. Select the option Load Optimized Defaults under the Exit Menu or press hotkey F3.

The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

### 9.3 Self-Recovering BIOS (after BIOS Update)

The BIOS protection technology automatically recovers the system's BIOS with a verified backup in the event of an update failure, preventing the need to replace or reinstall your hardware.

#### 9.3.1 How does the Self-Recovering BIOS work?

The Flash utility keeps a verified backup of the BIOS (.cap) file in a hidden area of your Mass storage. Once the crash happens, all you need to do is reboot. Your system will automatically activate BIOS self-recovery. EZ Flash will read the BIOS (.cap) file stored in the hidden area of your HDD, and start recovering the BIOS.

## 9.4 BIOS Menu Screen

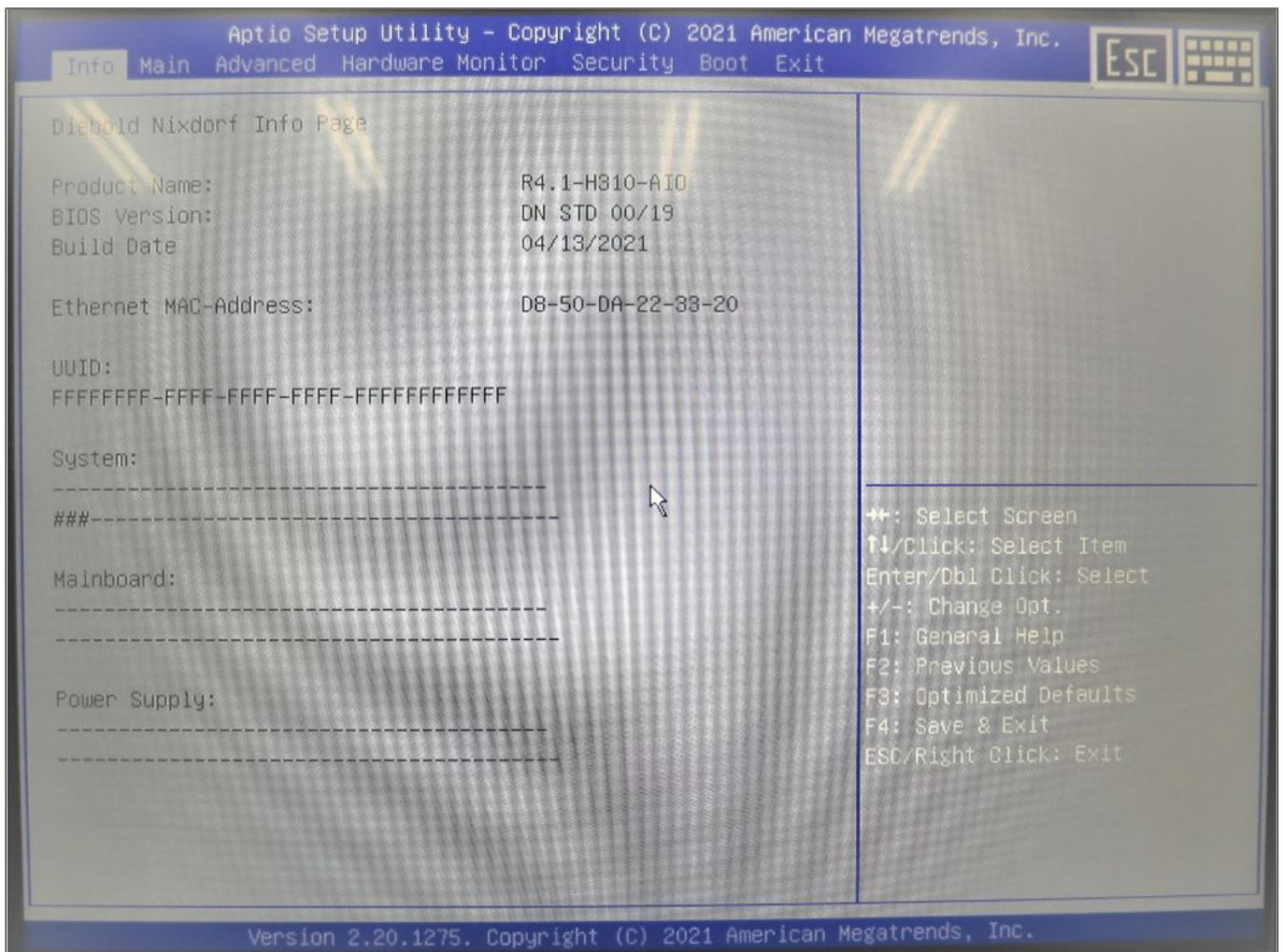
### Menu bar

The menu bar on top of the screen has the following main items:

|                  |                                                                                     |
|------------------|-------------------------------------------------------------------------------------|
| Info             | An overview of the basic system information.                                        |
| Main             | For changing the basic system configuration.                                        |
| Advanced         | For changing the advanced system settings.                                          |
| Hardware Monitor | For displaying the system temperature, power status, and changing the fan settings. |
| Security         |                                                                                     |
| Boot             | For changing the system boot configuration.                                         |
| Exit             | For selecting the exit options and loading default settings.                        |

To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted.

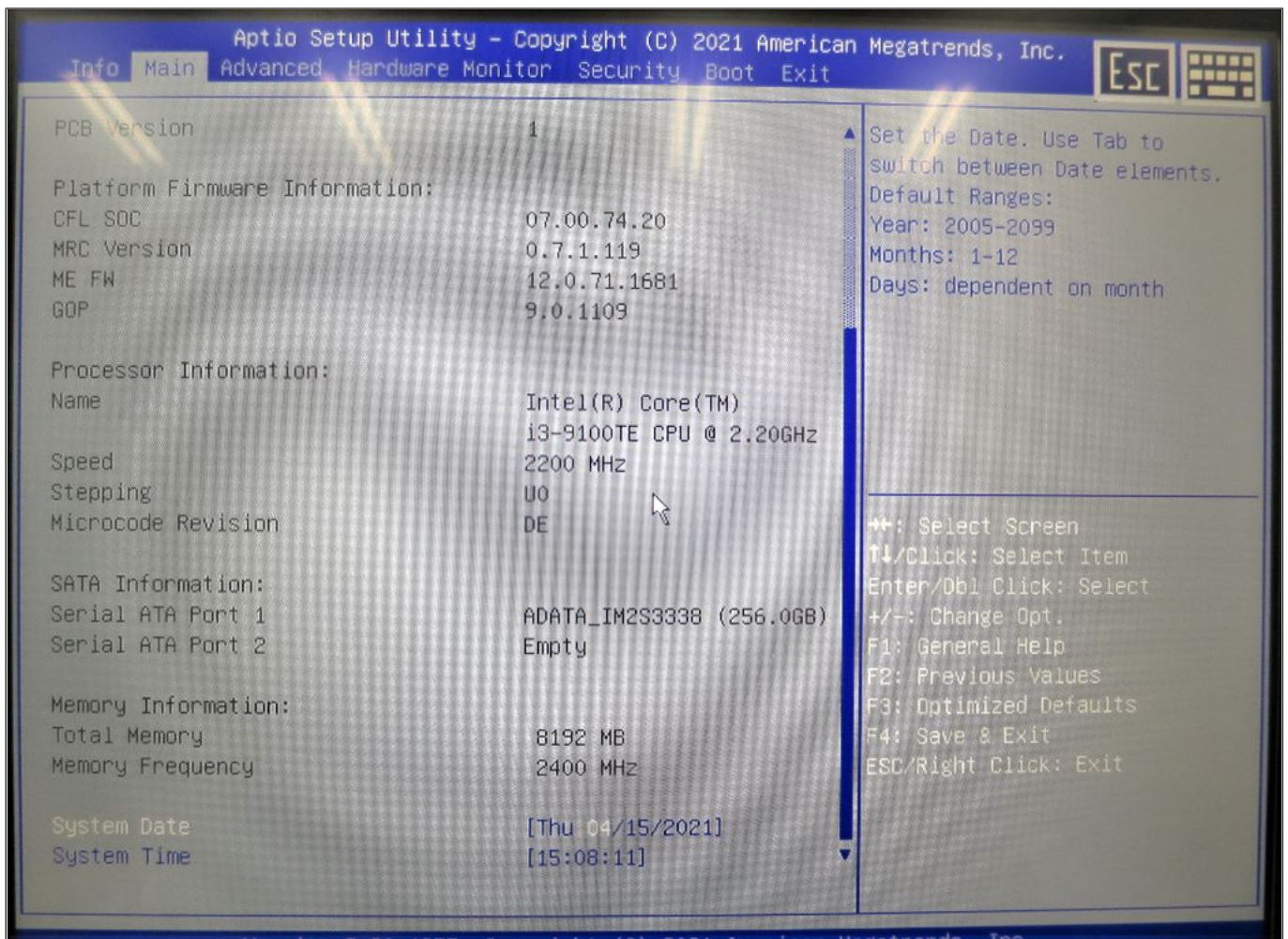
## 10 Information



This page displays some system-related information to facilitate the support of your system.

|                       |                                                                                                                                                                                                                                                   |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:         | This identification string identifies the motherboard in the system.                                                                                                                                                                              |
| BIOS Version:         | Display in the format DN STD xx/yy where xx is the BIOS version number and yy is the build number.                                                                                                                                                |
| Ethernet MAC-Address: | Ethernet MAC Address of the on-board LAN controller.                                                                                                                                                                                              |
| UUID:                 | A UUID is an identifier standard used in software construction, standardized by the Open Software Foundation. The intent of the UUIDs is to enable distributed systems to uniquely identify information without significant central coordination. |

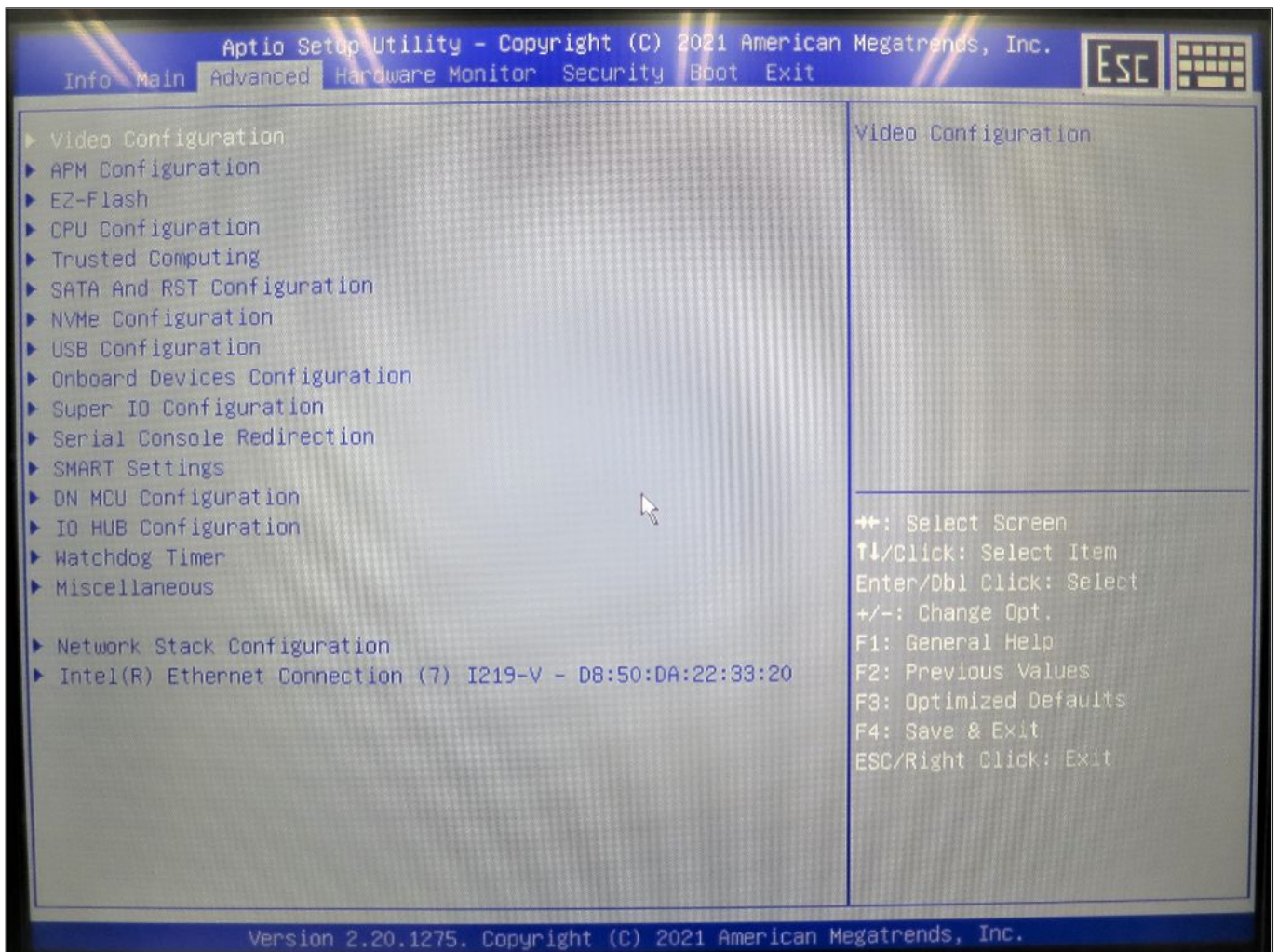
# 11 Main



The Main page provides the key information about the system hardware configuration.

|              |                                                                                                                                                                              |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Date: | To set the date, use tab switch between date elements.<br>Default Ranges:<br>Year: 2005-2099<br>Months: 1-12<br>Days: dependent on month<br><br>Press numeric keys to enter. |
| System Time: | To set the time, use tab switch between time elements.<br>Press numeric keys to enter.                                                                                       |

## 12 Advanced

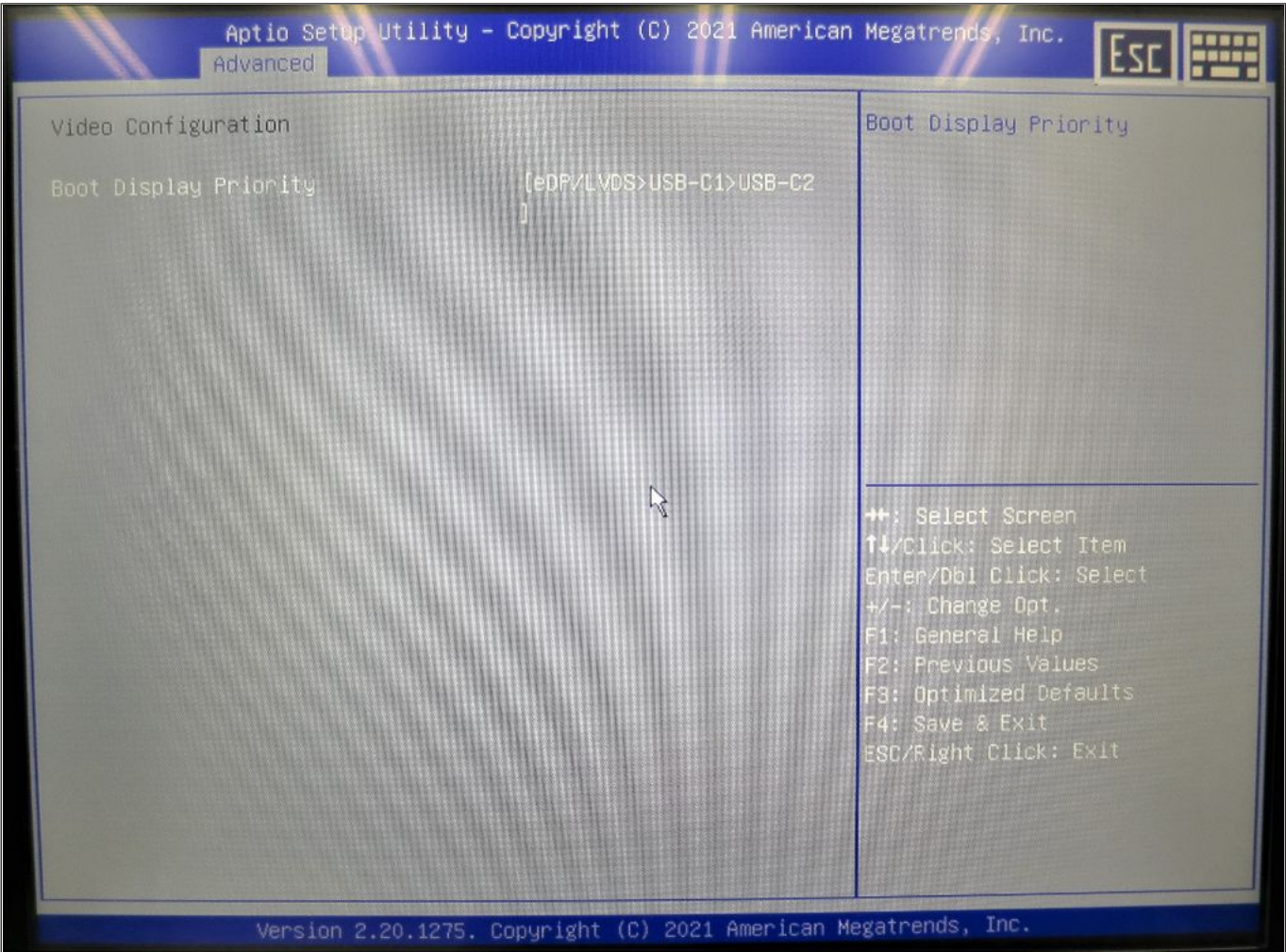


The Advanced function in the system can be configured in this menu for advanced system configuration. Only change the default settings if required for a special purpose. Incorrect settings can cause malfunction.

|                                |                                  |
|--------------------------------|----------------------------------|
| Video Configuration:           | Video Configuration              |
| APM Configuration:             | Advanced Power Management        |
| EZ-Flash:                      | EZ-Flash                         |
| CPU Configuration:             | CPU Configuration Parameters     |
| Trusted Computing:             | Trusted Computing Settings       |
| SATA And RST Configuration:    | SATA Device Options Settings     |
| NVMe Configuration:            | NVMe Device Options Settings     |
| USB Configuration:             | USB Configuration Parameters     |
| Onboard Devices Configuration: | Onboard Devices Options Settings |
| Super IO Configuration:        | System Super IO Chip Parameters  |

|                                                                |                                              |
|----------------------------------------------------------------|----------------------------------------------|
| Serial Console Redirection:                                    | Serial Console Redirection                   |
| SMART Settings:                                                | System SMART Settings                        |
| DN MCU Configuration:                                          | DN MCU Configuration                         |
| IO HUB Configuration:                                          | IO HUB Configuration                         |
| Watchdog Timer:                                                | Watchdog Timer                               |
| Miscellaneous:                                                 | Miscellaneous                                |
| Network Stack Configuration:                                   | Network Stack Settings.                      |
| Intel(R) Ethernet Connection (7) I219-V –<br>D8:50:DA:22:33:20 | Configure Gigabit Ethernet device parameters |

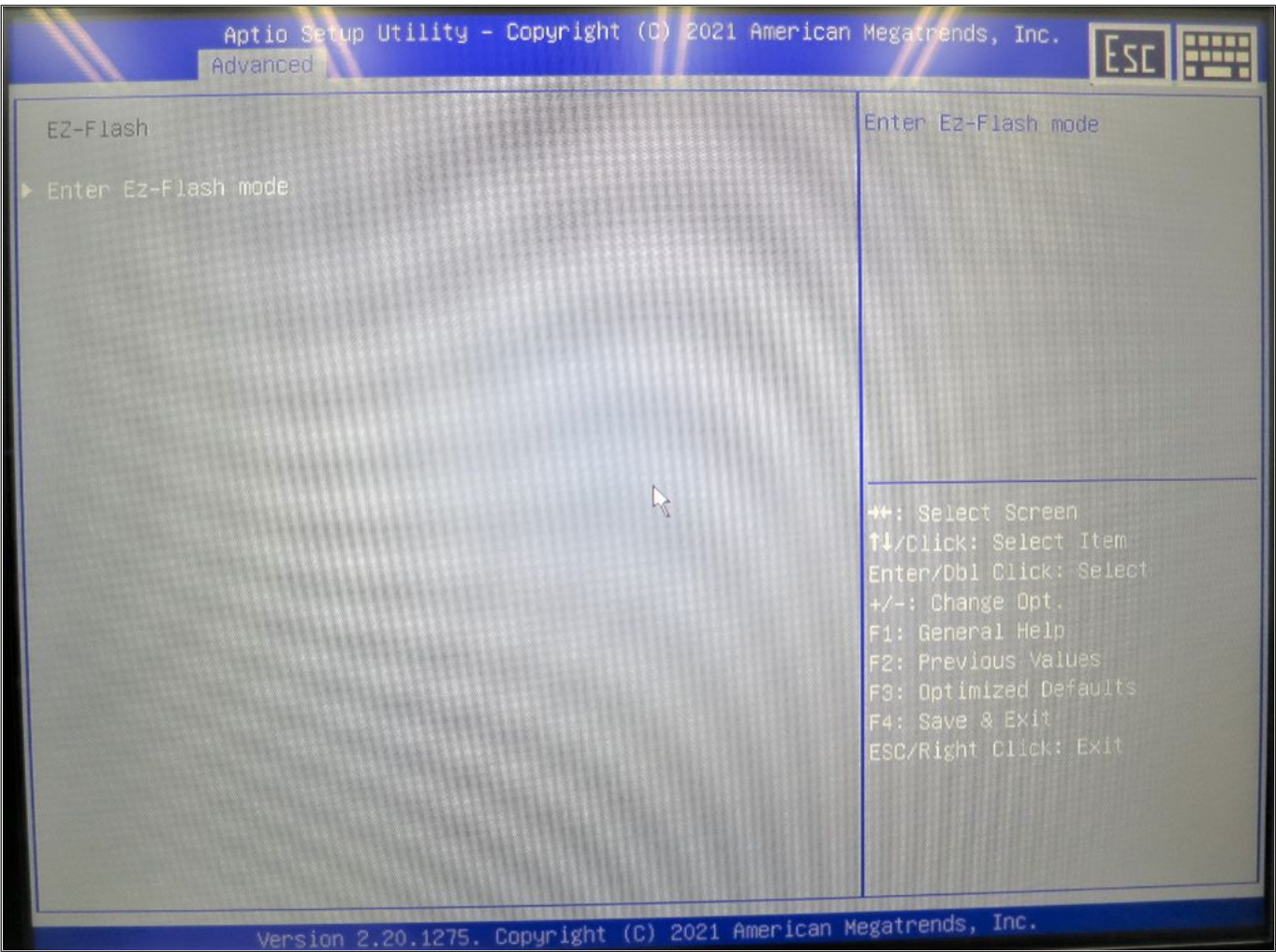
# 12.1 Video Configuration



|                        |                       |
|------------------------|-----------------------|
| Boot Display Priority: | Boot Display Priority |
|------------------------|-----------------------|

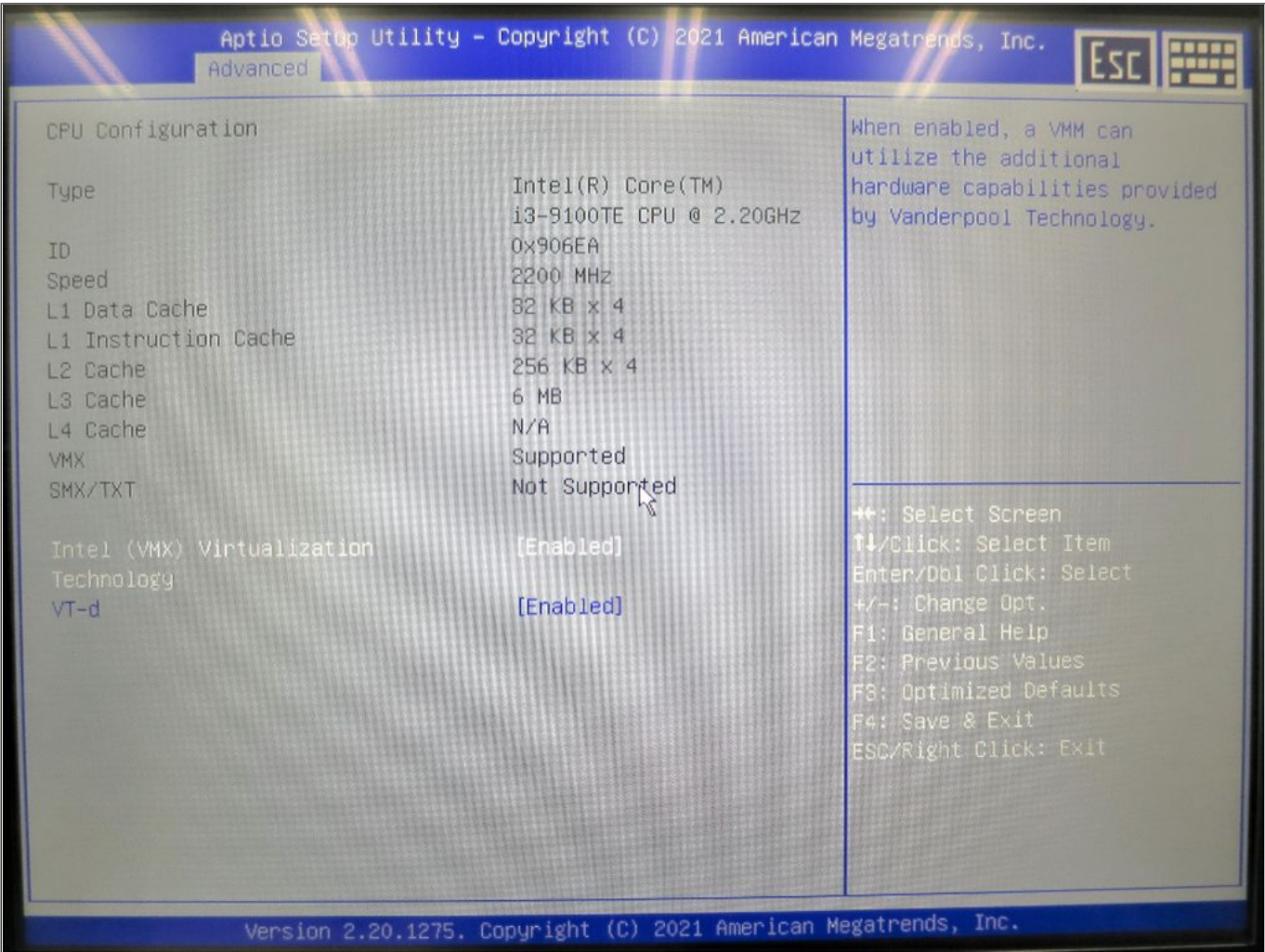
## 12.2 APM Configuration

### 12.3 EZ-Flash



|                     |                     |
|---------------------|---------------------|
| Enter Ez-Flash mode | Enter Ez-Flash mode |
|---------------------|---------------------|

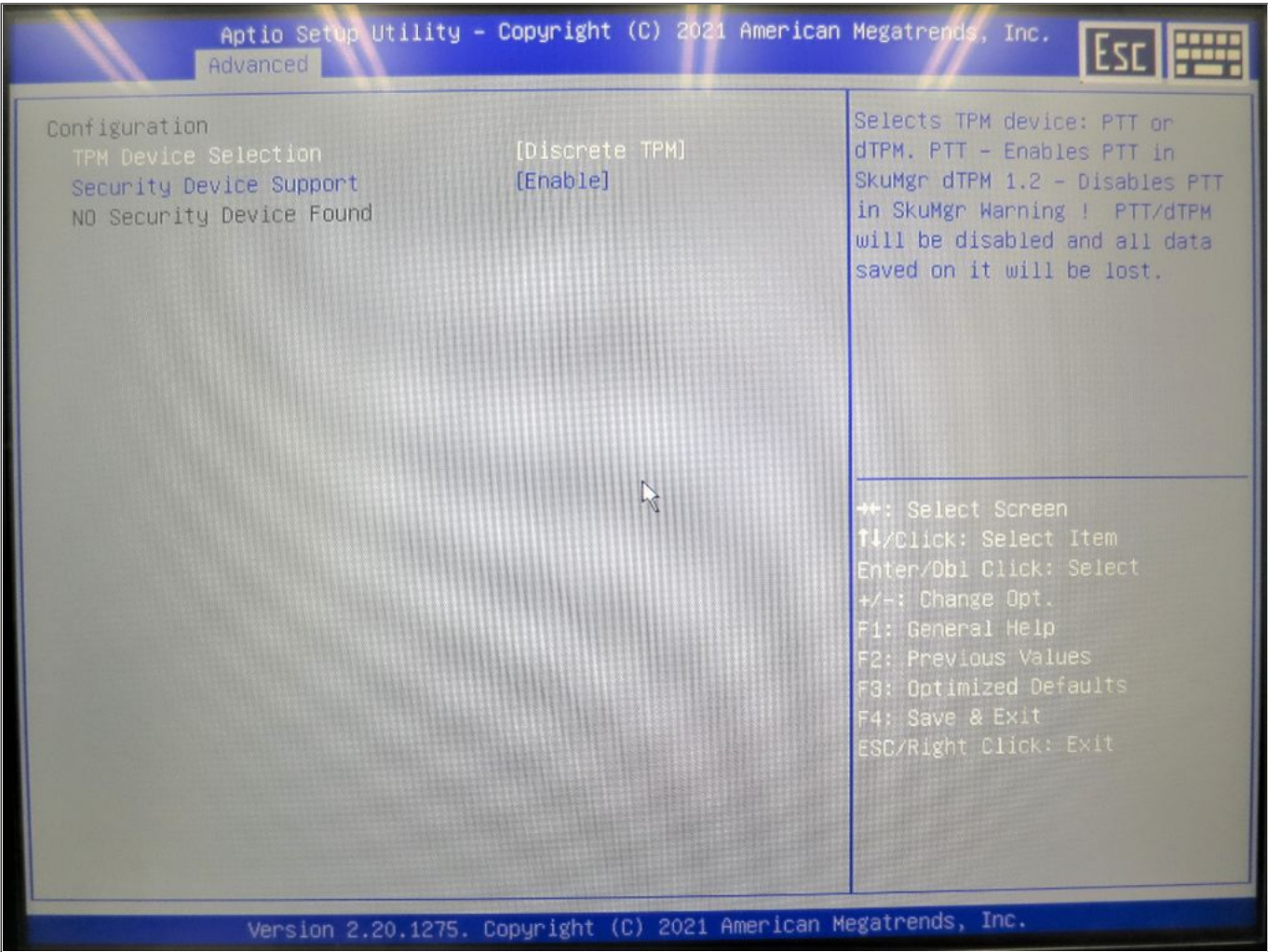
# 12.4 CPU Configuration



Some of the parameters in the CPU Configuration submenu are only available under certain conditions.

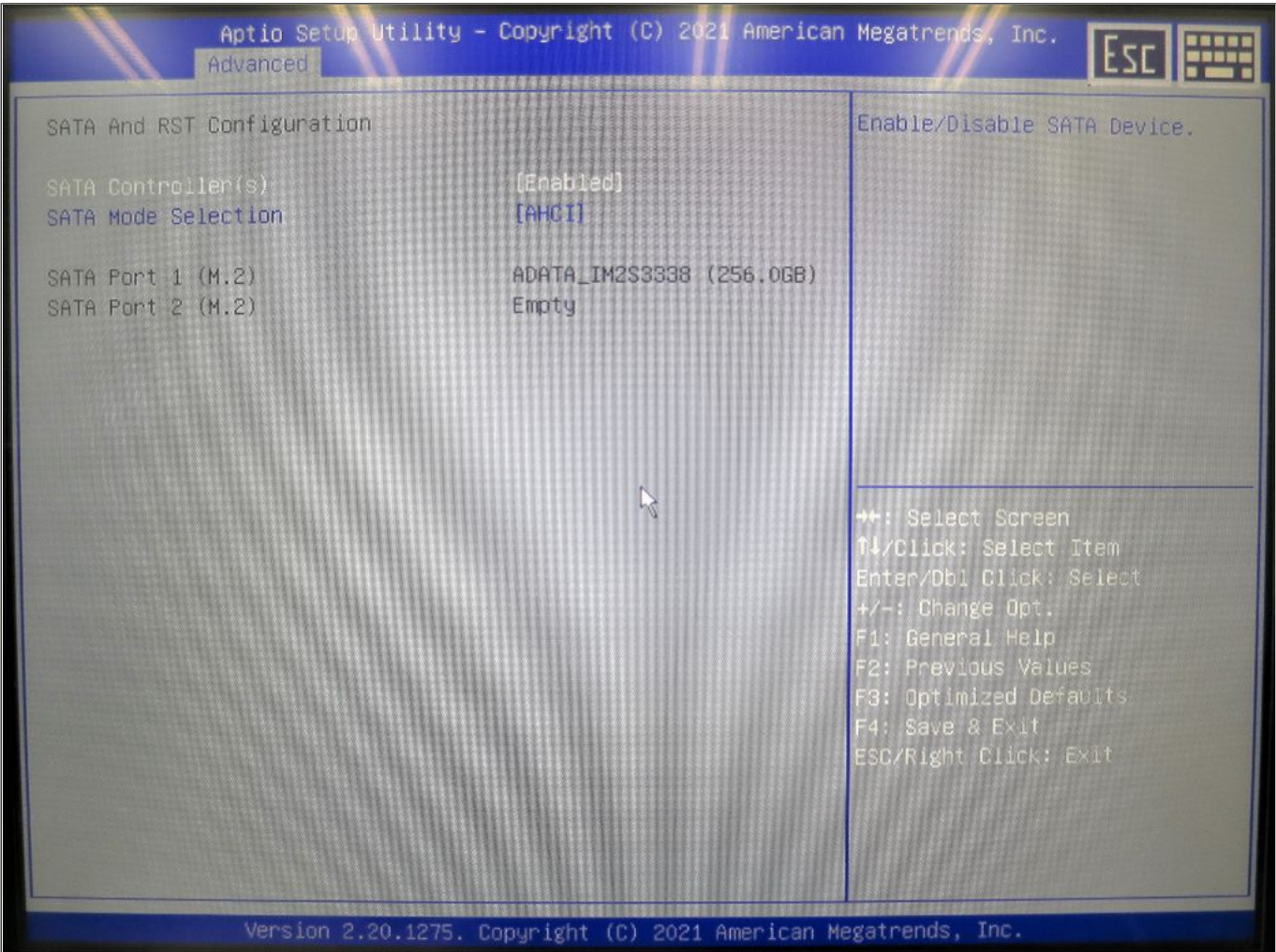
|                                        |                                                                                                         |
|----------------------------------------|---------------------------------------------------------------------------------------------------------|
| Intel (VMX) Virtualization Technology: | When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology. |
| VT-d:                                  | VT-d capability                                                                                         |

## 12.5 Trusted Computing



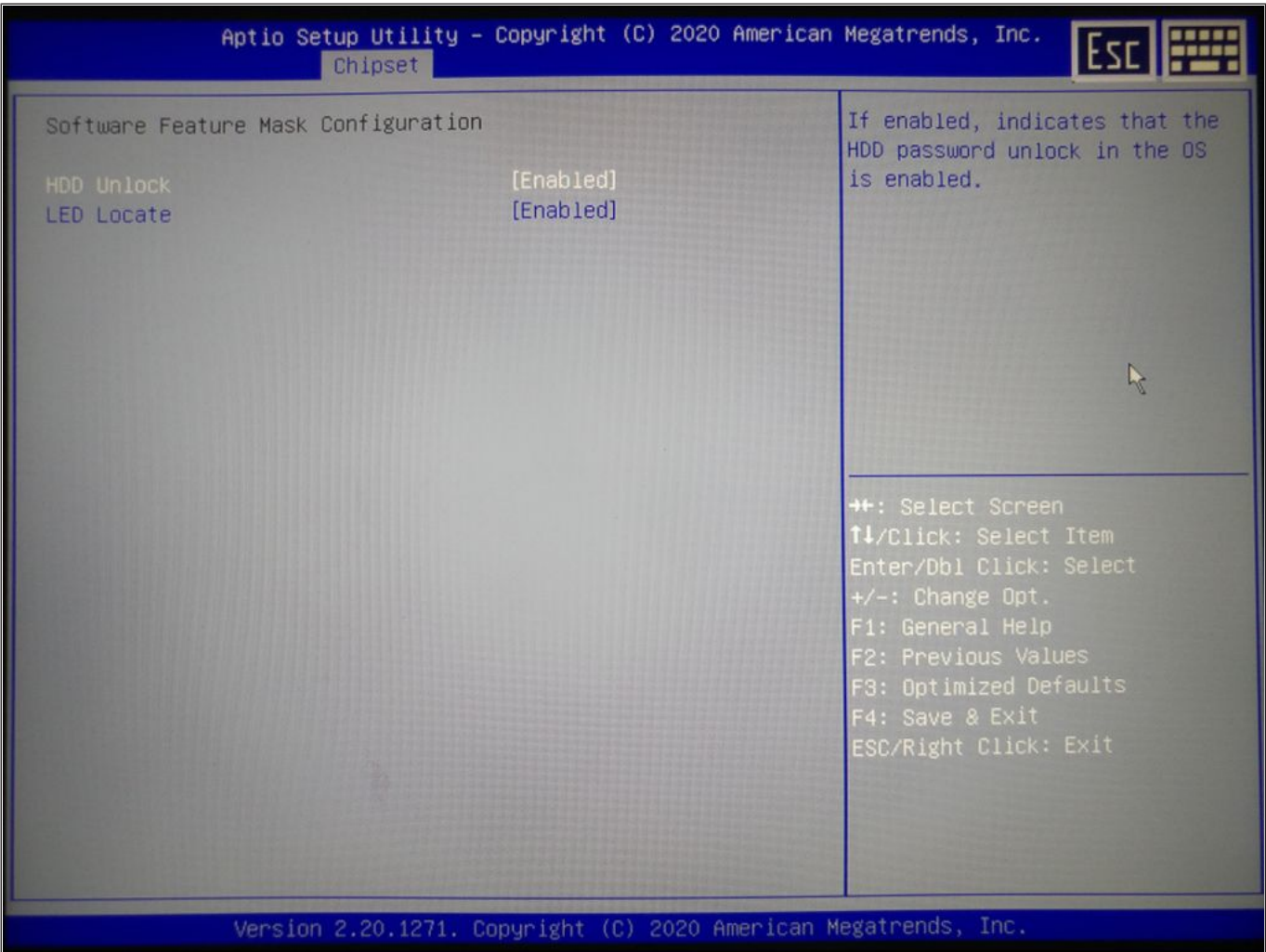
|                        |                                                                                                                                                                            |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TPM Device Selection   | Selects TPM device: PTT or dTPM. PTT – Enables PTT in SkuMgr dTPM 1.2 – Disables PTT in SkuMgr Warning ! PTT/ dTPM will be disabled and all data saved on it will be lost. |
| Secure Device Support: | Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.                      |

## 12.6 SATA & RST Configuration



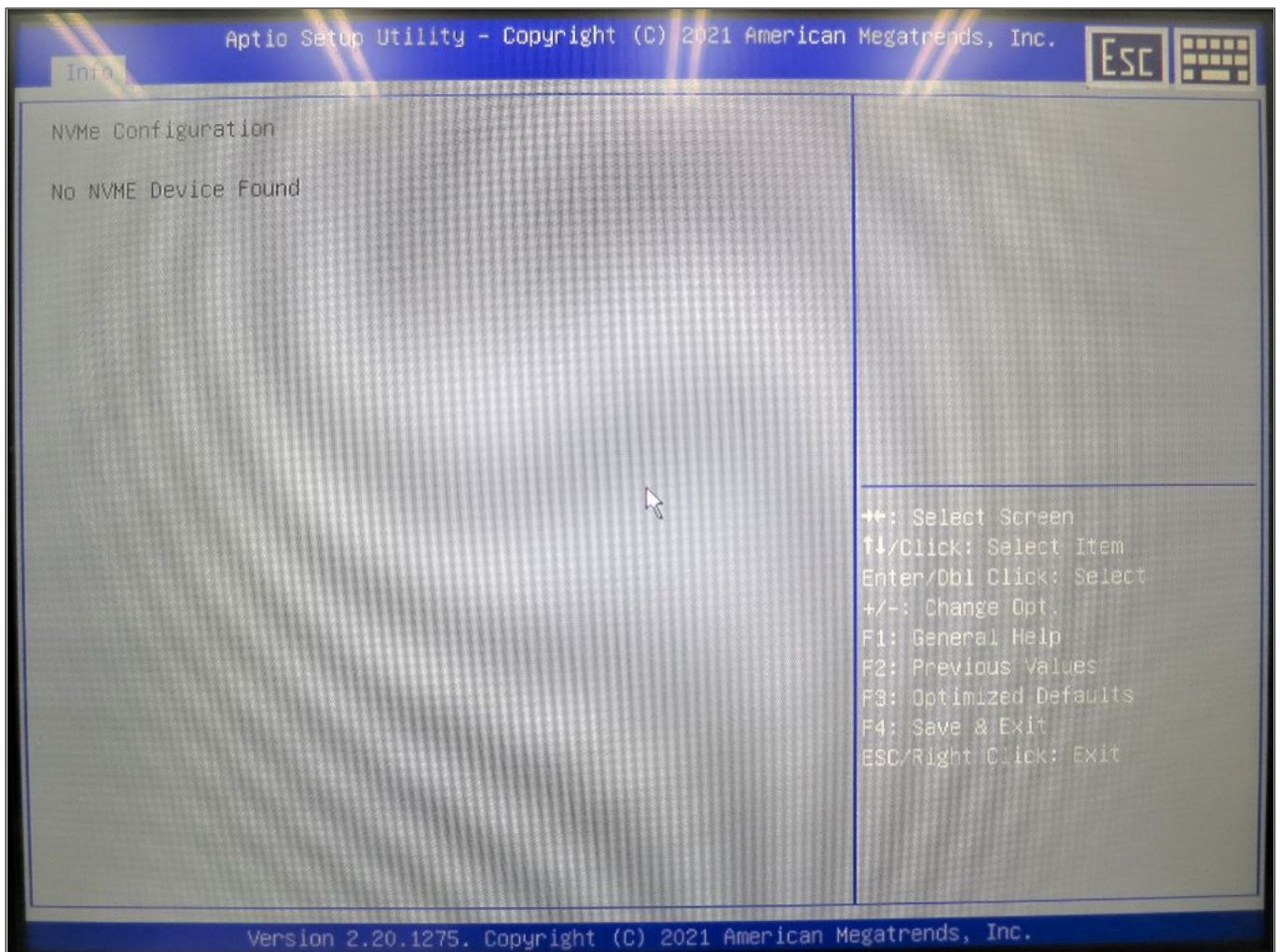
|                      |                                                                                      |
|----------------------|--------------------------------------------------------------------------------------|
| SATA Controller(s):  | Enable/Disable SATA Device.                                                          |
| SATA Mode Selection: | Determines how SATA controller(s) operate. This PCH SKU doesn't support RST feature. |

### 12.6.1 Software Feature Mask Configuration

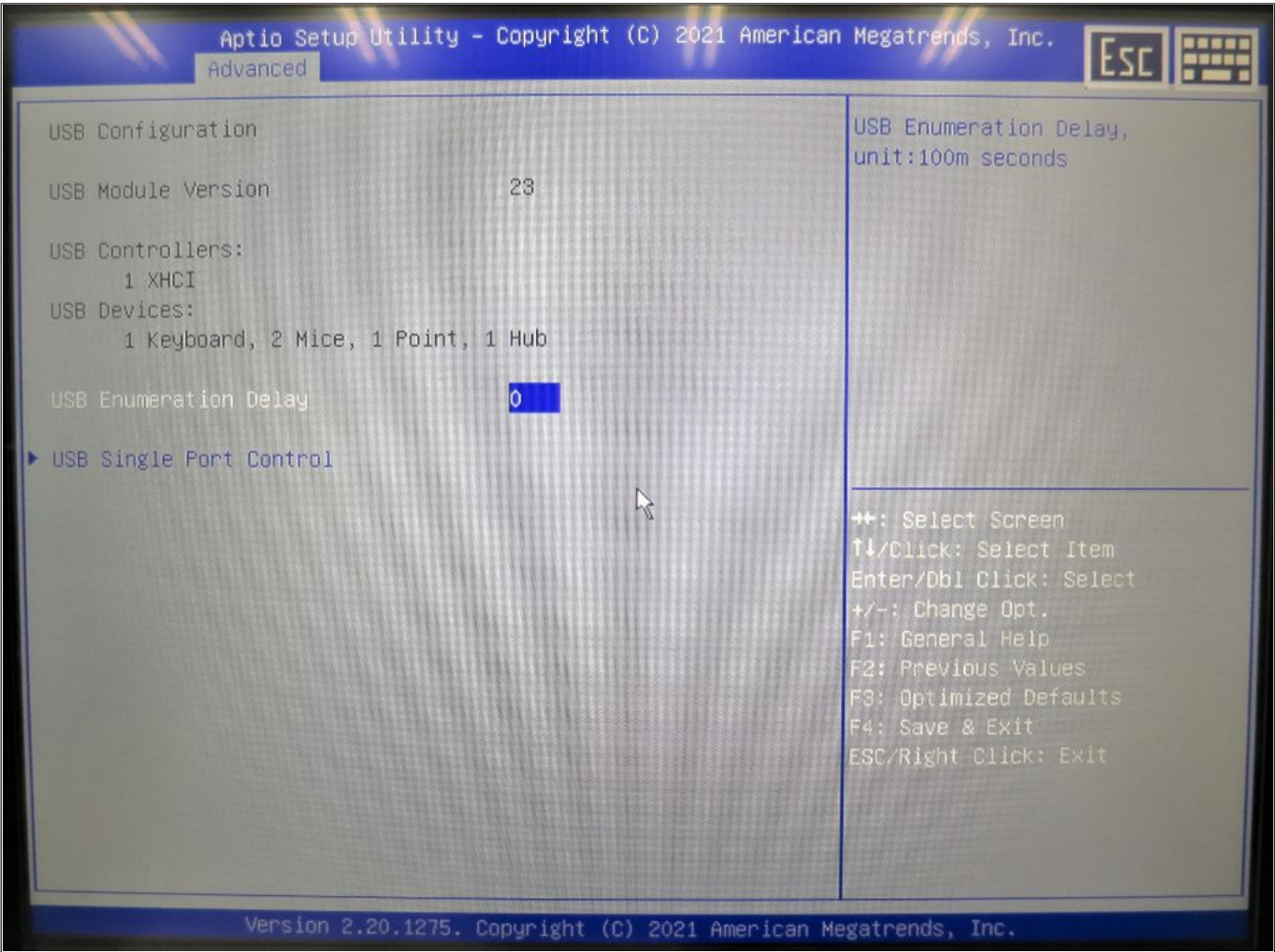


|             |                                                                                                                |
|-------------|----------------------------------------------------------------------------------------------------------------|
| HDD Unlock: | If enabled, indicates that the HDD password unlock in the OS is enabled.                                       |
| LED Locate: | If enabled, indicates that the LED/SGPIO hardware is attached and ping to locate feature is enabled on the OS. |

## 12.7 NVMe Configuration

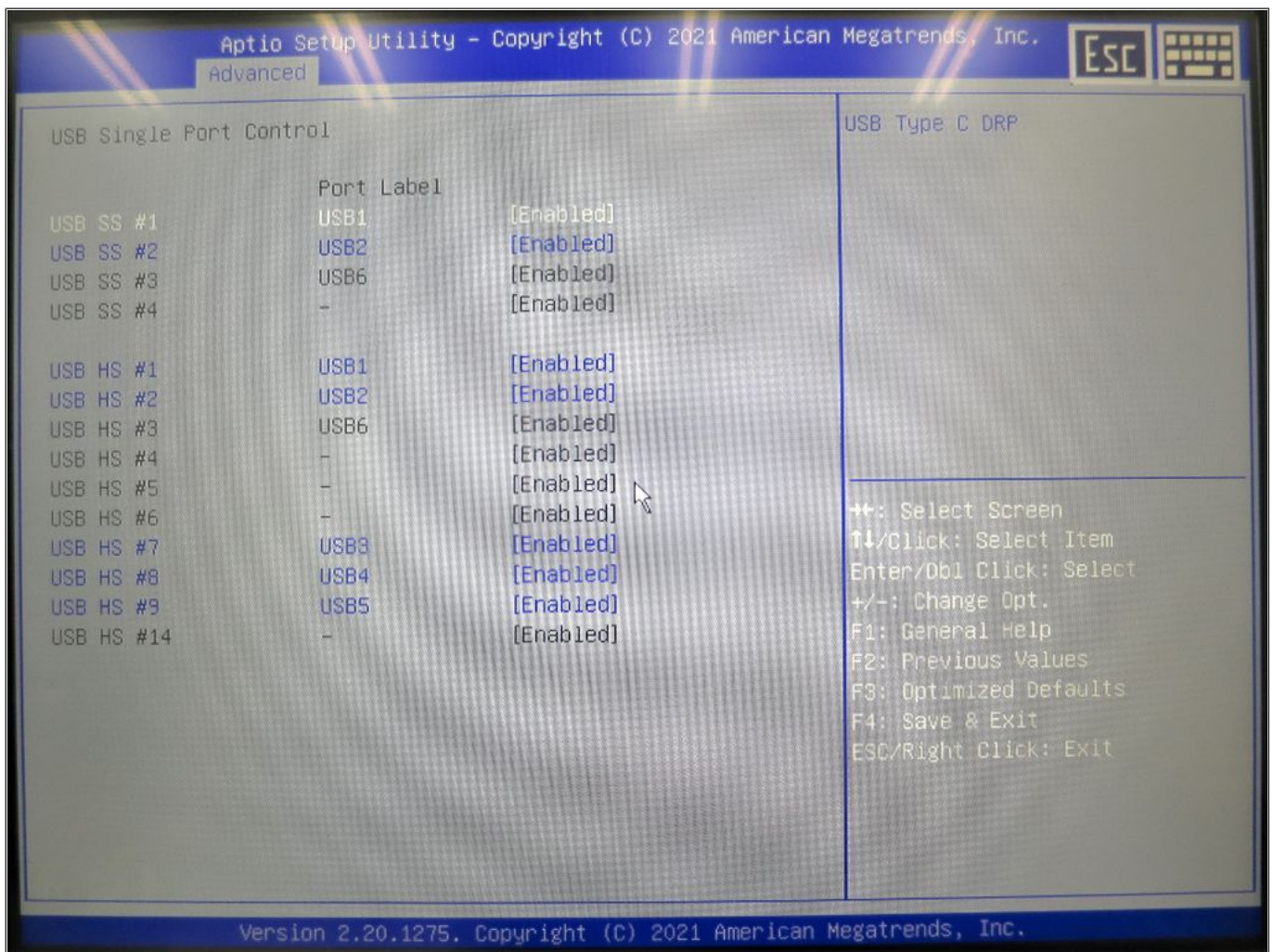


# 12.8 USB Configuration



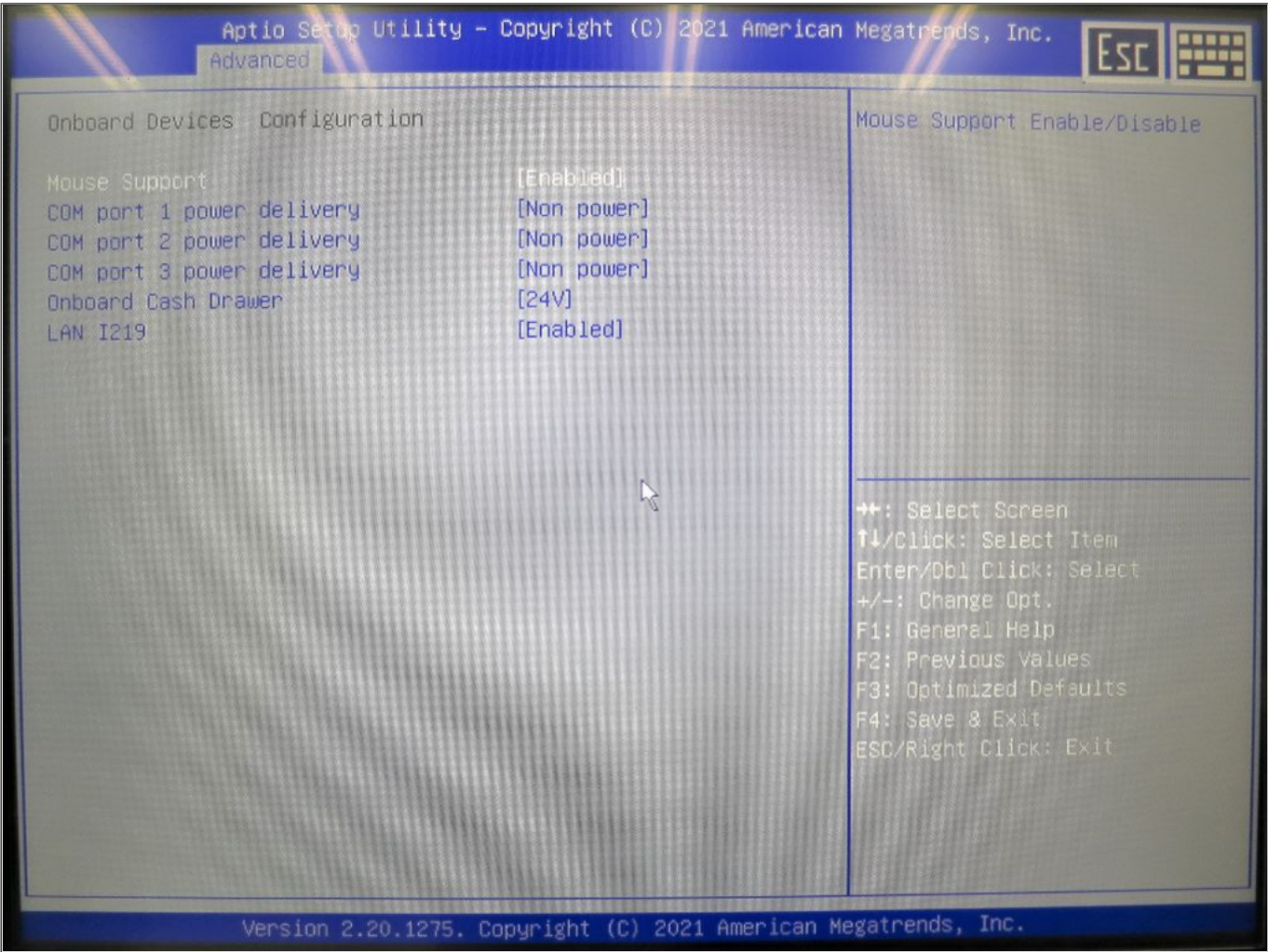
|                          |                                           |
|--------------------------|-------------------------------------------|
| USB Enumeration Delay:   | USB Enumeration Delay, unit: 100m seconds |
| USB Single Port Control: | USB Single Port Control                   |

## 12.8.1 USB Single Port Control



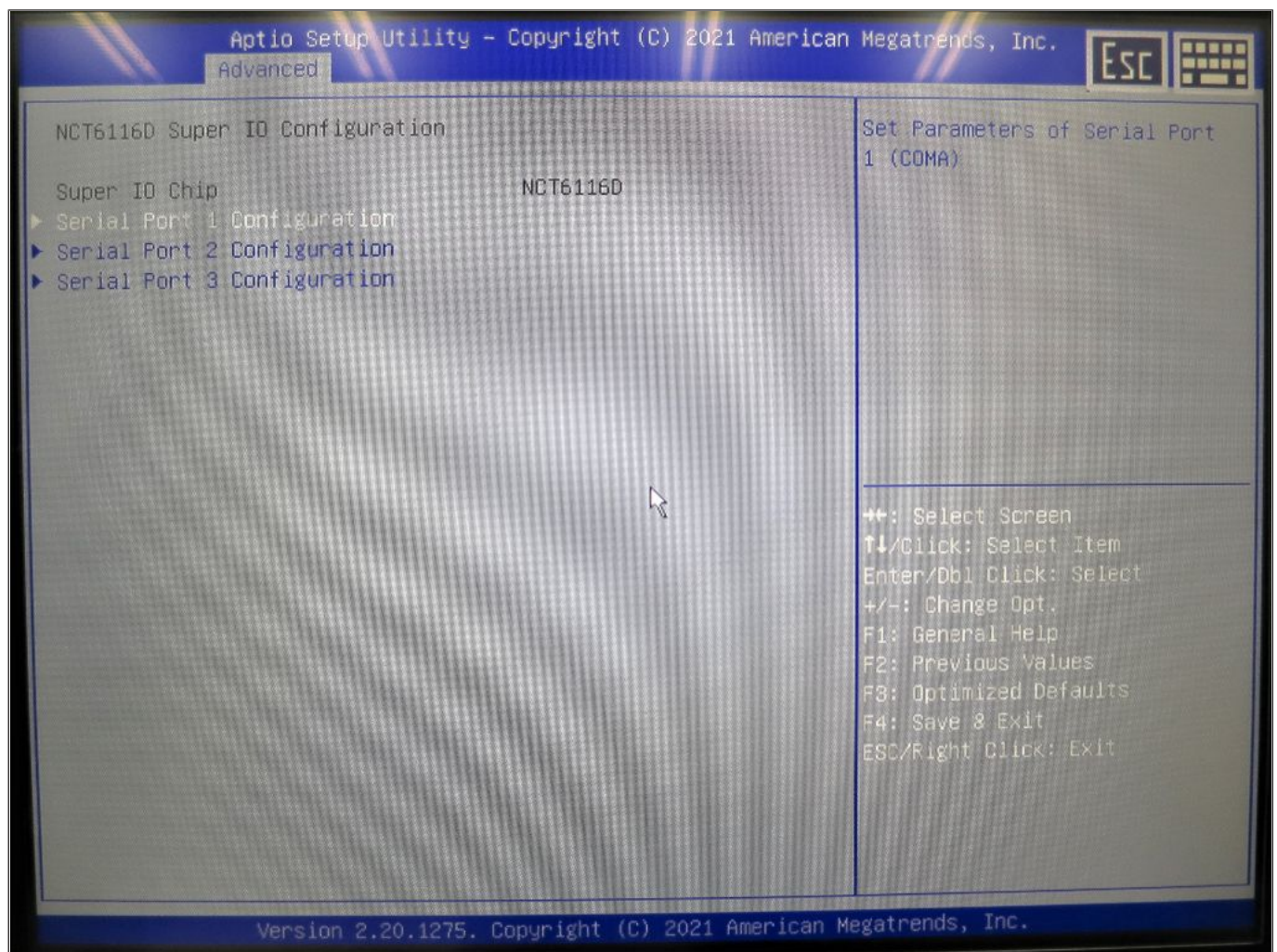
|            |                         |
|------------|-------------------------|
| USB SS #1: | USB Type C DRP          |
| USB SS #2: | USB Type C DFP          |
| USB HS #1: | USB Type C DRP          |
| USB HS #2: | USB Type C DFP          |
| USB HS #7: | USB 2.0 Type A (Left)   |
| USB HS #8: | USB 2.0 Type A (Middle) |
| USB HS #9: | USB 2.0 Type A (Right)  |

# 12.9 Onboard Devices Configuration



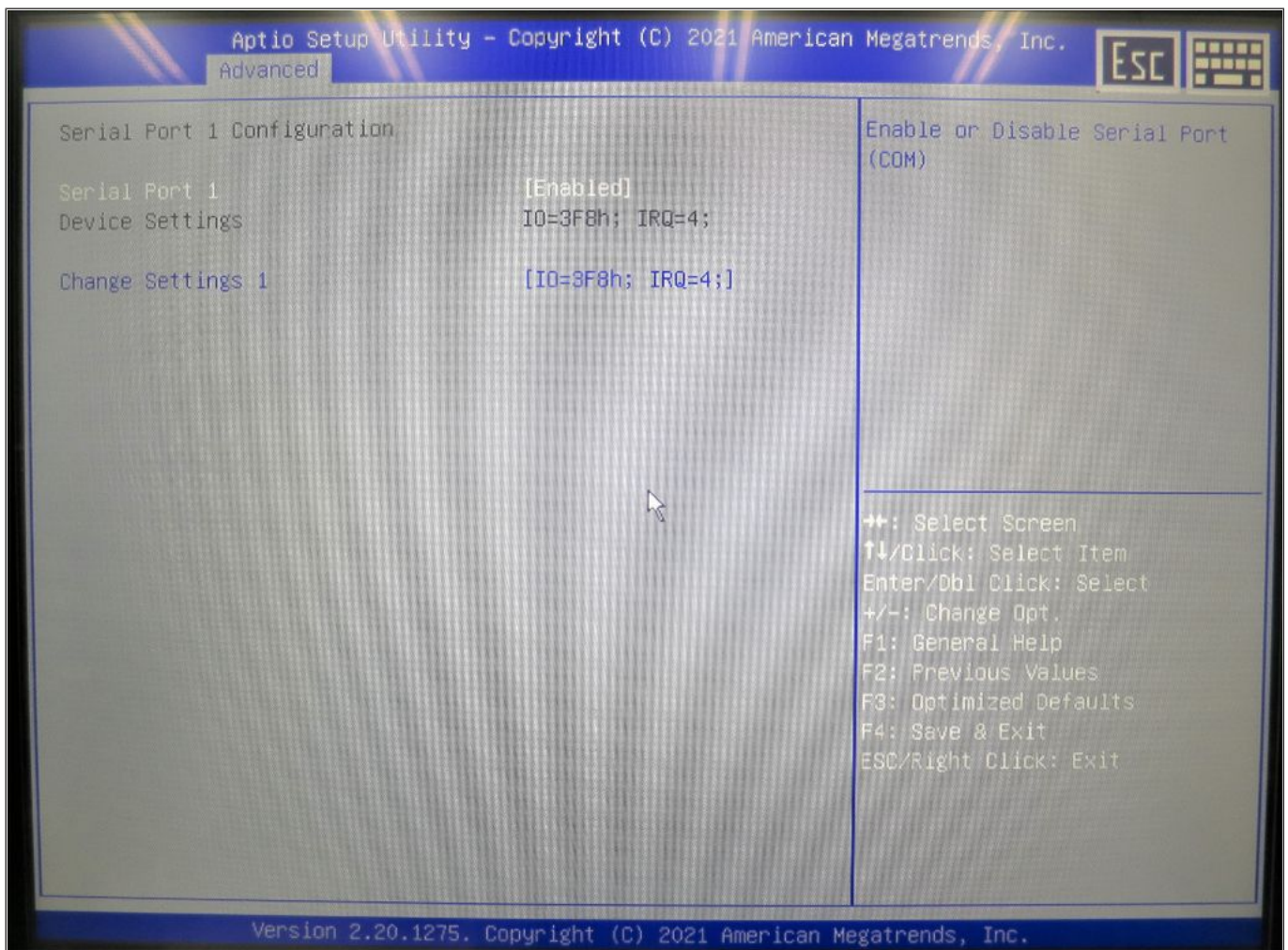
|                            |                              |
|----------------------------|------------------------------|
| Mouse Support:             | Mouse Support Enable/Disable |
| COM port 1 power delivery: | COM port 1 power delivery    |
| COM port 2 power delivery: | COM port 2 power delivery    |
| COM port 3 power delivery: | COM port 3 power delivery    |
| Onboard Cash Drawer:       | Onboard Cash Drawer          |
| LAN 1219:                  | Enable/Disable onboard NIC.  |

## 12.10 Super IO Configuration



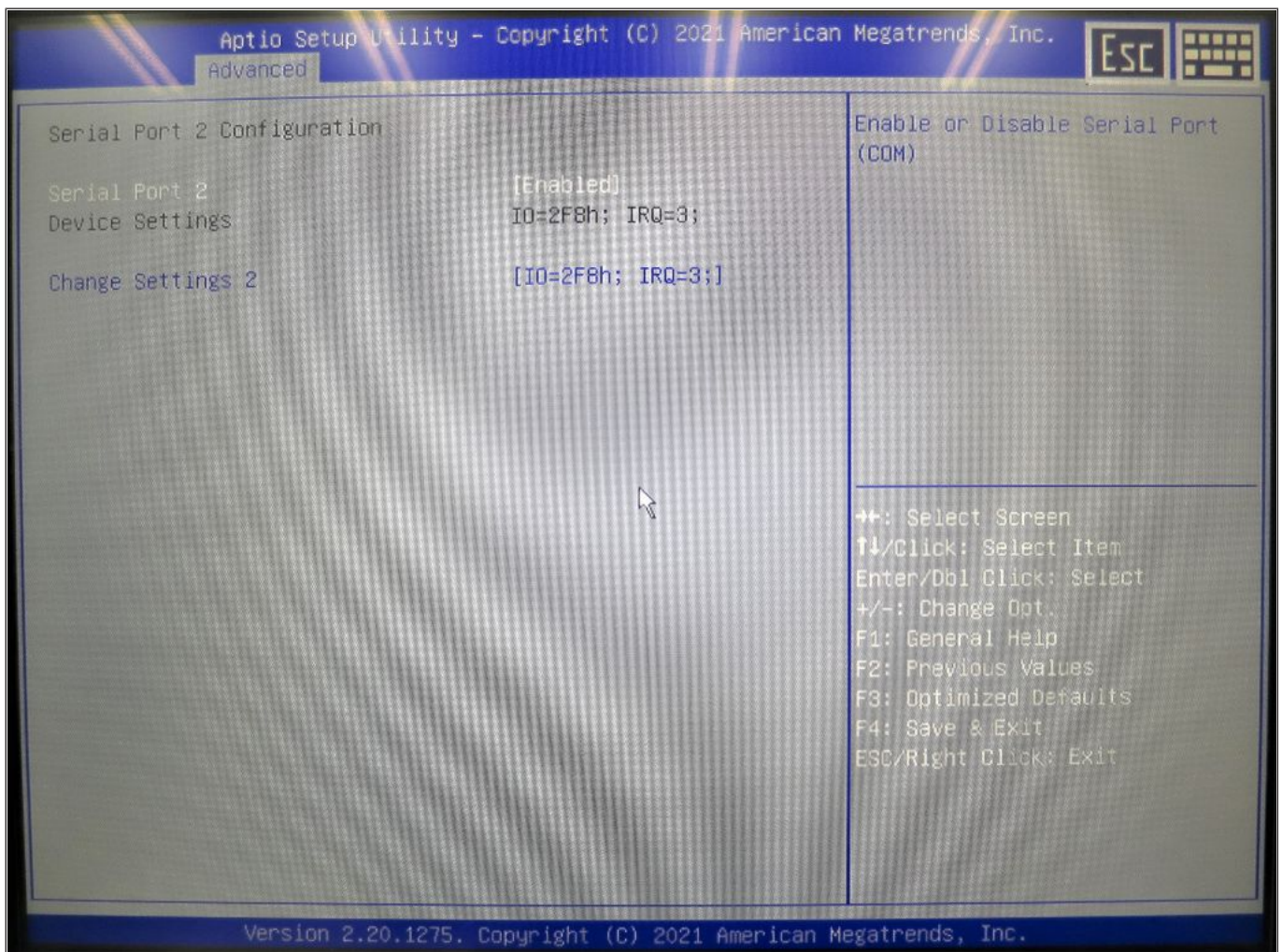
|                              |                                         |
|------------------------------|-----------------------------------------|
| Serial Port 1 Configuration: | Set Parameters of Serial Port 1 (COMA). |
| Serial Port 2 Configuration: | Set Parameters of Serial Port 2 (COMB). |
| Serial Port 3 Configuration: | Set Parameters of Serial Port 3 (COMD). |

## 12.10.1 Serial Port 1 Configuration



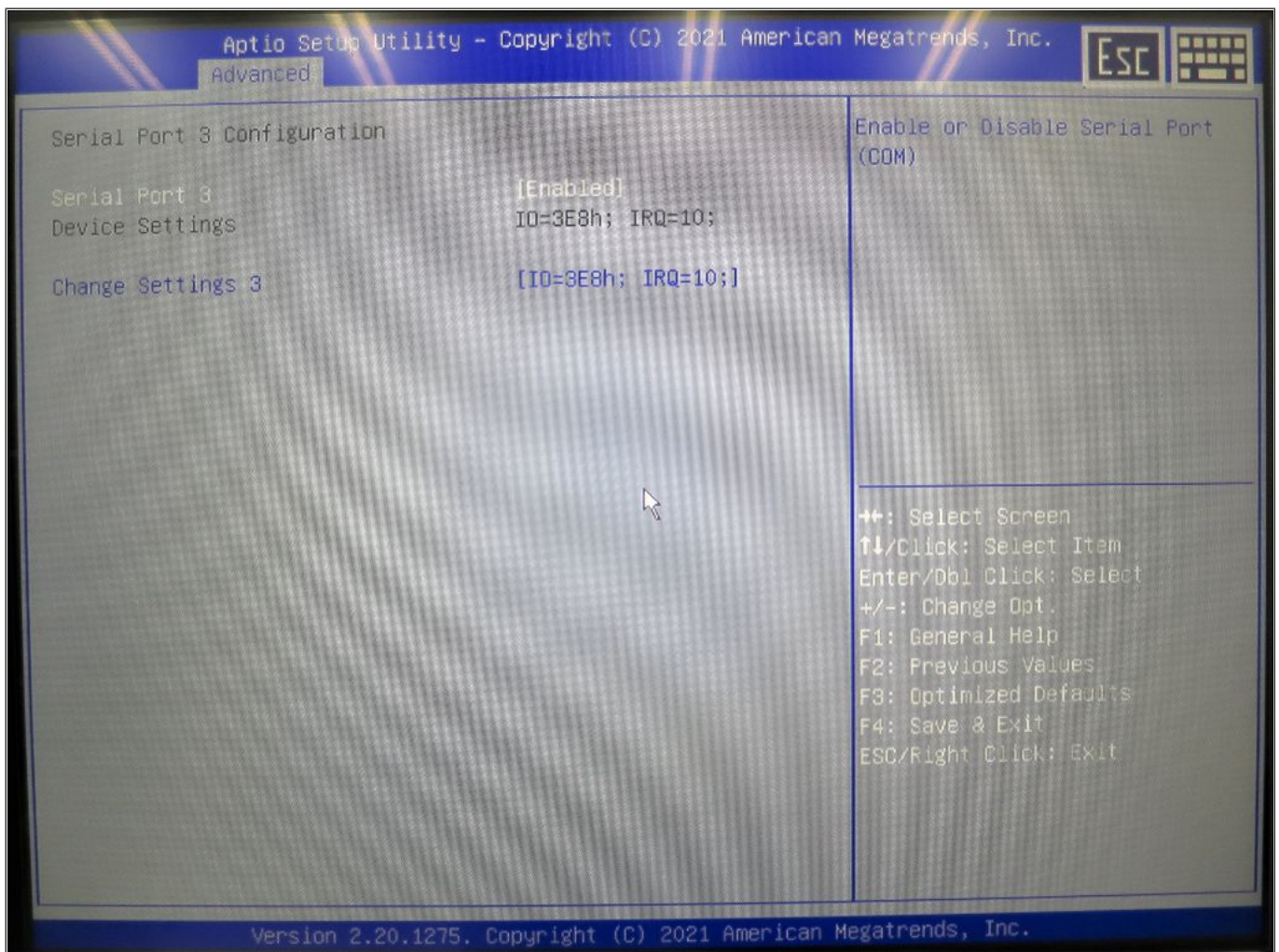
|                  |                                                 |
|------------------|-------------------------------------------------|
| Serial Port:     | Enable or Disable Serial Port (COM).            |
| Change Settings: | Select an optimal settings for Super IO Device. |

## 12.10.2 Serial Port 2 Configuration



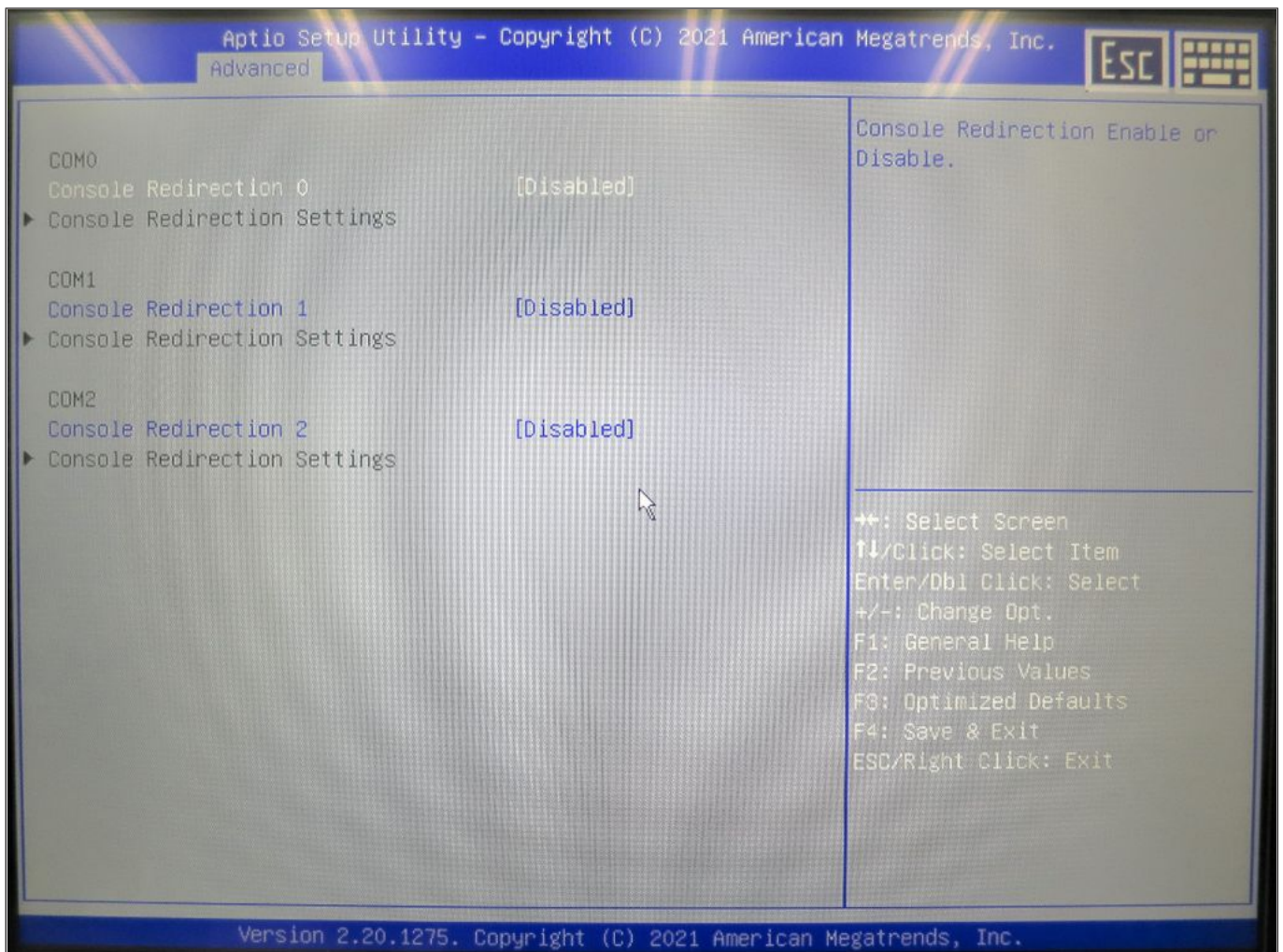
|                  |                                                 |
|------------------|-------------------------------------------------|
| Serial Port:     | Enable or Disable Serial Port (COM).            |
| Change Settings: | Select an optimal settings for Super IO Device. |

## 12.10.3 Serial Port 3 Configuration



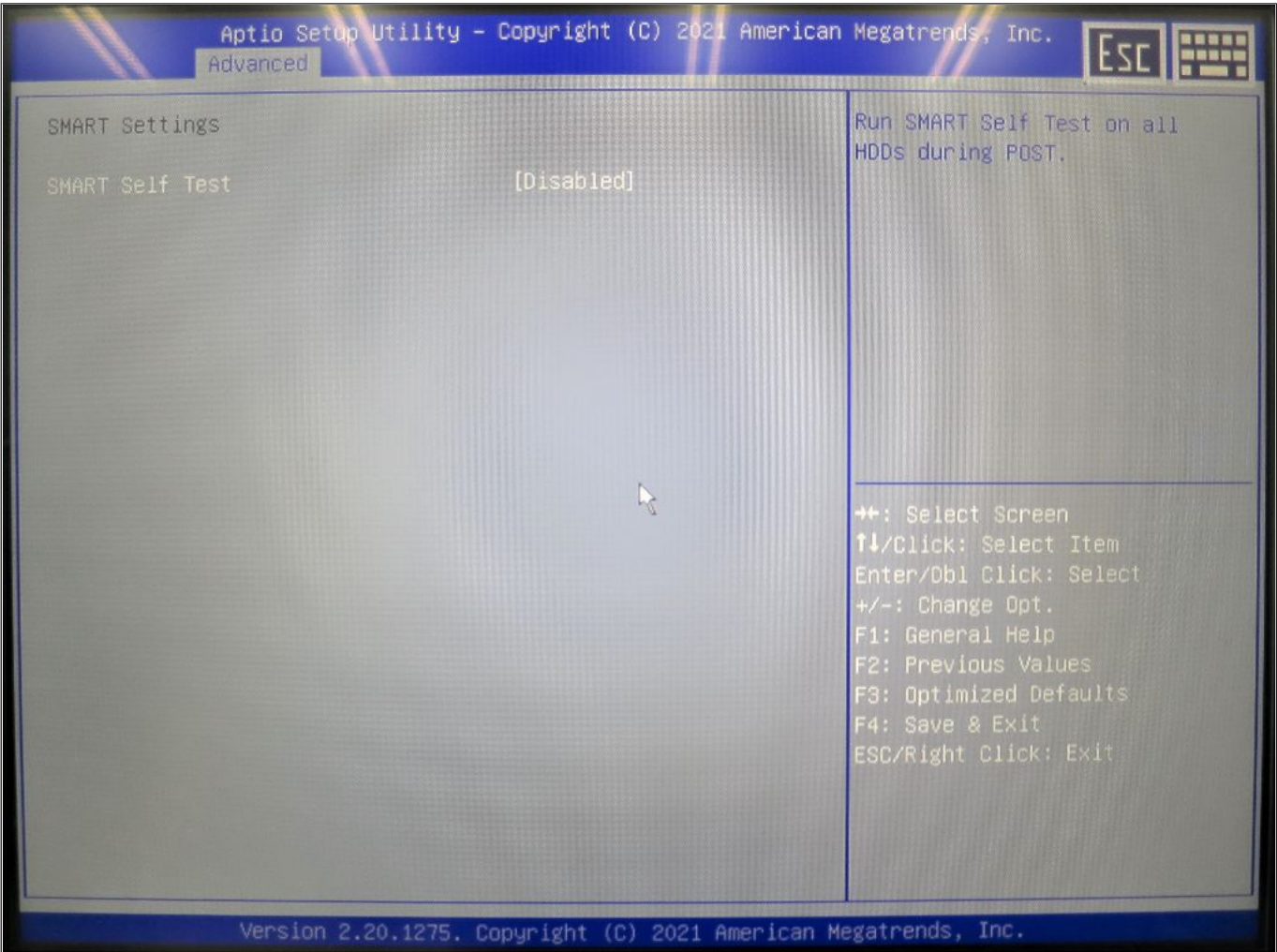
|                  |                                                 |
|------------------|-------------------------------------------------|
| Serial Port 3:   | Enable or Disable Serial Port (COM).            |
| Change Settings: | Select an optimal settings for Super IO Device. |

## 12.11 Serial Console Redirection



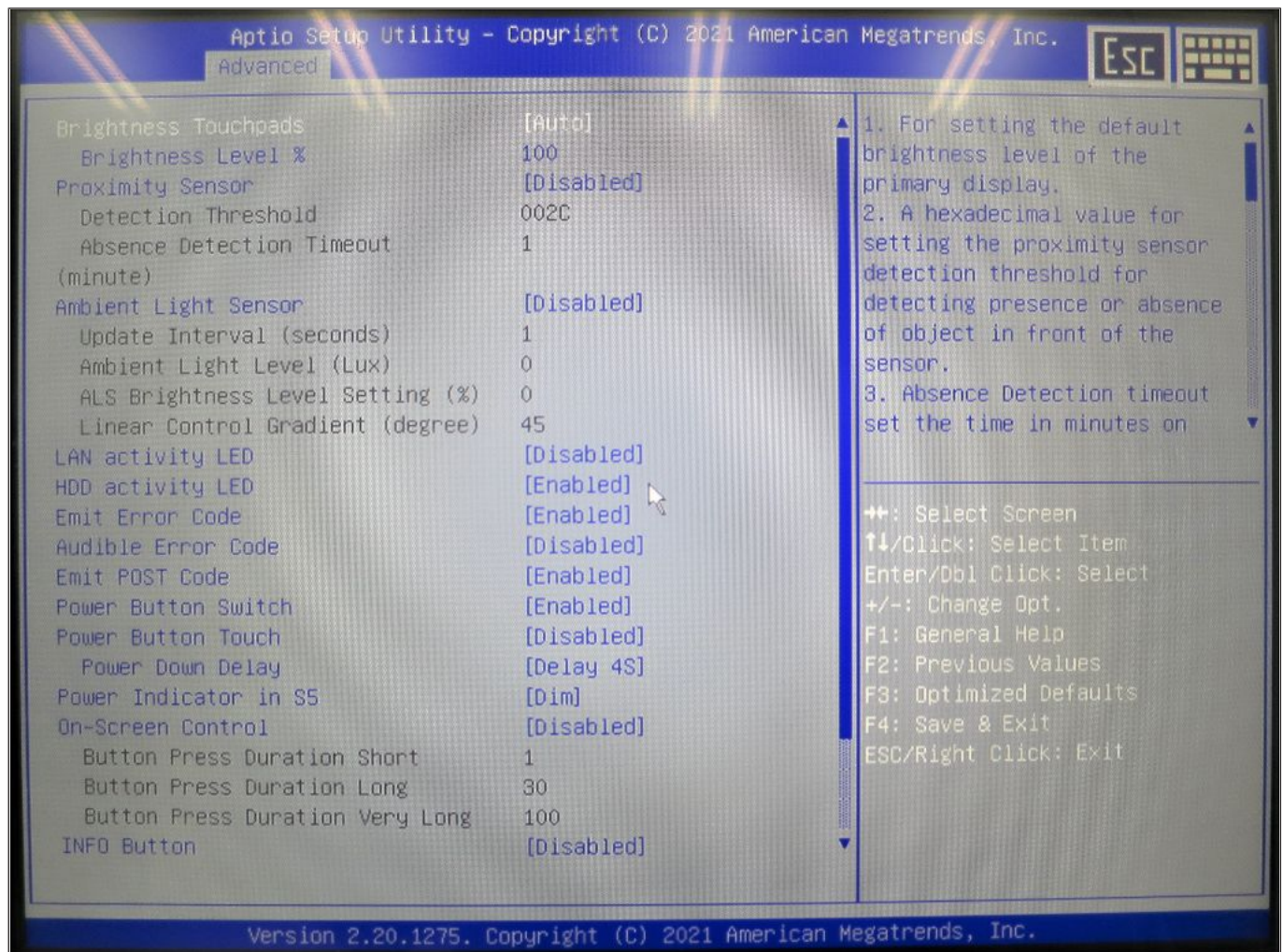
|                        |                                        |
|------------------------|----------------------------------------|
| Console Redirection 0: | Console Redirection Enable or Disable. |
| Console Redirection 1: | Console Redirection Enable or Disable. |
| Console Redirection 2: | Console Redirection Enable or Disable. |

# 12.12 SMART Settings



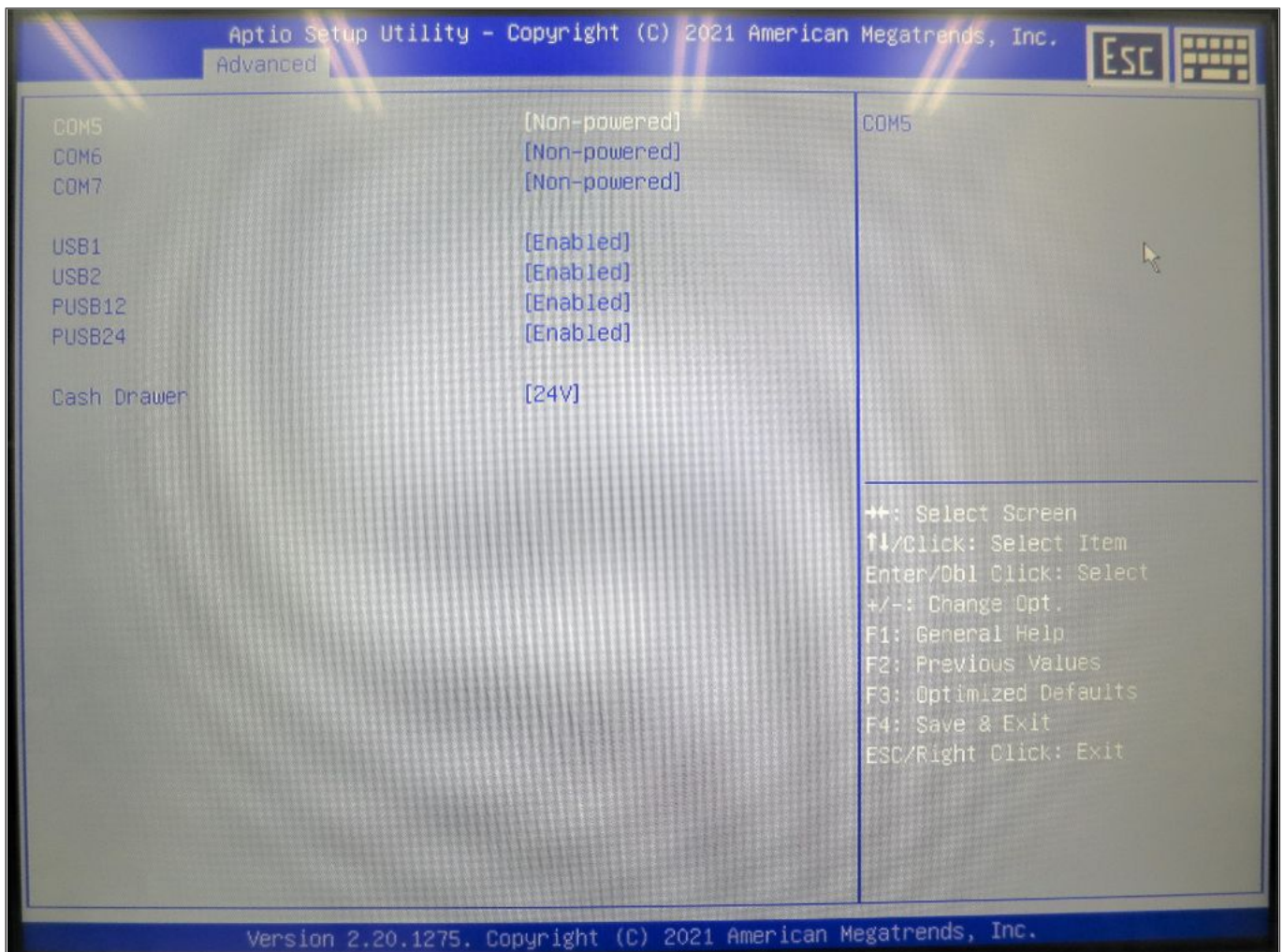
|                  |                                              |
|------------------|----------------------------------------------|
| SMART Self Test: | Run SMART Self Test on all HDDs during POST. |
|------------------|----------------------------------------------|

## 12.13 DN MCU Configuration



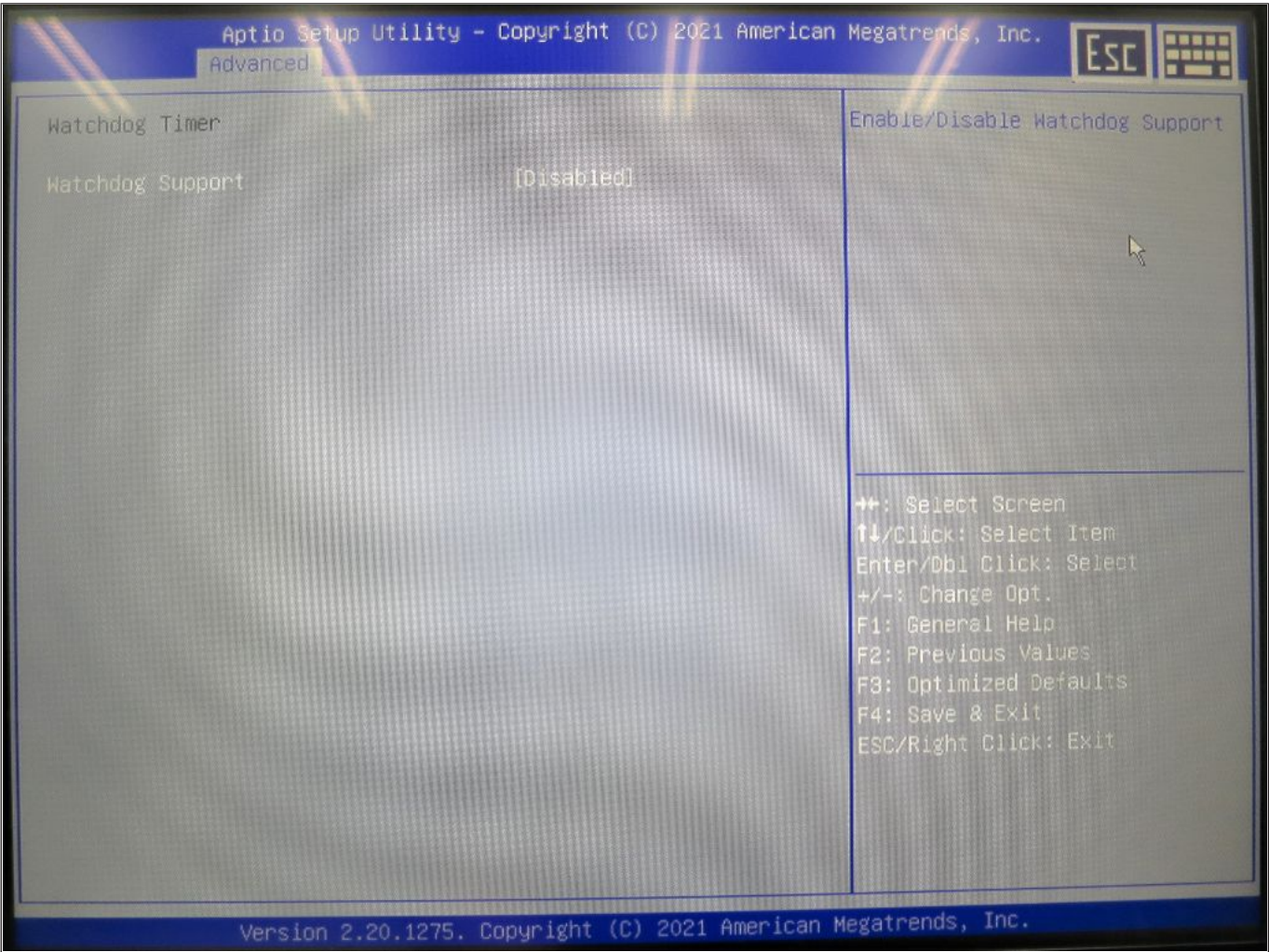
|                        |                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brightness Touchpads:  | For setting the default brightness level of the primary display.                                                                                                                                                                                                                                                                                                              |
| Brightness Level %:    | A hexadecimal value for setting the proximity sensor detection threshold for detecting presence or absence of object in front of the sensor.                                                                                                                                                                                                                                  |
| Proximity Sensor:      |                                                                                                                                                                                                                                                                                                                                                                               |
| Ambient Light Sensor:  | Absence Detection timeout set the time in minutes on detecting absence of an object in front of the system, when expired will dim the primary display to 10% level.                                                                                                                                                                                                           |
| LAN activity LED:      |                                                                                                                                                                                                                                                                                                                                                                               |
| HDD activity LED:      | Brightness level of the primary display is updated periodically after taking a reading of the ambient light level at this time interval                                                                                                                                                                                                                                       |
| Emit Error Code:       |                                                                                                                                                                                                                                                                                                                                                                               |
| Audible Error Code:    | The value is the ambient light level read when a calibration of the ambient light sensor is executed. User can also change manually though not recommended.                                                                                                                                                                                                                   |
| Emit POST Code:        |                                                                                                                                                                                                                                                                                                                                                                               |
| Power Button Switch:   | The value is the primary display brightness level selected by the user during the calibration of the ambient light sensor. User can also change manually though not recommended.                                                                                                                                                                                              |
| Power Button Touch:    |                                                                                                                                                                                                                                                                                                                                                                               |
| Power Down Delay:      | A factory default gradient is used for linear control of the display brightness. User can change the gradient to suit their preference. Valid value is 0 to 100, multiply by 0.01 to convert to actual gradient value. For example, the value 56 is converted to 0.56.                                                                                                        |
| Power Indicator in S5: |                                                                                                                                                                                                                                                                                                                                                                               |
| On-Screen Control:     | <p>This setting enables or disables the illumination of the Wincor Logo. Note that if either the ambient light sensor or the proximity sensor were previously calibrated, a re-calibration is required if this setting is changed subsequently.</p> <p>This is the duration in unit of 100msec. For example, a value of 1 equals 100msec and a value of 35 equals 3.5sec.</p> |
| INFO Button:           |                                                                                                                                                                                                                                                                                                                                                                               |

## 12.14 IO HUB Configuration



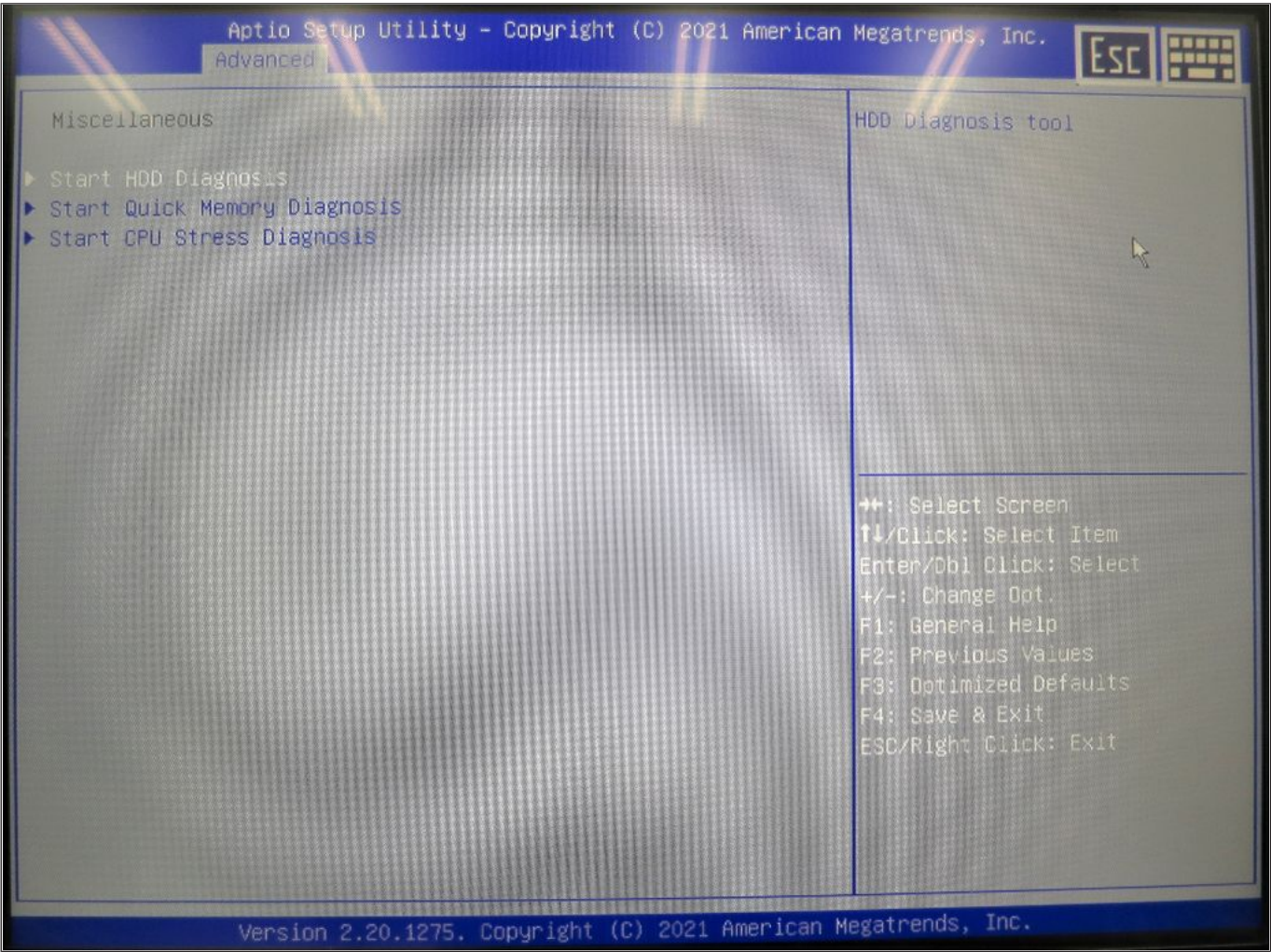
|              |             |
|--------------|-------------|
| COM5:        | COM5        |
| COM6:        | COM6        |
| COM7:        | COM7        |
| USB1:        | USB1        |
| USB2:        | USB2        |
| PUSB12:      | PUSB12      |
| PUSB24:      | PUSB24      |
| Cash Drawer: | Cash Drawer |

## 12.15 Watchdog Timer



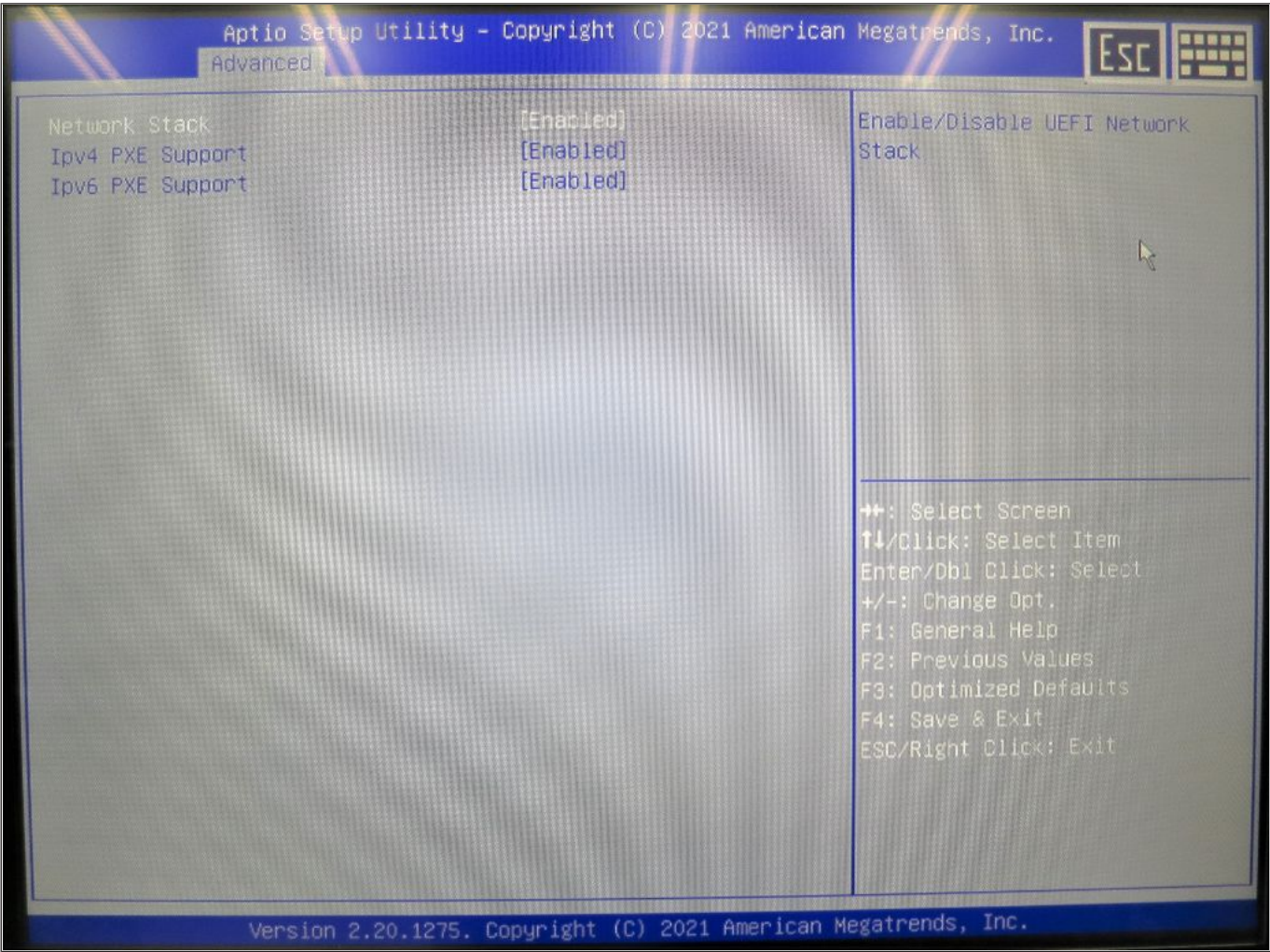
|                   |                                 |
|-------------------|---------------------------------|
| Watchdog Support: | Enable/Disable Watchdog Support |
|-------------------|---------------------------------|

## 12.16 Miscellaneous



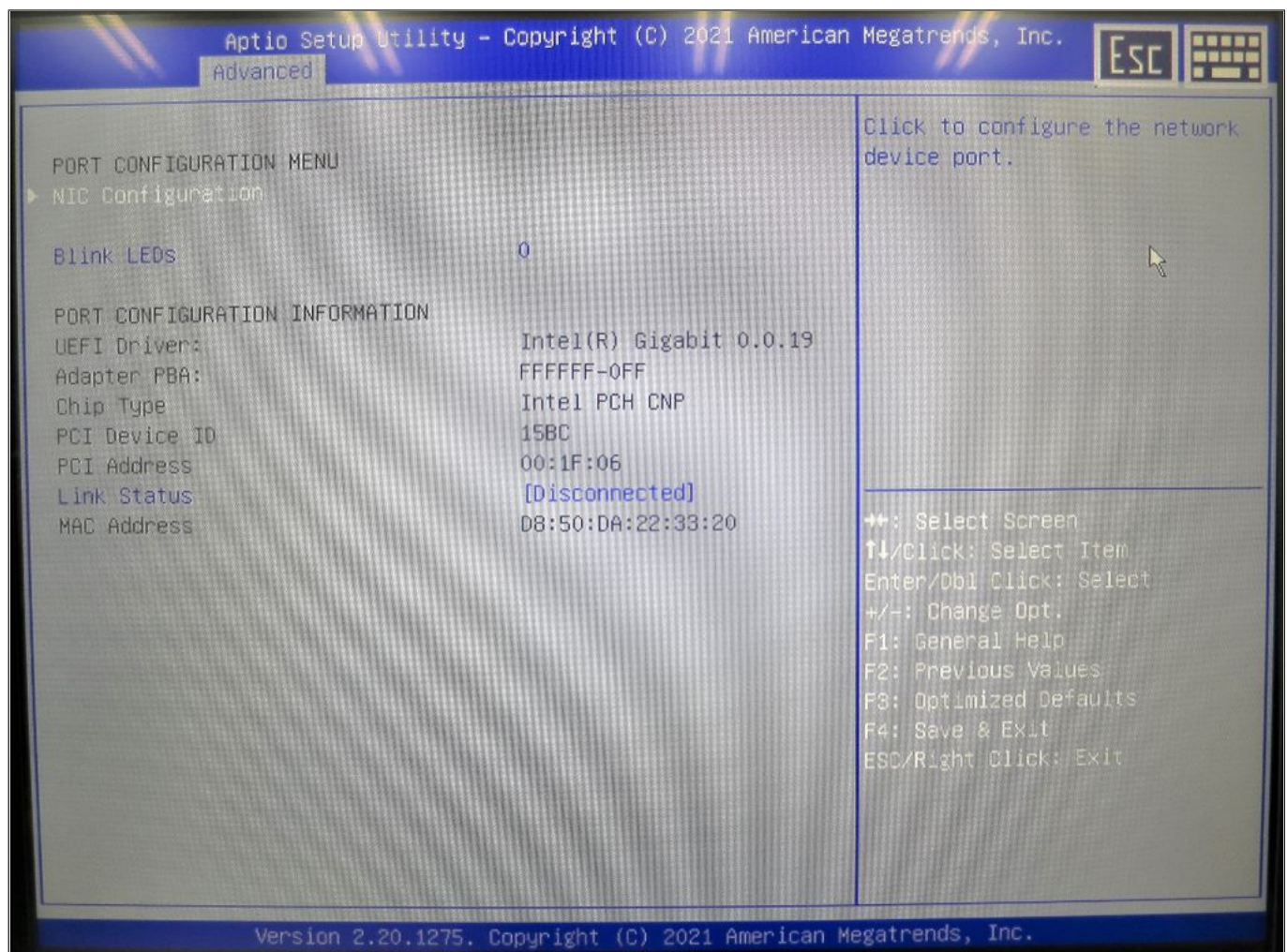
|                               |                             |
|-------------------------------|-----------------------------|
| Start HDD Diagnosis:          | HDD Diagnosis tool          |
| Start Quick Memory Diagnosis: | Quick Memory Diagnosis Tool |
| Start CPU Stress Diagnosis:   | CPU Stress Diagnosis        |

## 12.17 Network Stack Configuration



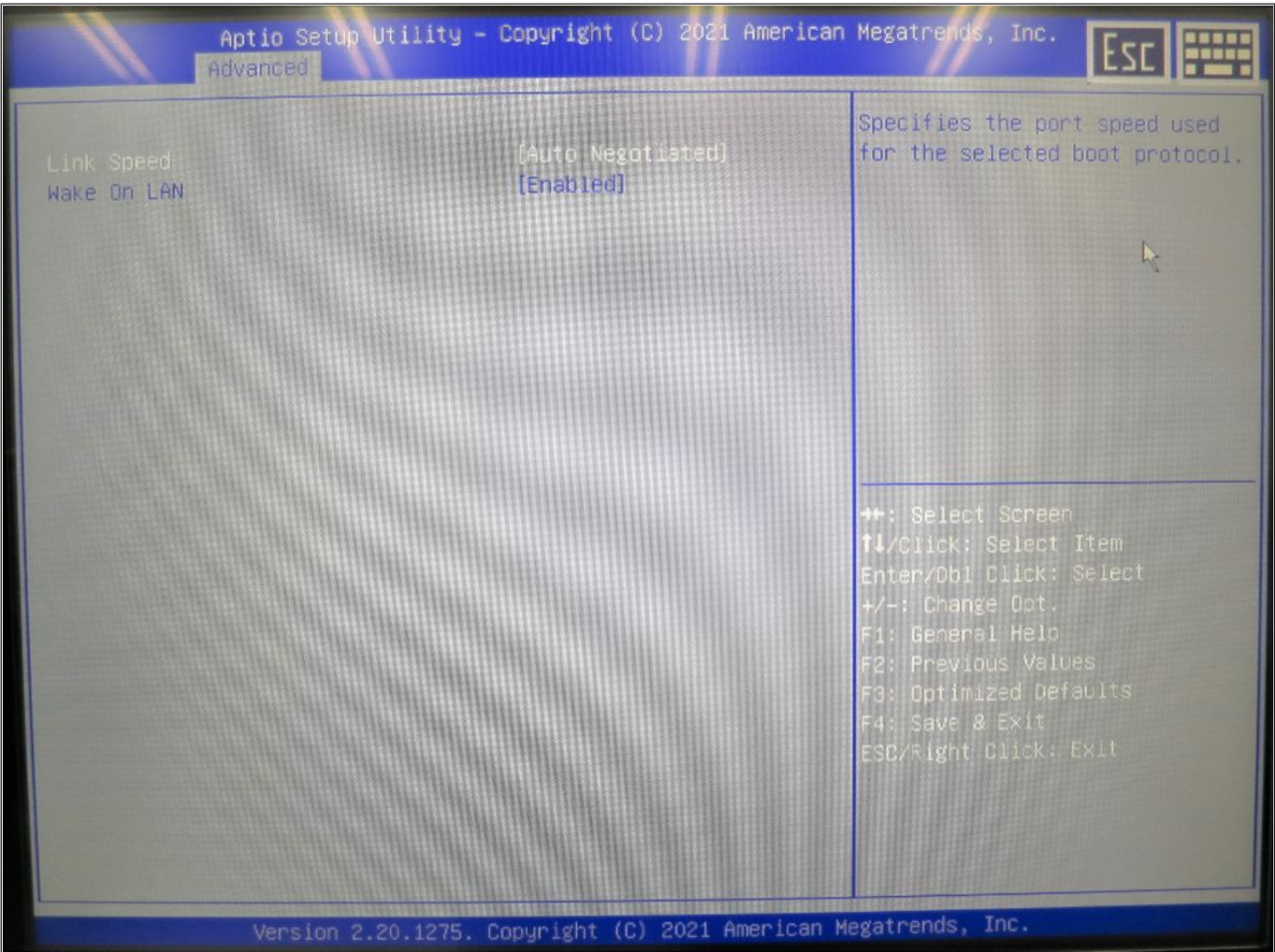
|                   |                                                                                                 |
|-------------------|-------------------------------------------------------------------------------------------------|
| Network Stack:    | Enable/Disable UEFI Network Stack.                                                              |
| Ipv4 PXE Support: | Enable/Disable Ipv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available. |
| Ipv6 PXE Support: | Enable/Disable Ipv6 PXE boot support. If disabled, IPv6 PXE boot support will not be available. |

## 12.18 Intel(R) Ethernet Connection (7) I219-V - D8:50::DA:22:33:20



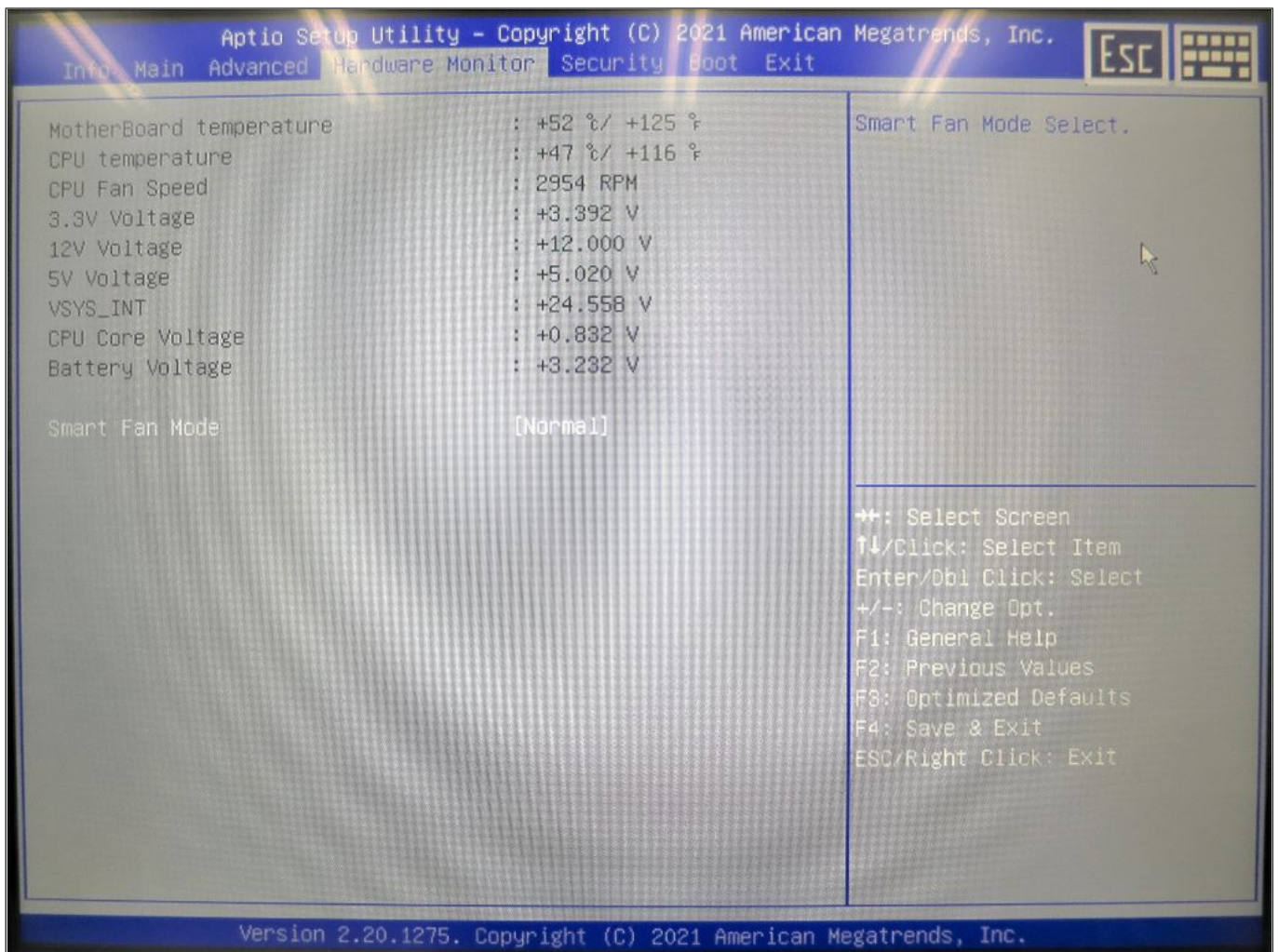
|                    |                                                                    |
|--------------------|--------------------------------------------------------------------|
| NIC Configuration: | Click to configure the network device port.                        |
| Blink LEDs:        | Identify the physical network port by blinking the associated LED. |
| Link Status:       | Link Status.                                                       |

### 12.18.1 NIC Configuration



|              |                                                                    |
|--------------|--------------------------------------------------------------------|
| Link Speed:  | Specifies the port speed used for the selected boot protocol.      |
| Wake On LAN: | Enables the server to be powered on using an in-band magic packet. |

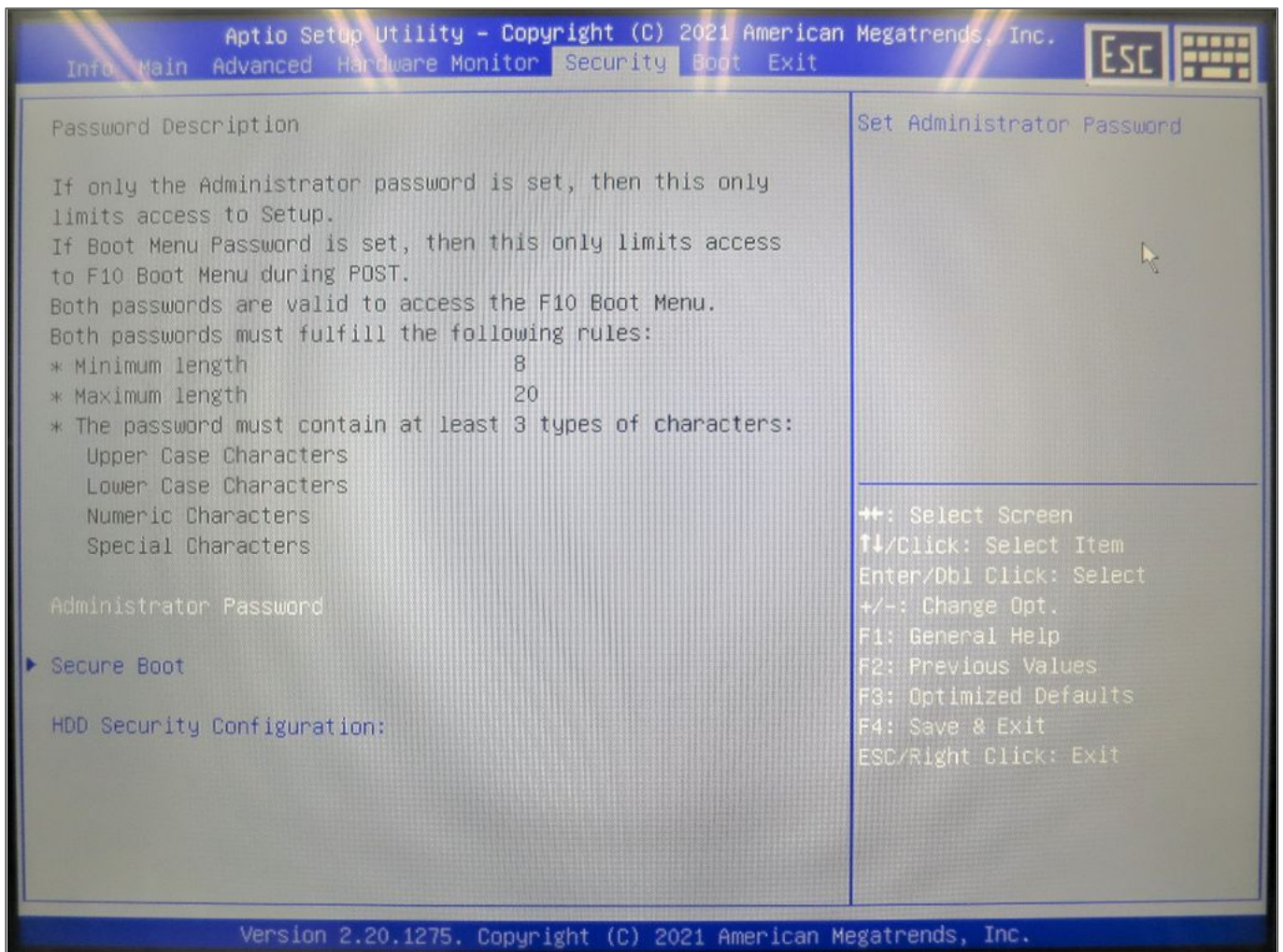
## 13 Hardware Monitor



Smart Fan Mode:

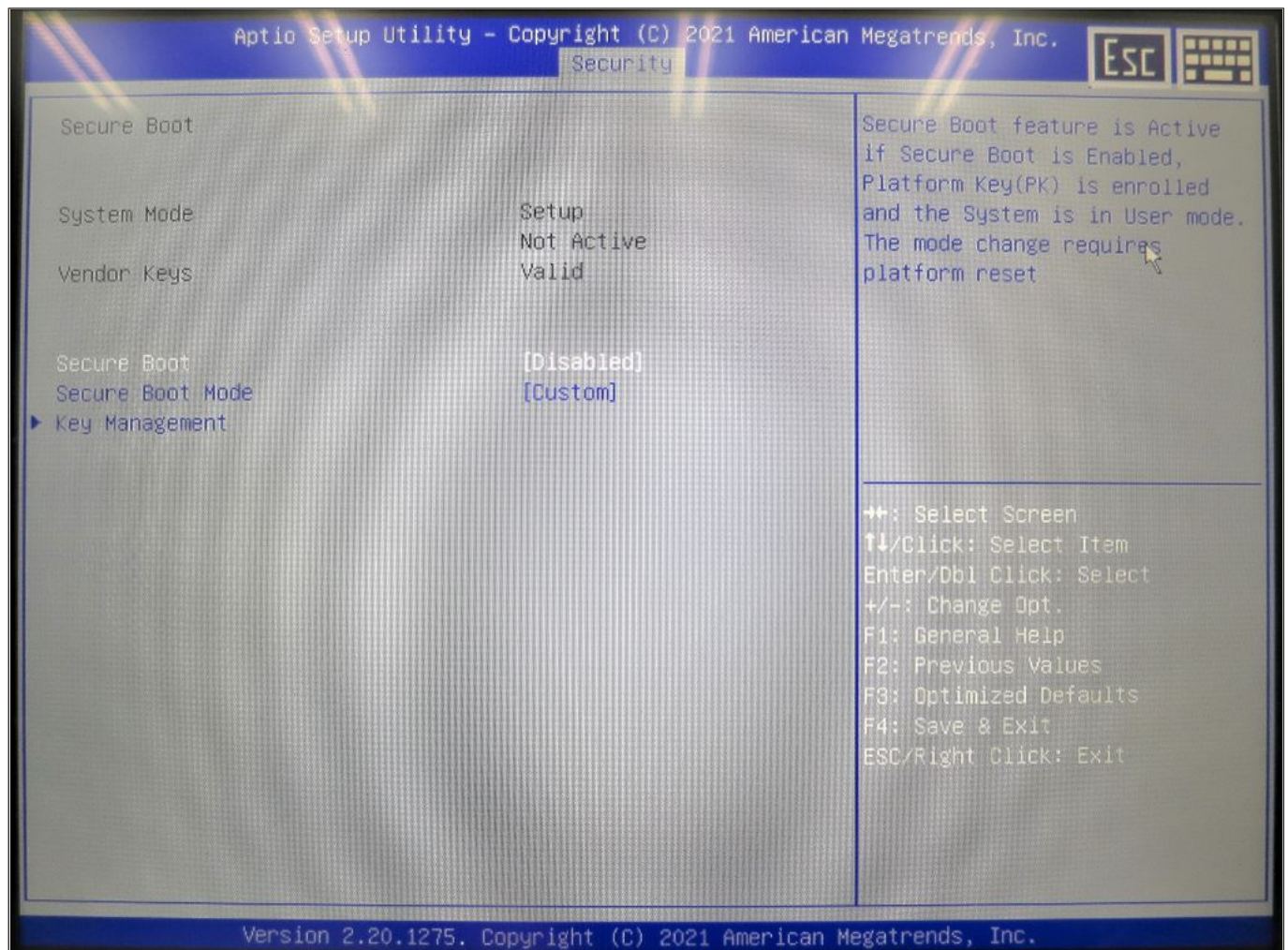
Smart Fan Mode Select.

# 14 Security



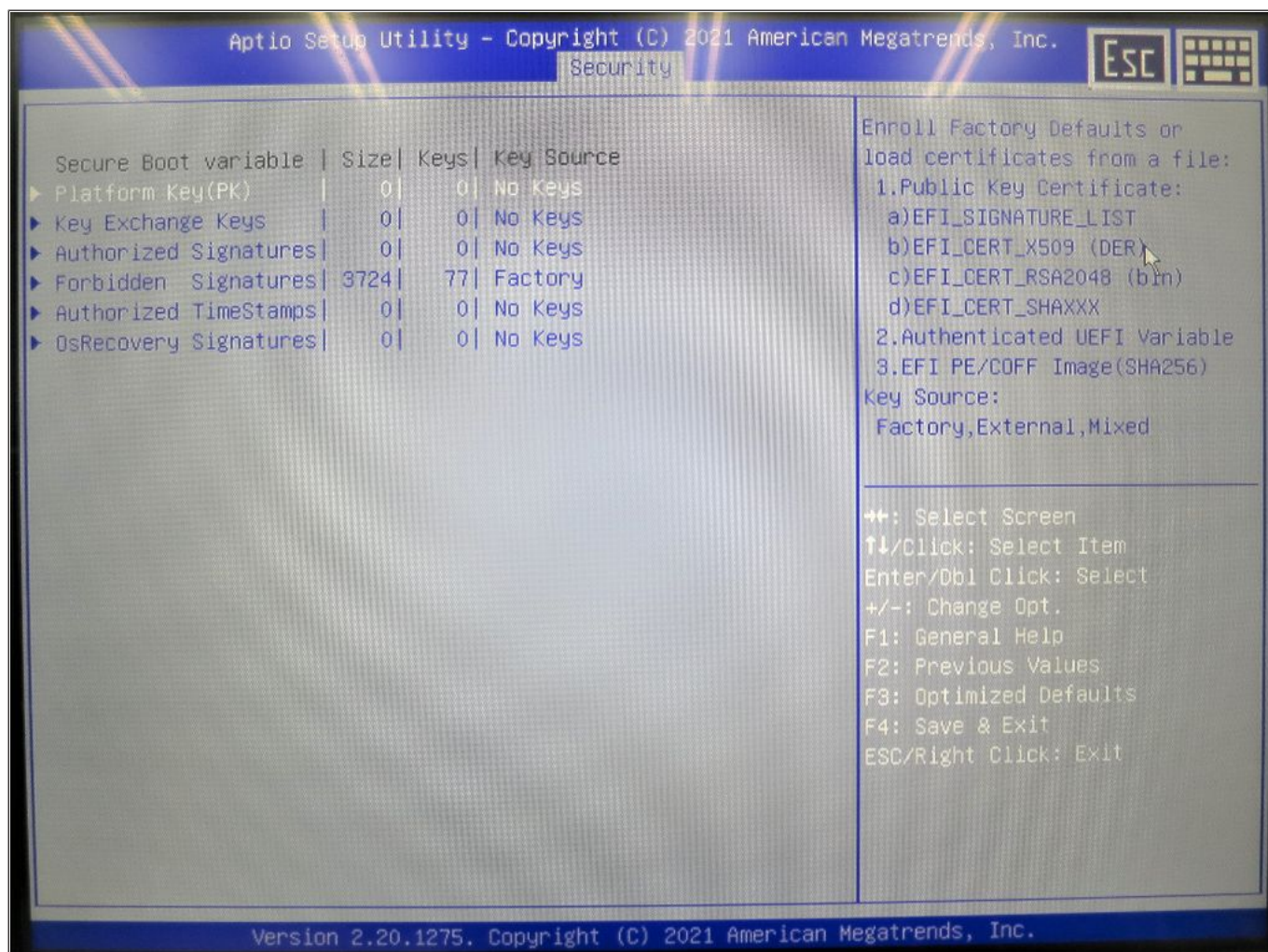
|                             |                             |
|-----------------------------|-----------------------------|
| Administrator Password:     | Set Administrator Password. |
| Secure Boot:                | Secure Boot configuration.  |
| HDD Security Configuration: | HDD Security Configuration. |

## 14.1 Secure Boot



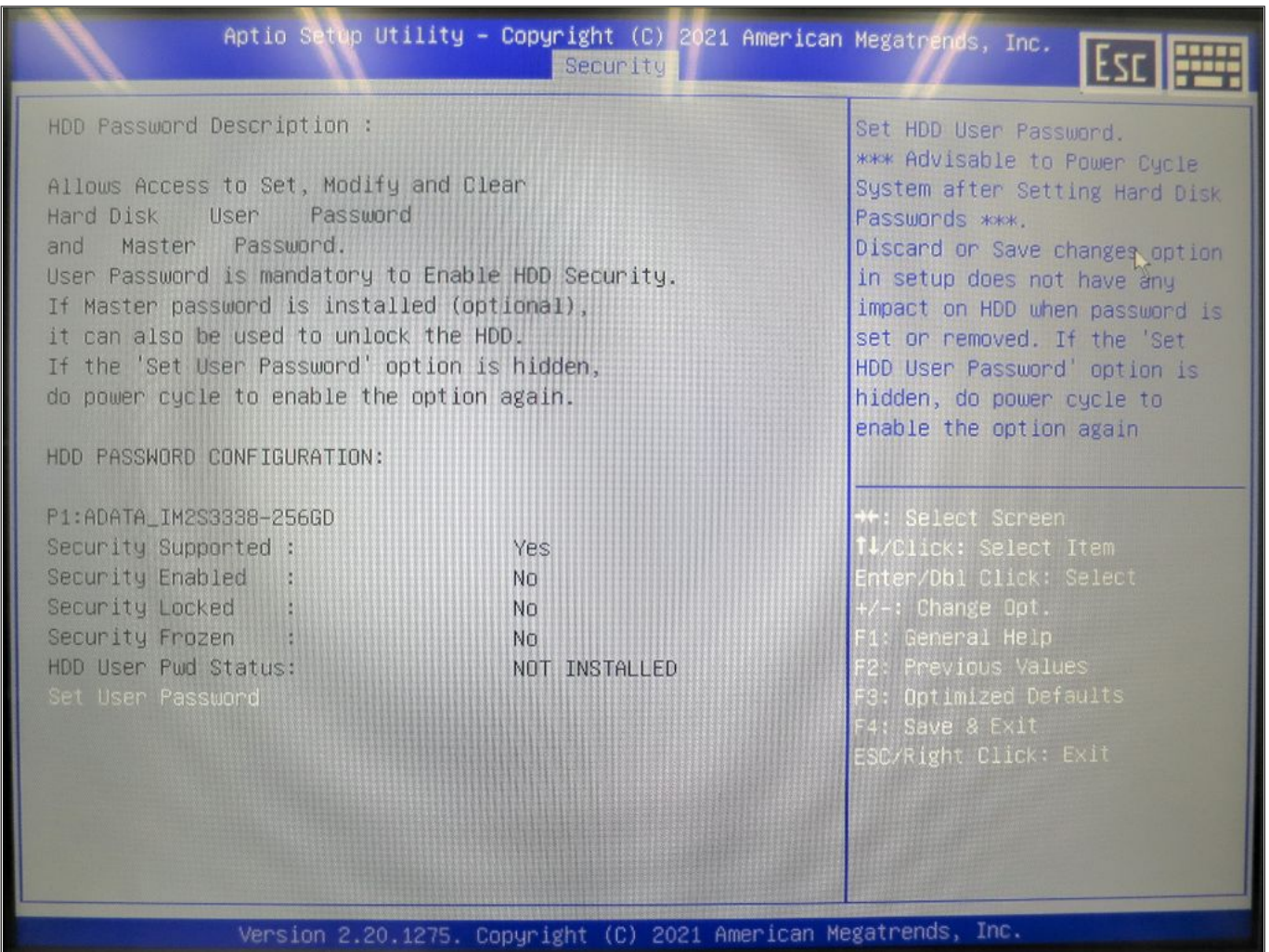
|                   |                                                                                                                                                                               |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Secure Boot:      | Secure Boot feature is Active is Secure Boot is Enabled. Platform Key (PK) is enrolled and the System is in User mode. The mode change requires platform reset.               |
| Secure Boot Mode: | Secure Boot mode options: Standard or Custom.<br><br>In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication. |
| Key Management:   | Enables expert users to modify Secure Boot Policy variables without full authentication.                                                                                      |

## 14.1.1 Key Management



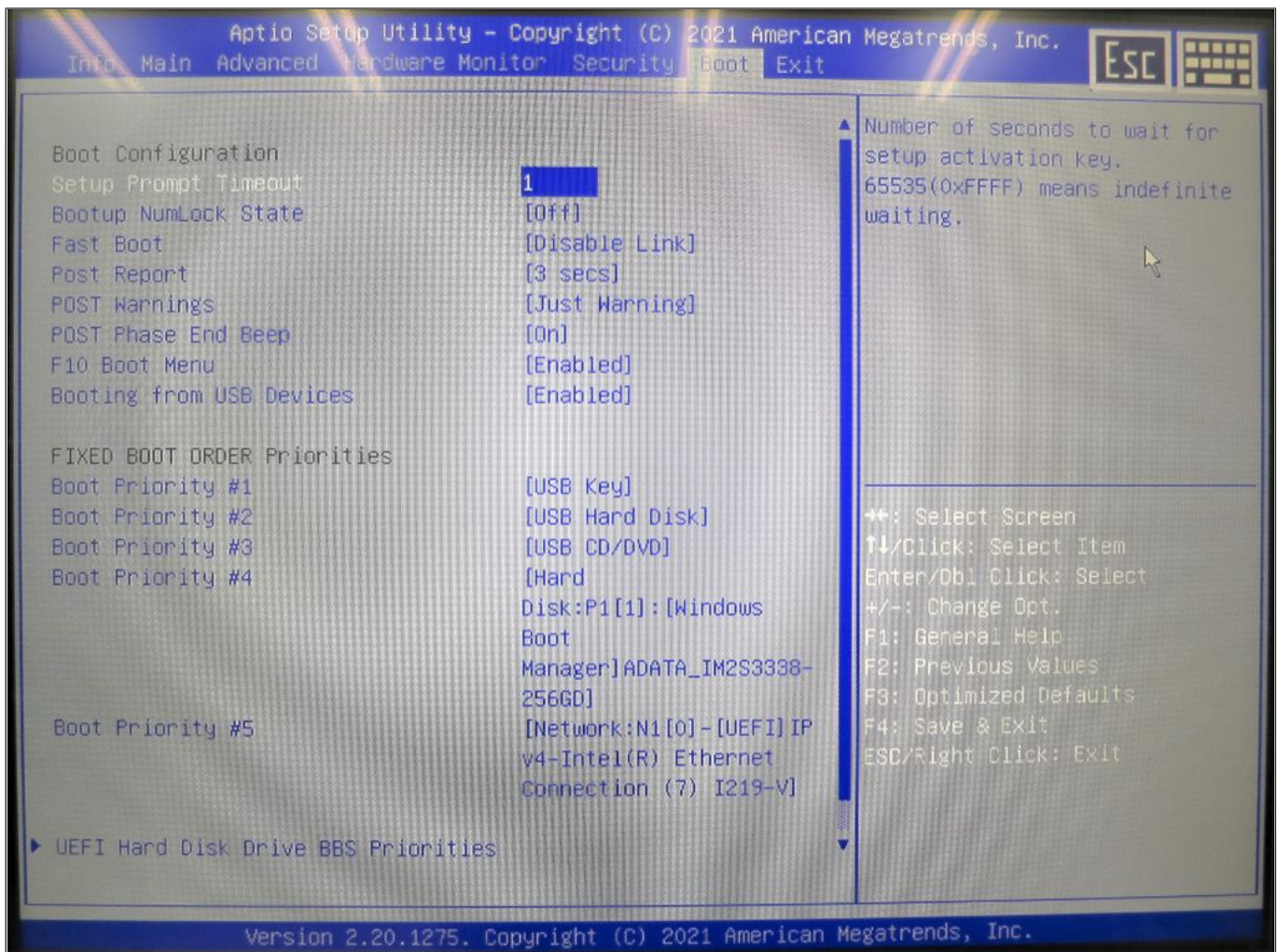
|                        |                                                           |
|------------------------|-----------------------------------------------------------|
| Platform Key (PK):     | Enroll Factory Defaults or load certificates from a file: |
| Key Exchange Keys:     | 1. Public Key Certificate:                                |
| Authorized Signatures: | a) EFI_SIGNATURE_LIST                                     |
| Forbidden Signatures:  | b) EFI_CERT_X509 (DER)                                    |
| Authorized TimeStamps: | c) EFI_CERT_RSA2048 (bin)                                 |
| OsRecovery Signatures: | d) EFI_CERT_SHAXXX                                        |
|                        | 2. Authenticated UEFI Variable                            |
|                        | 3. EFI PE/C0FF Image (SHA256)                             |
|                        | Key source:                                               |
|                        | Factory, External, Mixed                                  |

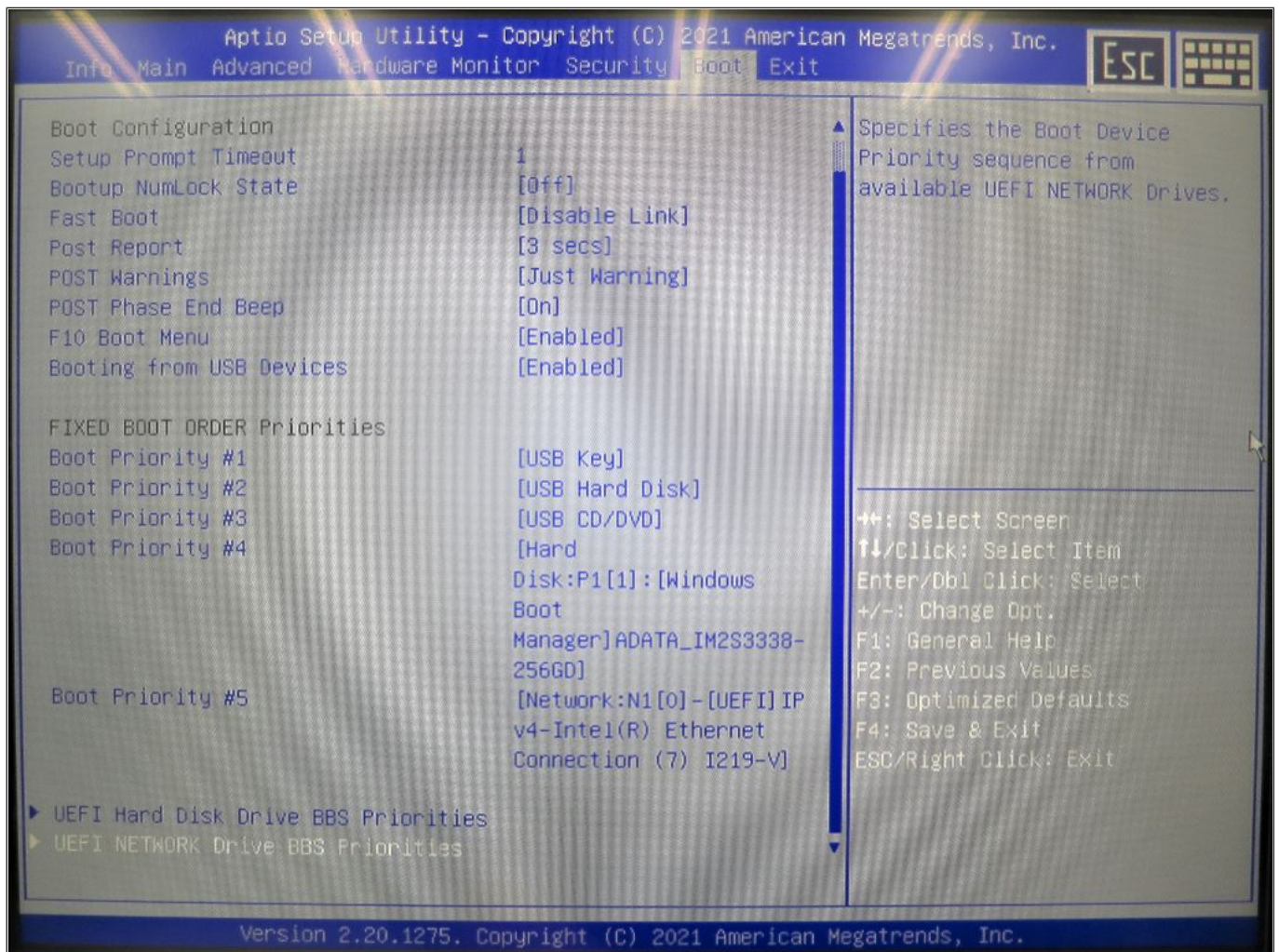
## 14.2 HDD Security Configuration



|                    |                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Set User Password: | <p>Set HDD User Password.</p> <p>*** Advisable to Power Cycle System after Setting Hard Disk Passwords ***</p> <p>Discard or Save changes option in setup does not have any impact on HDD when password is set or removed. If the 'Set HDD User Password' option is hidden, do power cycle to enable the option again.</p> |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

# 15 Boot

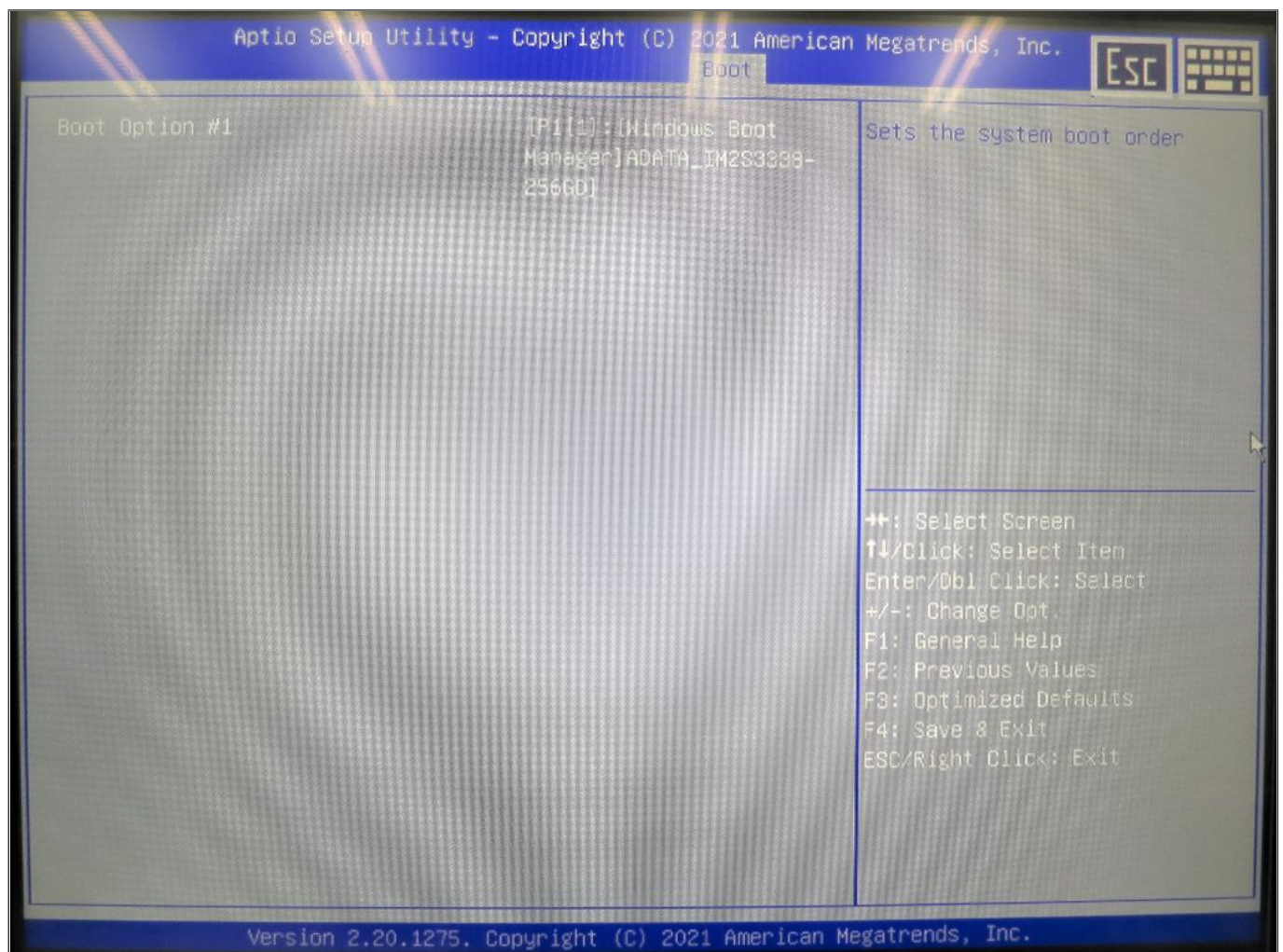




|                           |                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Setup Prompt Timeout:     | Number of seconds to wait for setup activation key.<br>65535(0xFFFF) means indefinite waiting.                                                                                                                                                                                                                                                            |
| Bootup NumLock State:     | Select the keyboard NumLock State.                                                                                                                                                                                                                                                                                                                        |
| Fast Boot:                | Enables or disables boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.                                                                                                                                                                                                       |
| Post Report:              | Post Report Support Enabled/Disabled. Select the desired Post Report waiting time from 1~10 sec.                                                                                                                                                                                                                                                          |
| POST Warning:             | Just Warning: The warning or error message shall be shown at the display, but the boot process will continue. The message shall be shown for the time defined at chapter POST delay.<br>Warning and Stop Booting: The warning or error message shall be shown at the display and the boot process will stop and will wait for an interaction of the user. |
| POST Phase End Beep:      | This POST phase end beep On/Off                                                                                                                                                                                                                                                                                                                           |
| F10 Boot Menu:            | Enable/Disable hot key F10 to enter boot menu during POST                                                                                                                                                                                                                                                                                                 |
| Booting from USB Devices: | Enable/Disable booting from USB Devices                                                                                                                                                                                                                                                                                                                   |

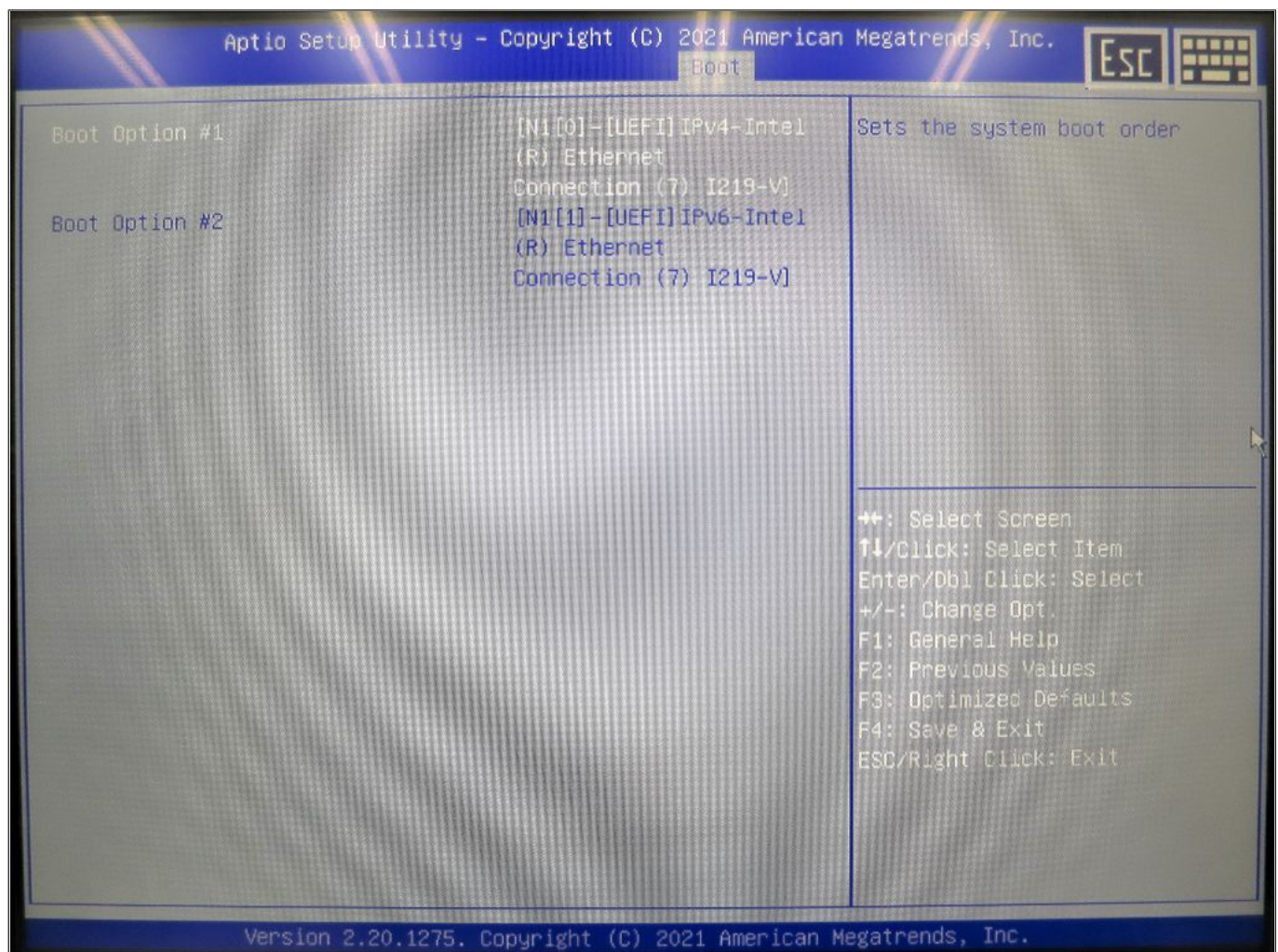
|                                      |                                                                                   |
|--------------------------------------|-----------------------------------------------------------------------------------|
| Boot Priority #1:                    | Sets the system boot order                                                        |
| Boot Priority #2:                    |                                                                                   |
| Boot Priority #3:                    |                                                                                   |
| Boot Priority #4:                    |                                                                                   |
| Boot Priority #5:                    |                                                                                   |
| UEFI Hard Disk Drive BBS Priorities: | Specifies the Boot Device Priority sequence from available UEFI Hard Disk Drives. |
| UEFI NETWORK Drive BBS Priorities:   | Specifies the Boot Device Priority sequence from available UEFI NETWORK Drives.   |

## 15.1 UEFI Hard Disk Drive BBS Priorities



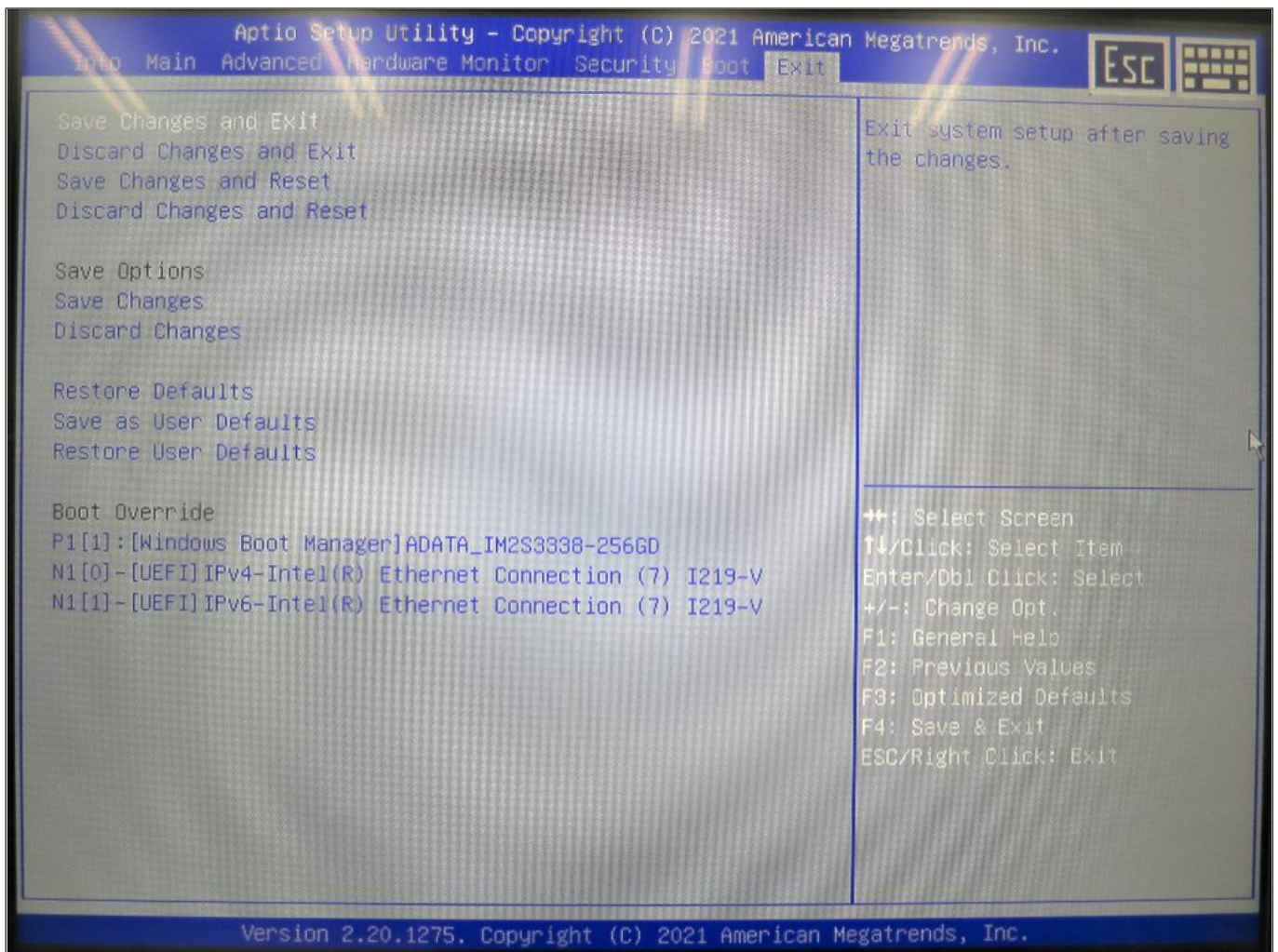
|                 |                             |
|-----------------|-----------------------------|
| Boot Option #1: | Sets the system boot order. |
|-----------------|-----------------------------|

## 15.2 UEFI NETWORK Drive BBS Priorities



|                 |                             |
|-----------------|-----------------------------|
| Boot Option #1: | Sets the system boot order. |
| Boot Option #2: | Sets the system boot order. |

## 16 Exit



|                            |                                                          |
|----------------------------|----------------------------------------------------------|
| Save Changes and Exit:     | Exit system setup after saving the changes.              |
| Discard Changes and Exit:  | Exit system setup without saving any changes.            |
| Save Changes and Reset:    | Reset the system after saving the changes.               |
| Discard Changes and Reset: | Reset system setup without saving any changes.           |
| Save Changes:              | Save Changes done so far to any of the setup options.    |
| Discard Changes:           | Discard Changes done so far to any of the setup options. |
| Restore Defaults:          | Restore/Load Default values for all the setup options.   |
| Save as User Defaults:     | Save the changes done so far as User Defaults.           |
| Restore User Defaults:     | Restore the User Defaults to all the setup options.      |

---

## 17 Certifications of the Manufacturer



The device complies with the requirements of the EU directives 2014/30/EU with regard to “Electromagnetic compatibility” and, if applicable, 2014/35/EU “Low Voltage Directive” and 2011/65/EU “Restriction of Hazardous Substances”. Therefore, you will find the CE mark on the device or packaging.



The component has obtained the TÜV SÜD Bauart Mark (Type Tested Mark)”

### Supplier's Declaration of Conformity

47 CFR § 2.1077 Compliance Information

Responsible Party in the U. S.: Diebold Nixdorf

Address: 5995 Mayfair Road, N. Canton, OH 44720 / USA

Contact: [cynthia.williams@dieboldnixdorf.com](mailto:cynthia.williams@dieboldnixdorf.com)

### FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference in which case the user will be required to correct the interference at his expense. Modifications not authorized by the manufacturer may void user's authority to operate this device.

This class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada. (2) This device must accept any interference received, including interference that may cause undesired operation.

---

## 18 Recycling

This device was designed according to the Diebold Nixdorf standard "Environmentally Conscious Product Design and Development".

The device is manufactured without the use of CFCs and CCHs and is manufactured to a great extent out of materials and components which are recyclable.

For recycling purposes do not attach any additional adhesive labels to the terminal.

Diebold Nixdorf disposes of old terminals in an environmentally responsible manner at a recycling center that is ISO 9001 and ISO 14001 certified, as is the entire company. Follow your local regulations on the disposal of toxic waste.

Your Diebold Nixdorf vendor will answer any questions you have concerning returns, recycling, and disposal of our products.

**DIEBOLD NIXDORF**

5995 Mayfair Road | North Canton, OH 44720 | United States

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