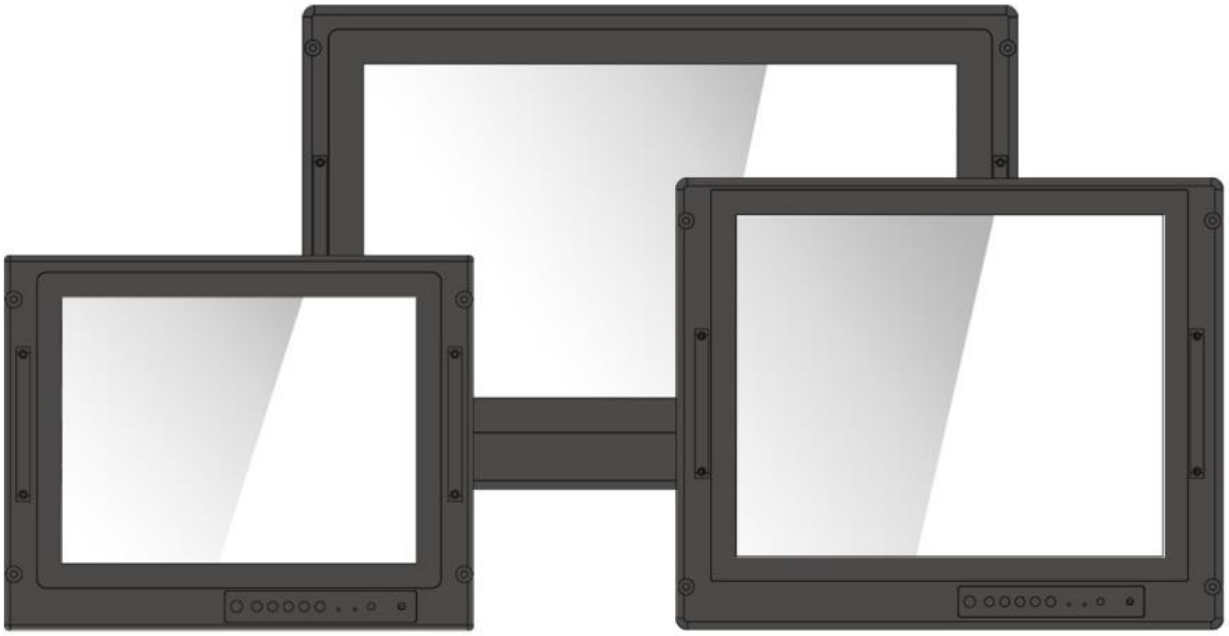
15”/ 17”/ 19”/ 21.5”/ 23.8”/ 32”

Console Rack Panel PC

Intel® Core™ i5 -1135G7 2.4 GHz (turbo to 4.2 GHz)



Military Series

Model No. R15IT3S-MLA3FP
R17IT3S-MLA1FP
R19IT3S-MLA3FP
W22IT3S-MLA3FP
W24IT3S-MLA2FP
W32IT3S-MLA3FP

User Manual

Version 1.0
Document Part No. 91521110111I

Contents

Preface

Copyright Notice

Trademark Acknowledgement

Disclaimer

We reserve the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. We assume no responsibility or liability for the use of the described product(s) conveys no license or title under any patent, copyright, or masks work rights to these products, and make no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. Applications that are described in this manual are for illustration purposes only. We make no representation or guarantee that such application will be suitable for the specified use without further testing or modification.

Warranty

Our warranty guarantees that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, we will, at his/her option, repair or replace the defective product at no charge to the customer, provide it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service. If the serial number and the product shipping data differ by over 30 days, the in-warranty service will be made according to the shipping date. In the serial numbers the third and fourth two digits give the year of manufacture, and the fifth digit means the month (e. g., with A for October, B for November and C for December).

For example, the serial number 1W21Axxxxxxxx means October of year 2021.

Customer Service

We provide a service guide for any problem by the following steps: First, visit the website of our distributor to find the update information about the product. Second, contact with your distributor, sales representative, or our customer service center for technical support if you need additional assistance.

You may need the following information ready before you call:

- Product serial number
- Software (OS, version, application software, etc.)
- Description of complete problem
- The exact wording of any error messages

In addition, free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products.

Federal Communications Commission Radio Frequency Interface Statement

This device complies with part 15 FCC rules.
Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class "B" 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 is likely to cause harmful interference in which case the user will be required to correct the interference at him own expense.

European Union

This equipment is in conformity with the requirement of the following EU legislations and harmonized standards. Product also complies with the Council directions.

Electromagnetic Compatibility Directive (2014/30/EU)

- EN55024: 2010/ A1: 2015
  - IEC61000-4-2: 2009
  - IEC61000-4-3: 2006+A1: 2007+A2: 2010
  - IEC61000-4-4: 2012
  - IEC61000-4-5: 2014
  - IEC61000-4-6: 2014
  - IEC61000-4-8: 2010
  - IEC61000-4-11: 2004
- EN55032: 2012/AC:2013
- EN61000-3-2:2014
- EN61000-3-3:2013

Low Voltage Directive (2014/35/EU)

- EN 60950-1:2006/A11:2009/A1:2010/A12:2011/ A2:2013

Advisory Conventions

Four types of advisories are used throughout the user manual to provide helpful information or to alert you to the potential for hardware damage or personal injury. These are Notes, Important, Cautions, and Warnings. The following is an example of each type of advisory.

Note:
A note is used to emphasize helpful information

Important:
An important note indicates information that is important for you to know.

Caution A Caution alert indicates potential damage to hardware and explains how to avoid the potential problem.
Attention Unealerted' attention indique un dommage possible à l'équipement et explique comment éviter le problem potentiel.

Warning! An Electrical Shock Warning indicates the potential harm from electrical hazards and how to avoid the potential problem.
Avertissement! Un Avertissement de Choc Électriqueindique le potentiel de chocssur des emplacements électriques et comment éviterces problèmes.

Earth Ground The Protective Conductor Terminal (Earth Ground) symbol indicates the potential risk of serious electrical shock due to improper grounding.
Mise à la Terre Le symbole de Miseà Terre indique le risqué potential de choc électrique grave à la terre incorrecte.

Safety Information

Warning! This monitor is equipped with Mini USB port, signals and power is obtained from standard USB 2.0 or USB 3.0 port. Do not expose this unit in the rain or moisture environment to damage the monitor.
Avertissement! Ce moniteur est équipé d'un port mini USB, les signaux et l'alimentation sont obtenus à partir d'un port USB 2.0 ou USB 3.0 standard. N'exposez pas cet appareil à la pluie ou à l'humidité pour endommager le moniteur.

Caution Do not touch the surface of the LCD panel. Pressure on the panel may cause non-uniformity of color or disorientation of the liquid crystals.
Attention! Ne touchez pas la surface du panneau LCD. La pression sur le panneau peut entraîner une non-uniformité de la couleur ou une désorientation des cristaux liquides.

PRECAUTIONS

- Do not use the monitor near water.
- Do not place the monitor on an unstable cart, stand, or table. If the monitor falls, it can injure a person and cause serious damage to the appliance. Use only a cart or stand recommended by the manufacturer or sold with the monitor. If you mount the monitor on a wall or shelf, use a mounting kit approved by the manufacturer and follows the kit instructions.
- The monitor should be operated with an USB cable with Mini USB B type connector on monitor end and standard USB A type connector on the other end to PC or USB signal source.
- Normally it is packed with monitor.
- Never spill liquids on the monitor.
- Do not attempt to service the monitor yourself; opening or removing covers can damage to the monitor or panel. Please refer all servicing to qualified service personnel.
- For Wall mount adaptor, wall socket shall be installed near the equipment and shall be easily accessible.
-

About This User Manual

This User Manual provides information about using the Military Console Rack Panel PC. The documentation set provides information for specific user needs, and includes:

- **Military Console Rack Panel PC User Manual** – contains detailed description on how to use the display, its components and features.

Note:
Some pictures in this guide are samples and can differ from actual product.

Chapter 1: Introduction

This chapter gives you product overview, describes features and hardware specification. You will find all accessories that come with the display device in the packing list. Mechanical dimensions and drawings included in this chapter.

1.1 Overview

Congratulations on purchasing Winmate® Military Console Rack Panel PC. Winmate's military series of console rack Panel PCs are durable PCs that have undergone rigorous testing to ensure safety and performance that goes beyond standard military compliance. These PCs include MIL-DTL-38999 type I connectors and are built to survive drops, shocks, liquid spills, vibrations, dust and extreme temperatures; our specially designed military line of products have also been tested for MIL-STD-810G environmental and MIL-STD 461F EMC standards. The rugged, high-resolution display offers optimized visibility with optical bonding and easy-to-use OSD front panel controls. The advanced computing platform enables faster searches and real-time positioning information, providing rapid response capabilities that are incomparable to a standard PC.

1.2 Product Features

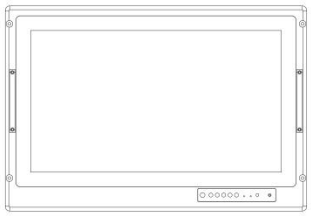
Military Console Rack PCAP Panel PC features:

- 15”/ 17”/ 19”/ 21.5”/ 23.8”/ 32” screen with PCAP touch
- Intel® Core™ i5 -1135G7 2.4 GHz (turbo to 4.2 GHz) Processor
- AC 110~240 V Power input default
- Anti-Corrosion Housing / Fanless
- Built-in Light Sensor for auto brightness control
- Compliant with MIL-STD-810G/F , MIL-STD-461E/F
- Convenient On-Screen Display Controls
- Flush Rack / Rack Mount Mechanical Design
- Isolation DC 9~36 V Power input (Optional)

1.3 Package Contents

Carefully remove the box and unpack your display. Please check if all the items listed below are inside your package. If any of these items are missing or damaged contact us immediately.

Standard package includes:

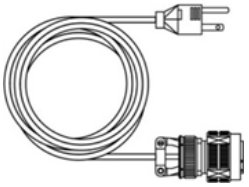


- **Panel PC**

Varies by product specifications

- **User Manual (Hardcopy)**

Part No. 91521110111l

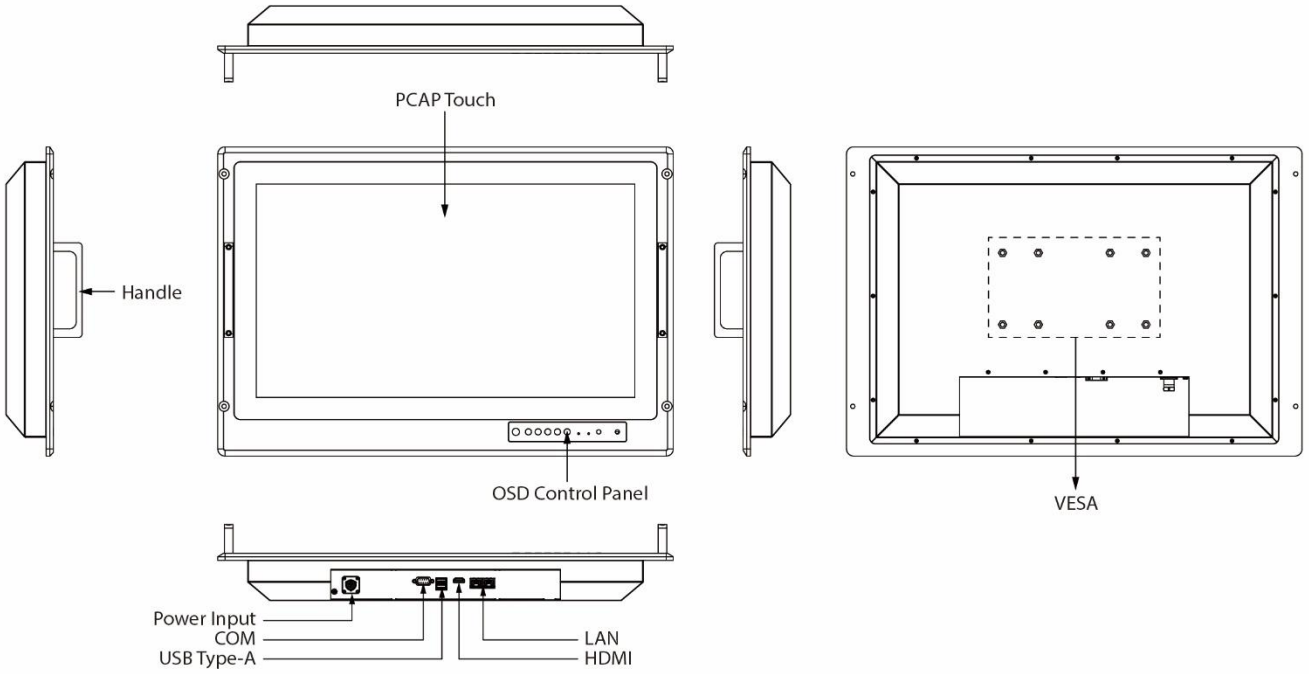


Power Cord MIL-DTL-38999/1

Part No. 94B303003000 (US)

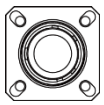
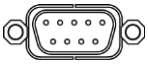
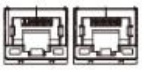
1.4 Appearance

This section includes appearance and input/ output connectors' layout.



1.5 Connector Description

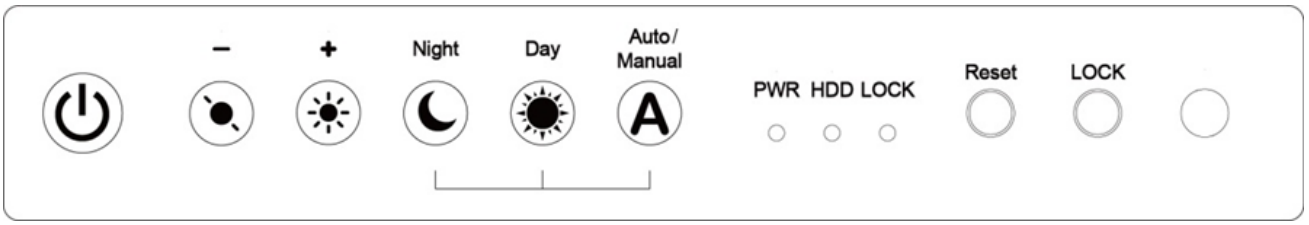
The I/O connectors are located on the bottom rear side of the panel PC.

Item	Description	Function
	Power input connector	Power input AC 110~240V (Default) or DC 9~36V (Optional).
	Serial port RS-232/422/485	Provides serial communication transmission of data RS-232/422/485. Default setting RS-232.
	Two USB 3.2 connectors	Use USB 3.2 connector to connect your device to other USB 2.0/ USB 3.0 compatible devices.
	HDMI connector	Transmits uncompressed video data and compressed or uncompressed digital audio data from a display.
	Two LAN connectors	Transfers the data within local area networks to devices to which it is connected.

I/O position varies by display size. Refer to the section 1.7 Dimensions of this user manual to check mechanical drawing and I/O position.

1.6 Panel Controls

Panel controls are located on the front side of the display. On-Screen Display (OSD) is a user-friendly interface to remote the display function and to adjust the display's image properties. It also supports special Hot Keys for easy control, such as auto-adjustment and brightness control for backlight.



1.6.1 Control Keys

Icon	Button	Function
	Power	Turn ON or turn OFF the panel PC.
	Brightness DOWN	Decrease the brightness of the display screen, or allows user to navigate items of a single OSD menu.
	Brightness UP	Increase the brightness of the display screen, or allows user to navigate items of a single OSD menu.
	Night	Tap this button to enter NIGHT MODE to increase visibility in low-light conditions.
	Day	Tap this button to enter DAY MODE.
	Auto/ Manual	Tap the button once to AUTOMATICALLY adjust brightness mode. Press the button again to MANUALLY adjust brightness mode.
	Reset	Clear any pending errors or events and brings a system to normal condition or an initial state.
	LOCK	Tap this button to lock the function of OSD panel.

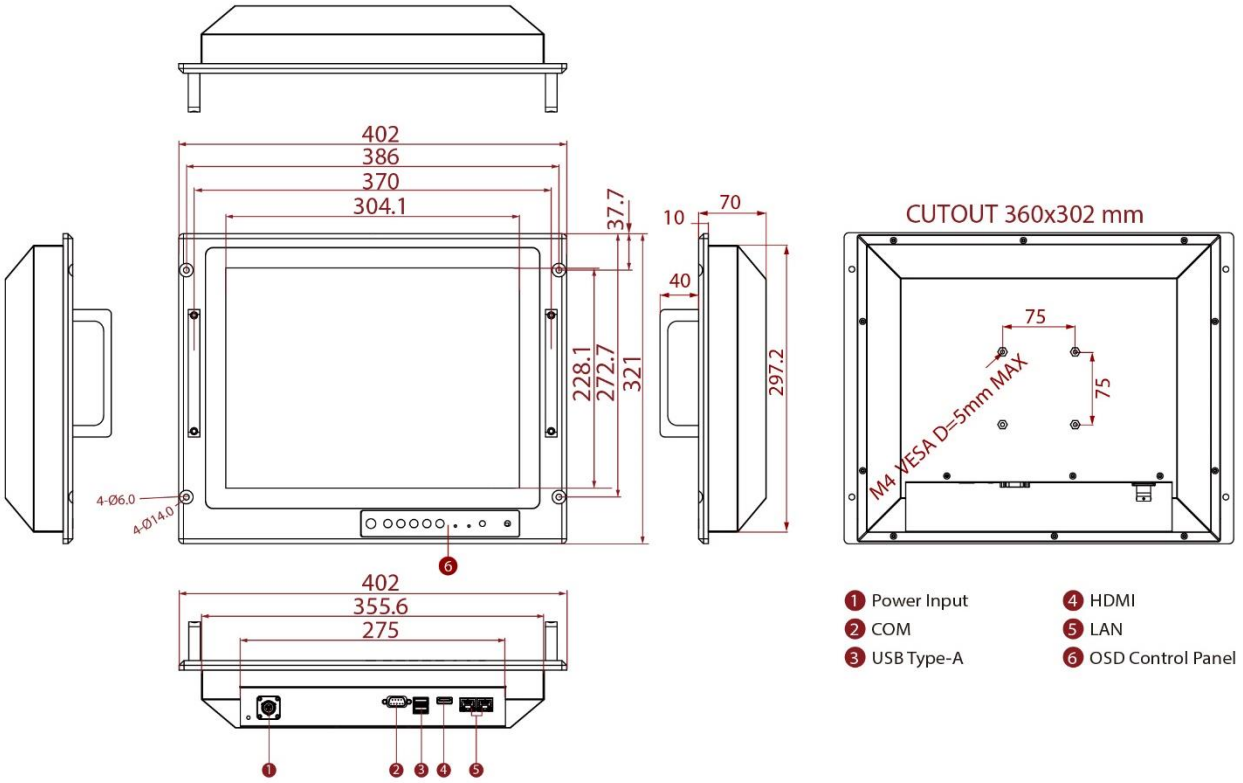
1.6.2 LED Indicators

Indicator	Definition
Power LED	Lights up green when the display turns on; signalizes that display functions normally.
	Lights up orange when display is suspended.
HDD	Lights up green when HDD is active
LOCK	Lights up red when OSD button locked.

1.7 Dimensions

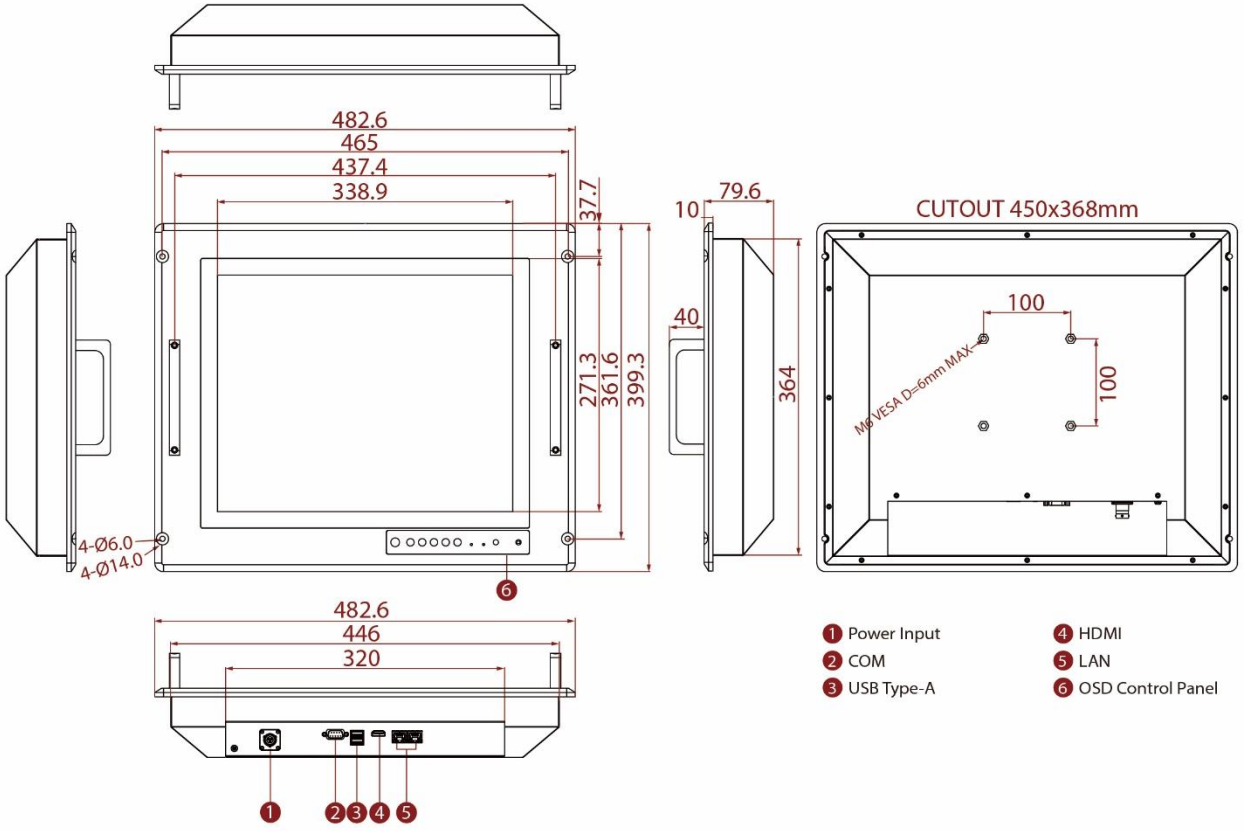
15-inch Panel PC, R15IT3S-MLA3FP

Unit: mm
Dimensions: 402 x 321 x 70



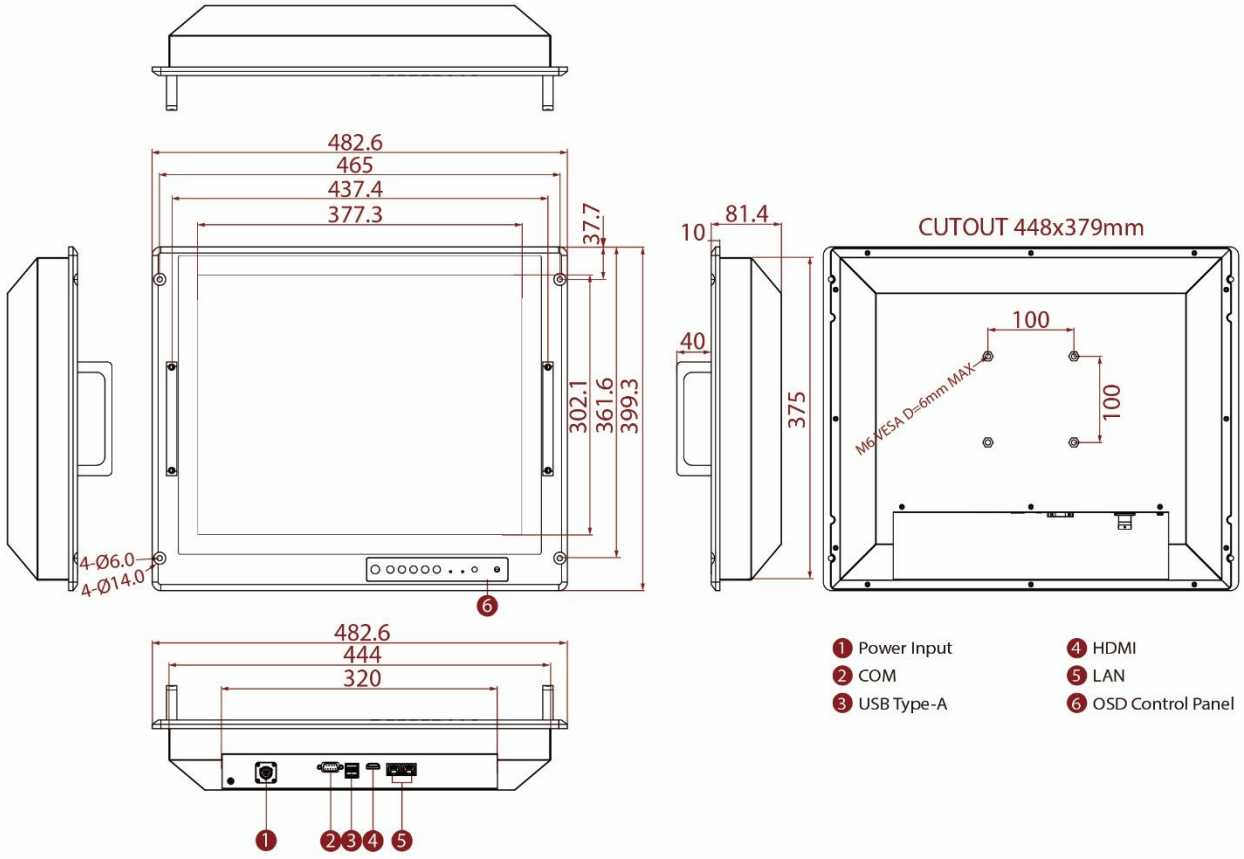
17-inch Panel PC, R17IT3S-MLA1FP

Unit: mm
Dimensions: 482.6 x 399.3 x 79.6



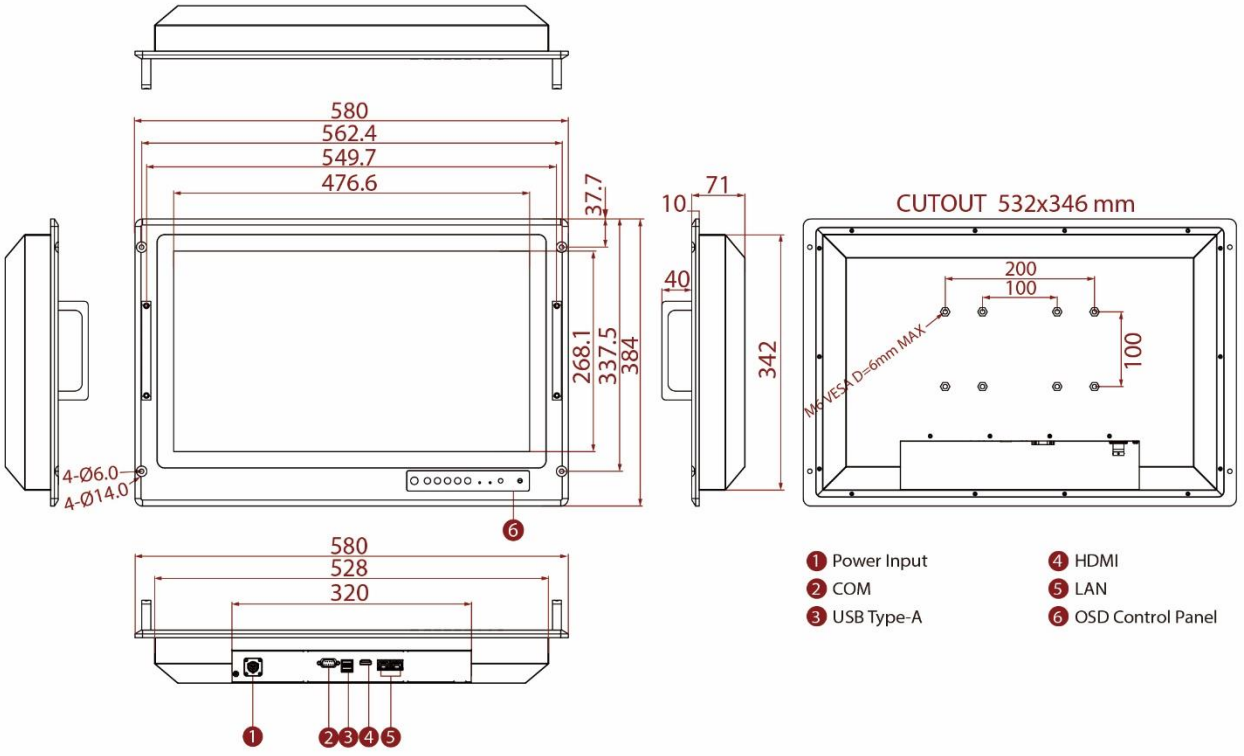
19-inch Panel PC, R19IT3S-MLA3FP

Unit: mm
Dimensions: 482.6 x 399.3 x 81.4



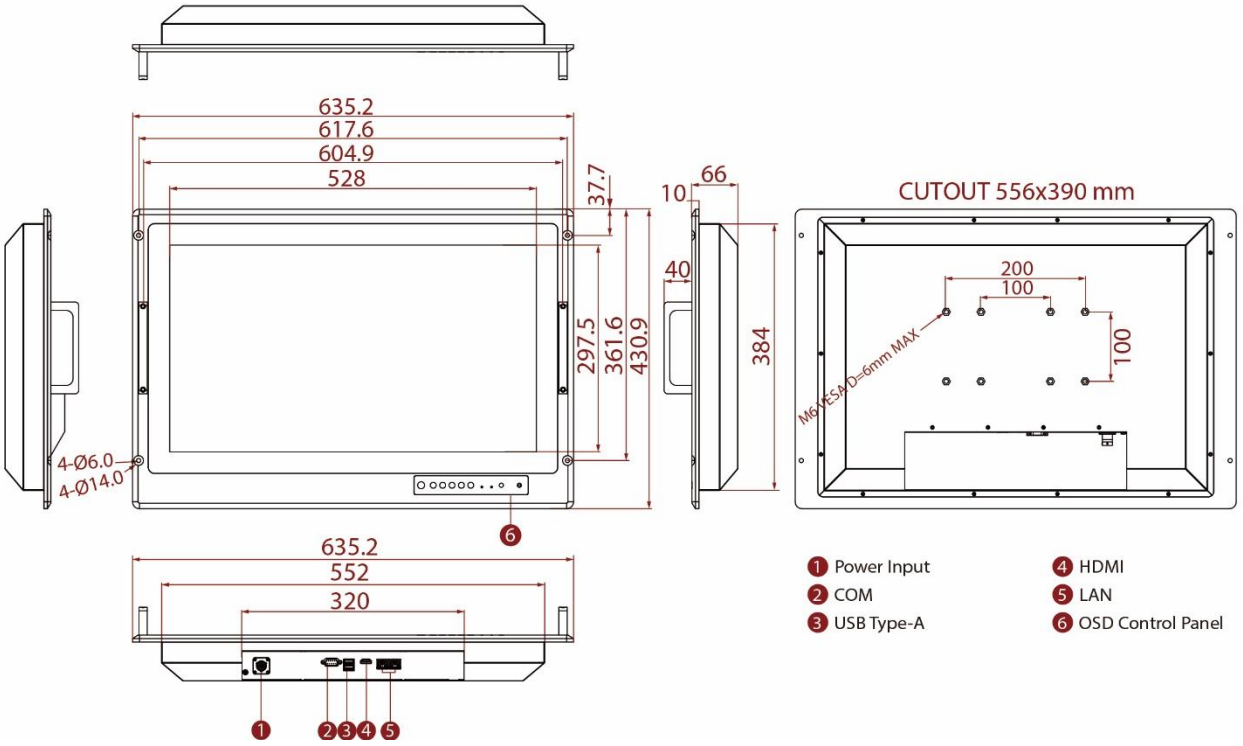
21.5-inch Panel PC, W22IT3S-MLA3FP

Unit: mm
Dimensions: 580 x 384 x 71



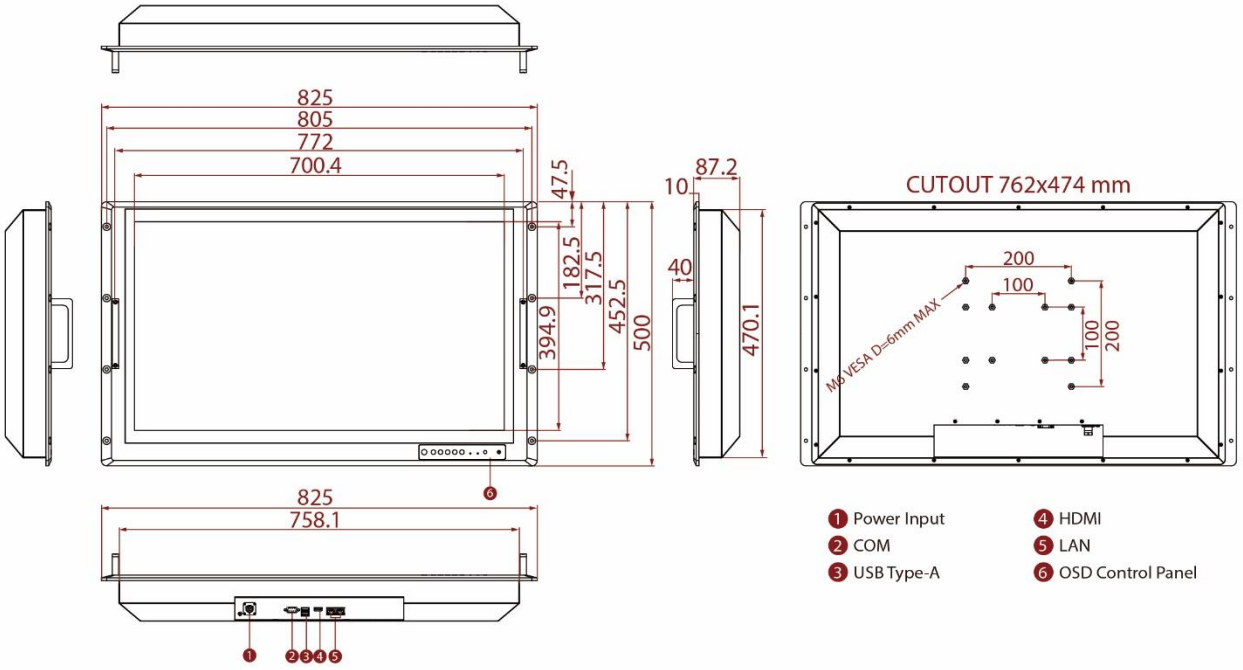
23.8-inch Panel PC, W24IT3S-MLA2FP

Unit: mm
Dimensions: 635.2 x 430.9 x 66



32-inch Panel PC, W32IT3S-MLA3FP

Unit: mm
Dimensions: 825 x 500 x 87.2



Chapter 2: Installation

This chapter provides hardware installation instructions and mounting guide for all available mounting options. Pay attention to cautions and warning to avoid any damages

2.1 Wiring Requirements

The following common safety precautions should be observed before installing any electronic device:

- Strive to use separate, non-intersecting paths to route power and networking wires. If power wiring and device wiring paths must cross make sure the wires are perpendicular at the intersection point.
- Keep the wires separated according to interface. The rule of thumb is that wiring that shares similar electrical characteristics may be bundled together.
- Do not bundle input wiring with output wiring. Keep them separate.
- When necessary, it is strongly advised that you label wiring to all devices in the system.
- Do not run signal or communication wiring and power wiring in the same conduit. To avoid interference, wires with different signal characteristics (i.e., different interfaces) should be routed separately.
- Be sure to disconnect the power cord before installing and/or wiring your device.
- Verify the maximum possible current for each wire gauge, especially for the power cords. Observe all electrical codes dictating the maximum current allowable for each wire gauge.
- If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

Caution Follow mounting instructions and use recommended mounting hardware to avoid the risk of injury.

Attention Suivez les instructions de montage et d'utilisation recommandé le matériel de montage pour éviter le risque de blessure.

Caution Turn off the device and disconnect other peripherals before installation.

Attention Éteindre l'appareil et débrancher tous les périphériques avant l'installation.

Be careful when handling the unit. When the unit is plugged in, the internal components generate a lot of heat which may leave the outer casing too hot to touch.

2.2 Mounting the Device

The Military Panel PC supports different mounting options. Refer to sub-sections below for more details.

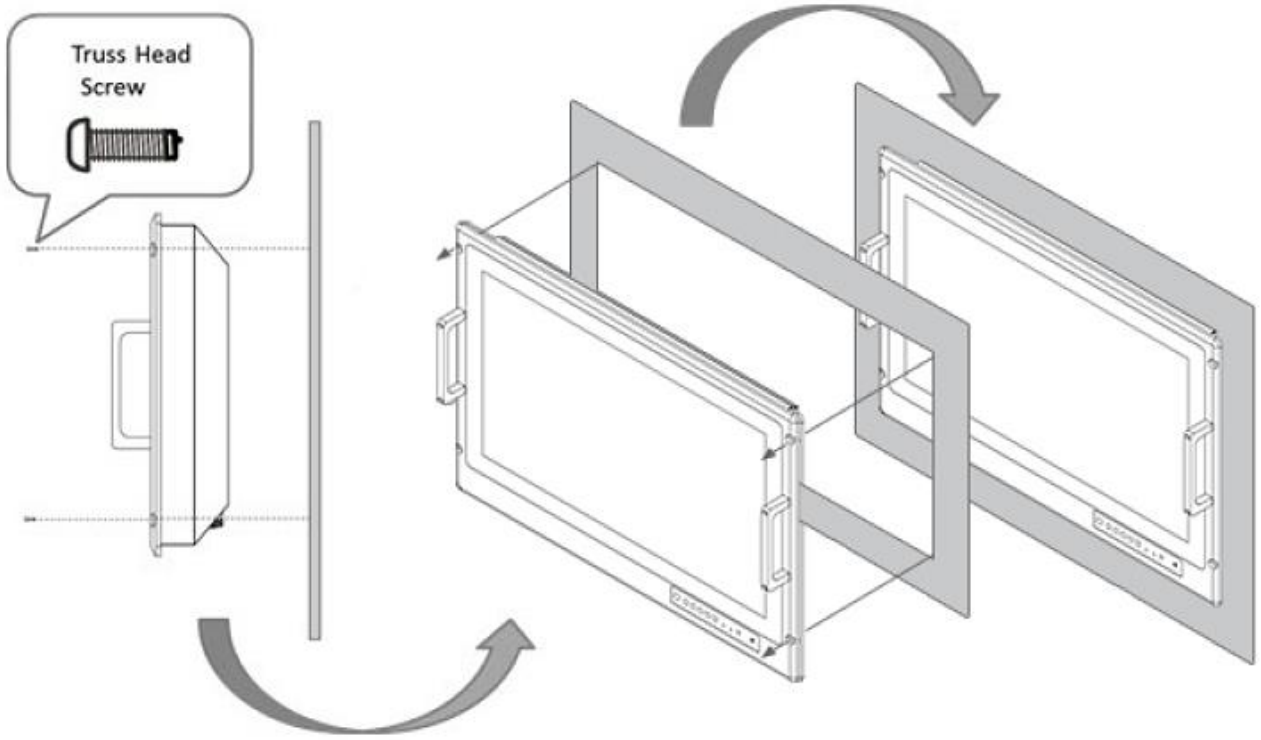
2.2.1 Panel Mount

The main mounting approach for military applications is panel mount - very user-friendly in terms of installation.

Installation Instruction:

1. Prepare a fixture for the specific dimensions of the device.
2. Cut a hole on a sub frame or panel according to the cutout dimensions.
3. Install the device properly onto the cutout area of the sub frame or panel with the sides of the front bezel.
4. Fix the device from the outside to the fixture with four M6 truss head screws.

Console / Rack Mount Installation



Size	Cutout Dimensions (W x D)	Screw Size
15”	360 x 302 mm	M6 truss head (4 pcs)
17”	450 x 368 mm	M6 truss head (4 pcs)
19”	448 x 379 mm	M6 truss head (4 pcs)
22”	532 x 346 mm	M6 truss head (4 pcs)
23.8”	556 x 390 mm	M6 truss head (4 pcs)
32”	762 x 474 mm	M6 truss head (4 pcs)

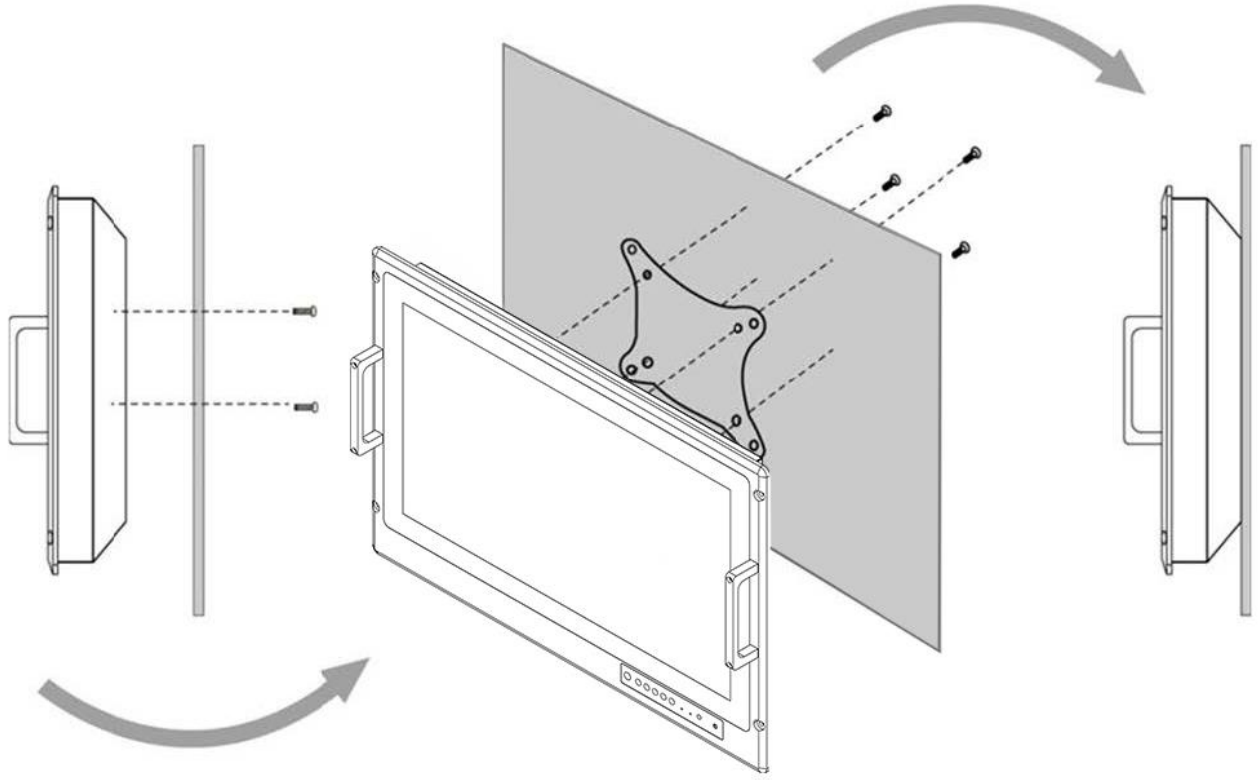
2.2.2 VESA Mount

The Military Panel PC supports VESA Mount installation. Notice that VESA Plate is not included in Winmate's standard accessories package.

Installation Instruction:

1. Turn off the panel PC and disconnect peripherals.
2. Screw VESA bracket to the fixture (ex. swing arm) with four M4 VESA screws.
3. Place the device on VESA bracket.
4. Follow instructions supplied with your mounting kit.
5. Connect cables, power on the panel PC.

VESA Mount Installation



**Notice that VESA stand and mounting kit are not provided by Winmate.*

Size	VESA Plate	Screw Size
15"	75 x 75 mm	M4 VESA, D=5 mm (4 pcs)
17"	100 x 100 mm	M6 VESA, D=6 mm (4 pcs)
19"	100 x 100 mm	M6 VESA, D=6 mm (4 pcs)
22"	100 x 100 mm 200 x 100 mm	M6 VESA, D=6 mm (4 pcs)
23.8"	100 x 100 mm 200 x 100 mm	M6 VESA, D=6 mm (4 pcs)
32"	100 x 100 mm 200 x 100 mm 200 x 200 mm	M6 VESA, D=6 mm (4 pcs)

2.3 Powering On

Follow the recommendations below when powering on the equipment.

- Plug-in the power cord to easy accessible AC outlet.
- Plug-in the AC adapter to a grounded outlet.

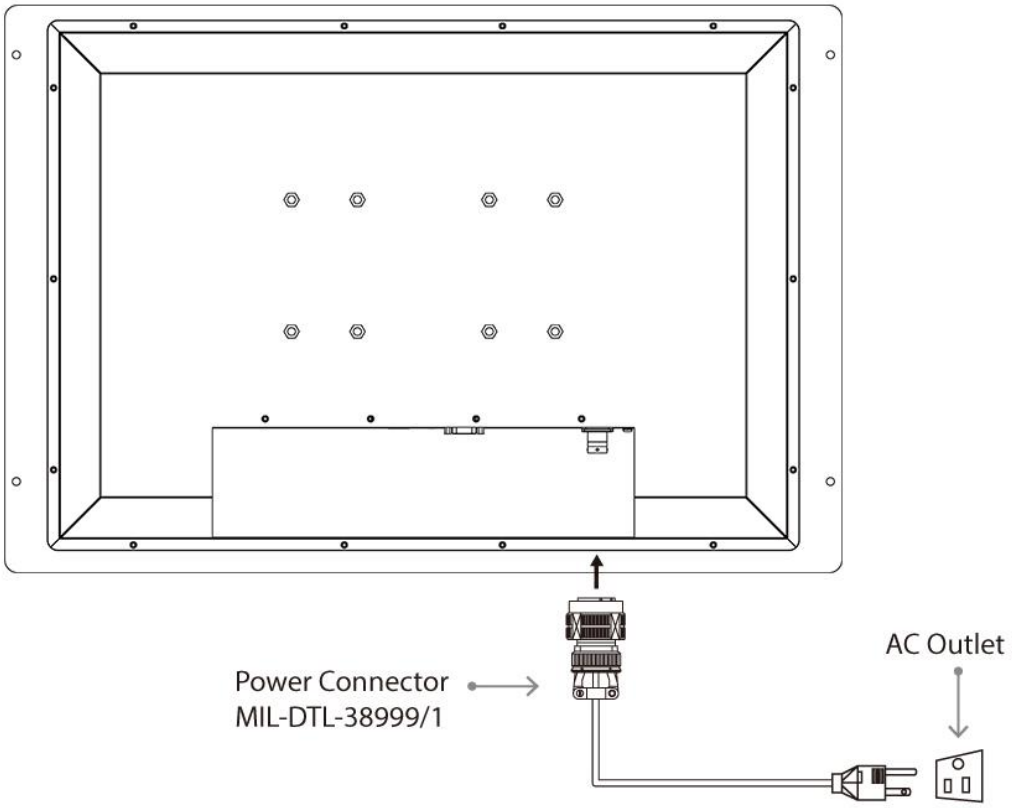
Earth Ground! This product must be grounded. Use only a grounded AC outlet. Install the additional PE ground wire if the local installation regulations require it.
If you do not use a grounded outlet while using the device, you may notice an electrical tingling sensation when the palms of your hands touch the device.

Mise à la Terre ! Ce produit doit être mis à la terre. Utiliser seulement un cordon d'alimentation avec mise à la terre. Si les règlements locaux le requiert, installer des câbles de mise à la terre supplémentaires.
Si vous n'utiliser pas une prise d'alimentation avec mise à la terre, vous pourriez remarquer une sensation de picotement électrique quand la paume de vos mains touche à l'appareil.

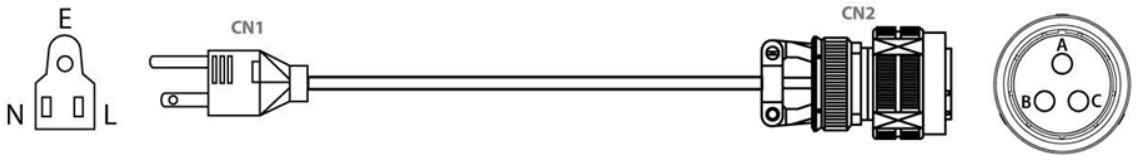
2.3.1 Connecting to AC Input Power Source (Default)

AC Power Input Requirements: AC 110~240V, Universal, ±10%
Connect one end of the Military Grade power connector MIL-DTL-38999/1 to the Panel PC (CN2), and plug the other end of the power connector (CN1) in to a working AC outlet.

Note: *Power cords vary in appearance by region and country.*



Connector Pinouts:

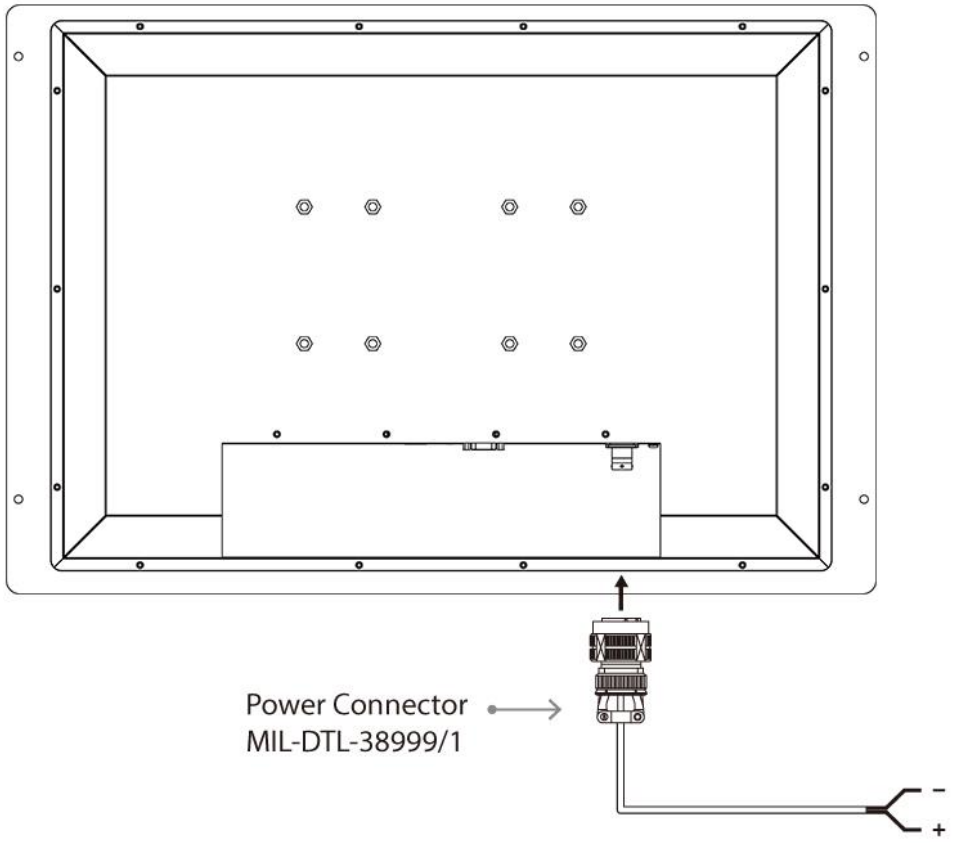


Pin №	Signal Name
A	VCC+
B	VCC-
C	GND

2.3.2 Connecting to DC Input Power Source (Optional)

DC Power Input Requirements: 9~36V DC.

1. Insert the exposed wires of the DC Power Cable to the appropriate connectors on the terminal block plug.
2. Plug the terminal block plug firmly to the DC IN Jack.
3. Connect the other end of the DC power cable (wires with lug terminals that are labeled **+** and **–** to the terminals of the 9-36V DC Power Source). Ensure that the power connections maintain the proper polarity.



Warning! Make sure that the polarization of the power lines is correct and complete including earth ground.

Avertissement! Assurez-vous que la polarisation des lignes électriques est correcte et complète, y compris la terre.

2.4 Connecting Other Devices

Use serial cable, USB and HDMI cables to connect your panel PC to external device.

Caution Observe all local installation requirements for connection cable type and protection level.

Attention Suivre tous les règlements locaux d'installations, de câblage et niveaux de protection.

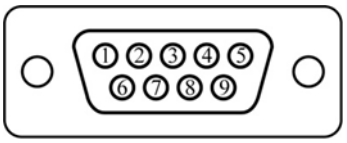
Warning! Make sure the power is off when connecting and disconnecting the connectors.

Avertissement! Assurez-vous que l'alimentation est coupée lors de la connexion et la déconnexion des connecteurs.

2.4.1 RS-232/422/485 Connector

The panel PC has one RS-232/422/485 serial port connector to connect your device to external devices.

Pin assignment and signal names of RS-232/422/485 D-Sub 9pin connector



Pin №	RS232	RS422	RS485
1	DCD	TxD-	D-
2	RXD	TxD+	D+
3	TXD	RxD+	NC
4	DTR	RxD-	NC
5	GND	GND	GND
6	DSR	NC	NC
7	RTS	NC	NC
8	CTS	NC	NC
9	RI	NC	NC

2.4.2 HDMI Connector

Plug HDMI signal cable to the HDMI connector on the rear side of PC system, and plug the other end to the monitor.

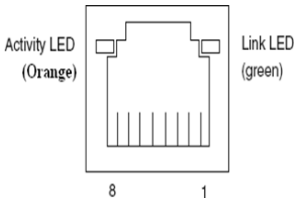
Pin assignment and signal names of HDMI Connector

Pin №	Signal Name	Pin №	Signal Name
1	HDMI_RX2+	2	GND
3	HDMI_RX2-	4	HDMI_RX1+
5	GND	6	HDMI_RX1-
7	HDMI_RX0+	8	GND
9	HDMI_RX0-	10	HDMI_RXC+
11	GND	12	HDMI_RXC-
13	HDMI_CON_CEC	14	NC
15	HDMI_CON_SCL	16	HDMI_CON_SDA
17	GND	18	+5V_HDMI
19	HDMI_CON_HP		

2.4.3 LAN1/ LAN2: Gigabit Ethernet

The panel PC has two RJ-45 Gigabit Ethernet connectors to connect your device to Ethernet.

Pin assignment and signal names of RJ45 connector

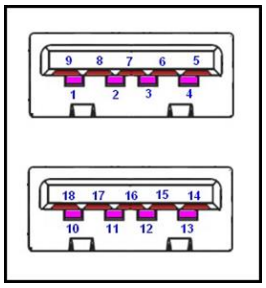


Pin №	Name	Pin №	Name
1	TX1+	2	TX1-
3	TX2+	4	TX3+
5	TX3-	6	TX2-
7	TX4+	8	TX4-

2.4.4 Two USB 3.0 (Compliable with USB 2.0)

The panel PC has two USB 3.0 connectors that are compliable with USB 2.0 to connect your device to external equipment such as keyboard, mouse, printer.

Pin assignment and signal names of two USB3.0 connectors



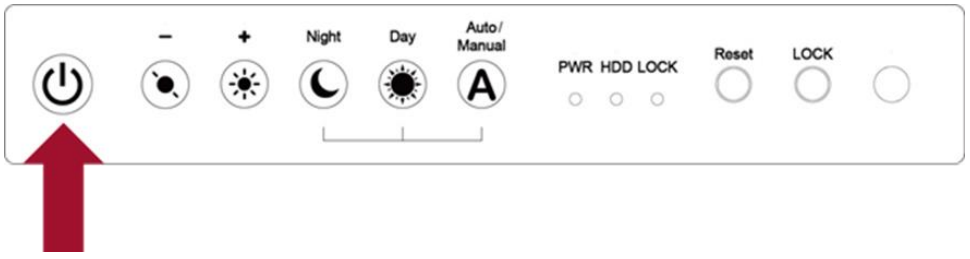
Pin №	Name	Pin №	Name
1	+5V	2	USB_D-
3	USB_D+	4	GND
5	STDA_SSRX-	6	STDA_SSRX+
7	GND_DRAIN	8	STDA_SSTX-
9	STDA_SSTX+	10	+5V
11	USB_D-	12	USB_D+
13	GND	14	STDA_SSRX-
15	STDA_SSRX+	16	GND
17	STDA_SSTX-	18	STDA_SSTX+

2.5 Turning On and Off Your Device

To **Turn ON** the Panel PC:

1. Tap the power button to turn the Panel PC on.
2. Press “DEL” to enter the CMOS setting and check the BIOS setup.

The Power Switch is located on the front side OSD panel.



You can **Turn OFF** the device with the Windows power settings.
To shut down the device:

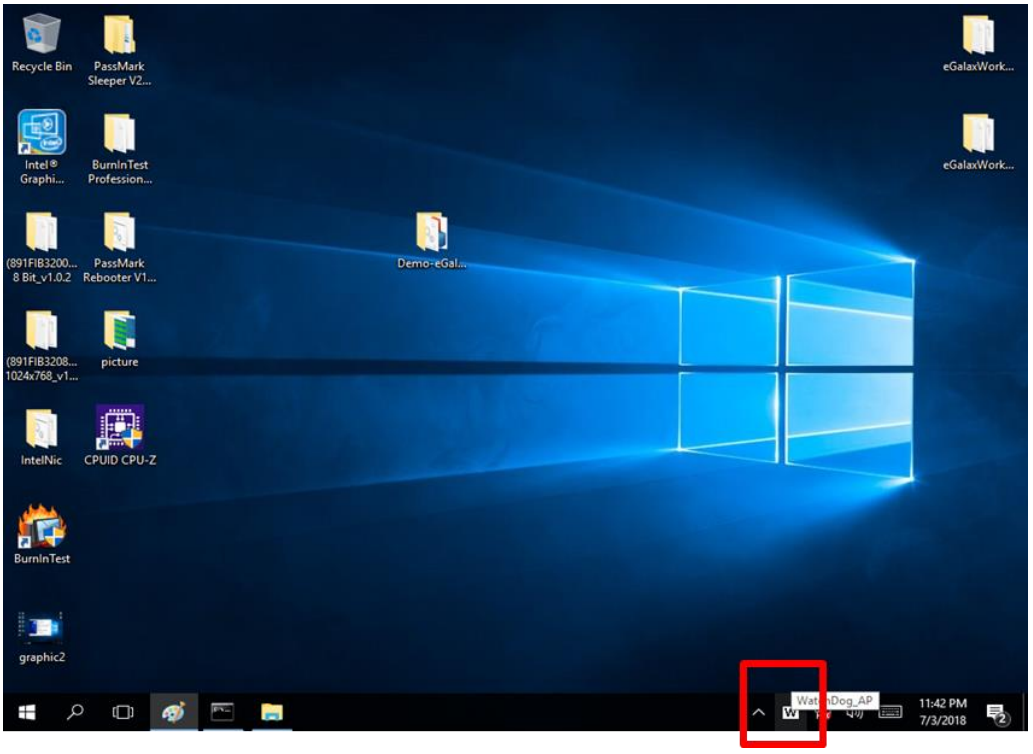
1. Tap **Start** > **Shut down**.
2. Wait for your device to completely turn off before disconnecting the power cord (if necessary).

2.6 How to Enable Watchdog

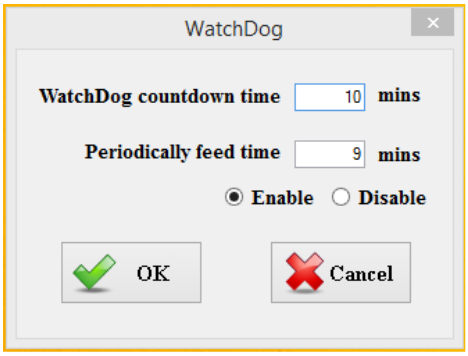
To enable Watchdog, you need to download Winmate Watchdog utility. Find more information on Watchdog in “Watchdog Guide” that you can download from Winmate Download Center or File Share. Refer to the User Manual for more details.

To enable watchdog in Watchdog AP follow the instructions below:

1. On the right bottom side of the desktop screen, click **triangle button** to show hidden icons.
2. Click W icon to open Watchdog utility.



3. In Watchdog utility window set countdown time and periodically feed time, or disable watchdog.



Example:

Every 10 min watchdog will monitor the system, in case any error occurs the system will restart automatically when the countdown time reaches 0.

Every 9 min watchdog timer will be reset to 10 min.

Setting	Description
Watchdog Countdown Time	The system automaticity restarts when this countdown time reaches zero. Default: 10 min
Periodically Feed Time	To set a cycle time to automatically reset watchdog timer. Default: 9 min
Enable / Disable	Enable or disable watchdog. Default: Enable

2.7 Using Recovery Wizard to Restore Computer

Note:
Before starting the recovery process, make sure to backup all user data. The data will be lost after the recovery process.

Important:
Before starting the recovery process, remove the PCI/ PCIe card and CFast card (If equipped).

To enable quick one-key recovery procedure:

1. Connect the computer to the power source. Make sure the computer stays plugged in to power source during the recovery process.
2. Turn on the computer, and when the boot screen shows up, press **F6** to initiate the Recovery Wizard.
3. The following screen shows the Recovery Wizard. Click **Recovery** button to continue.

4. A warning message about data loss will show up. Make sure the data is backed up before recovery, and click **Yes** to continue.

Wait the recovery process to complete. During the recovery process, a command prompt will show up to indicate the percent of recovery process complete. The system will restart automatically after recovery completed.

Chapter 3: BIOS Setup

This chapter describes the different settings available in the INSYDE BIOS that comes with the board.

3.1 How and When to Use BIOS Setup

To enter the BIOS setup, you need to connect an external USB keyboard, external monitor and press Del key when the prompt appears on the screen during start up. The prompt screen shows only few seconds so need press Del key quickly.

Important: Updated BIOS version may be published after the manual released. Check the latest version of BIOS on the website.

You may need to run BIOS setup utility for reasons listed below:

1. Error message on screen indicates to check BIOS setup
2. Restoring the factory default settings.
3. Modifying the specific hardware specifications
4. Necessity to optimize specifications

BIOS Navigation Keys

The following keys are enabled during POST:

Key	Function
Del	Enters the BIOS setup menu.
F7	Display the boot menu. Lists all bootable devices that are connected to the system. With cursor ↑and cursor ↓and by pressing <ENTER>, select the device used for the boot.
Pause	Pressing the [Pause] key stops the POST. Press any other key to resume the POST.

The following Keys can be used after entering the BIOS Setup.

Key	Function
F1	Help
F5/ F6	Change Values
F9	Setup Defaults
F10	Save & Exit
Esc	Exit
Enter	Select SubMenu
↑/ ↓	Select Item
← / →	Select Item

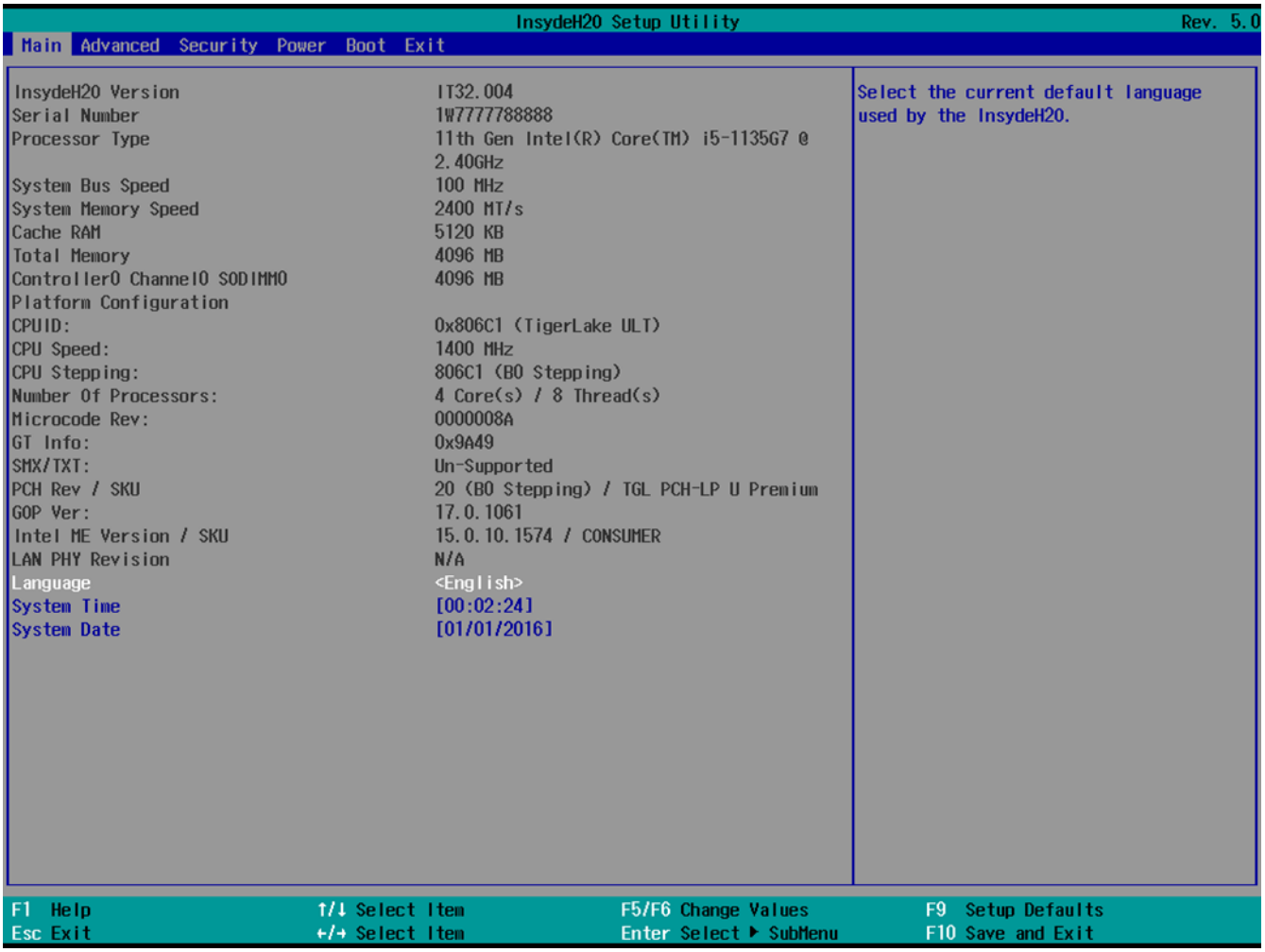
Note:
You can press the F1, F2, F3, F4, –/+, and Esc keys by connecting a USB keyboard to your computer.

For items marked ► press **<Enter>** for more options.

3.2 BIOS Functions

3.2.1 Main Menu

The Main menu displays the basic information about your system including BIOS version, processor RC version, system language, time, and date. When you enter BIOS setup, the first menu that appears on the screen is the main menu.It contains the system information including BIOS version, processor RC version, system language, time, and date.



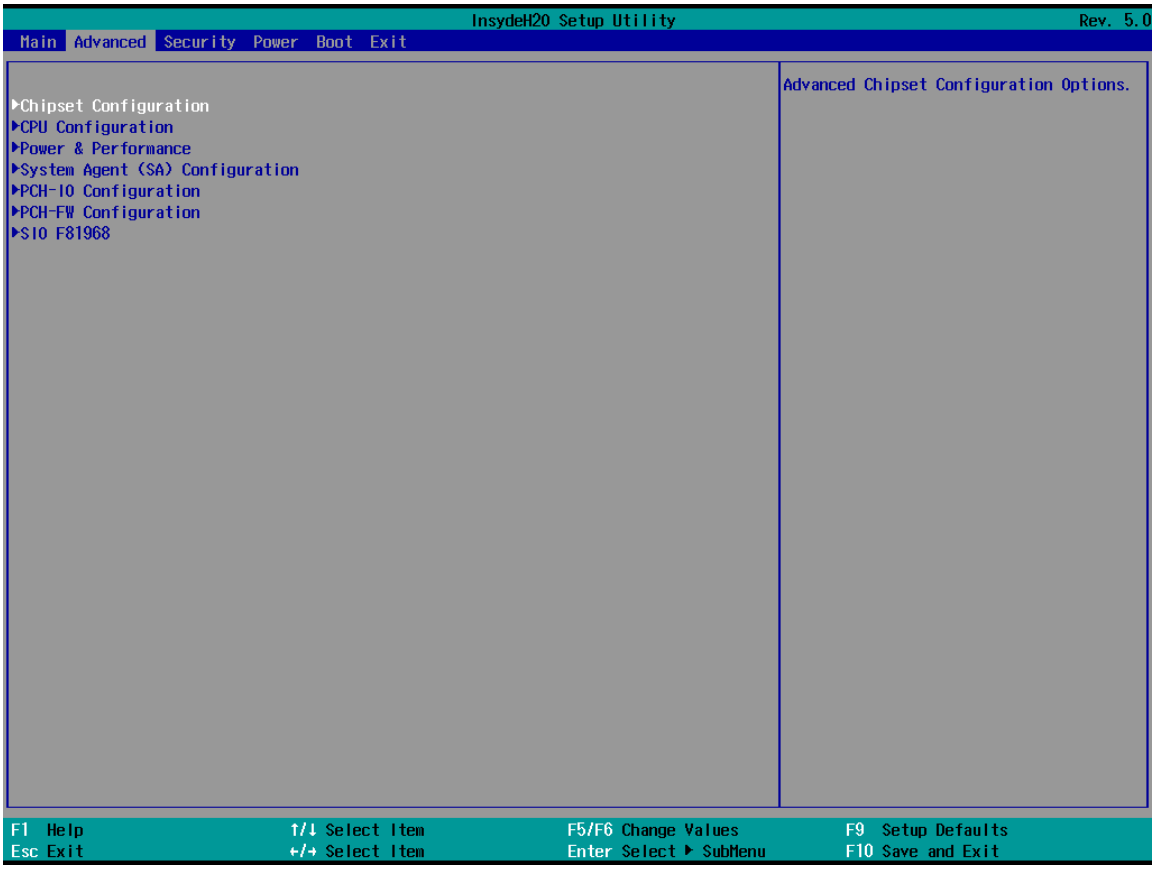
BIOS Setting	Description	Setting Option	Effect
Language	Displays the system language. [English] is set up by default.	Adjustment of the language	Set the language in other language. The language in this device is English.
System Time	This is current time setting. The time is maintained by the battery when the device is turned off.	Date and time changes.	Set the time in the format: [hh/mm/ss]
System Date	This is current date setting.	Date and time changes.	Set the date in the format [mm/dd/yyyy];

3.2.2 Advanced

Select the Advanced Tab from the setup menu to enter the advanced BIOS setup screen. You can select any of the items on the left frame of the screen to go to the sub menu for the item, such as CPU Configuration. You can use the <Arrow> keys enter all advanced BIOS setup options. The advanced BIOS setup menu is shown below. The submenus described on the following pages.

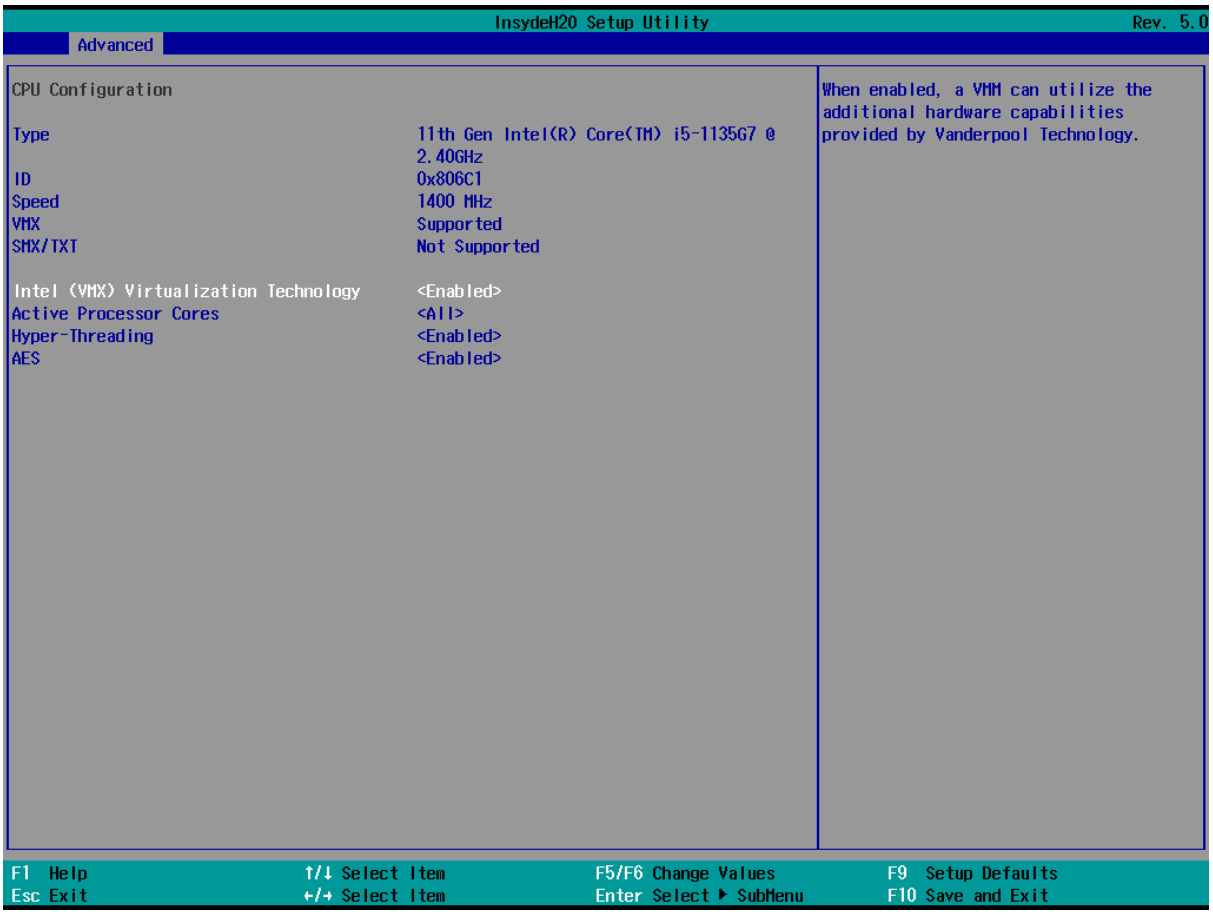
Caution Handle advanced BIOS settings page with caution. Any changes can affect the operation of your computer.

Attention Gérez la page des paramètres avancés du BIOS avec prudence. Toute modification peut affecter le fonctionnement de votre ordinateur.



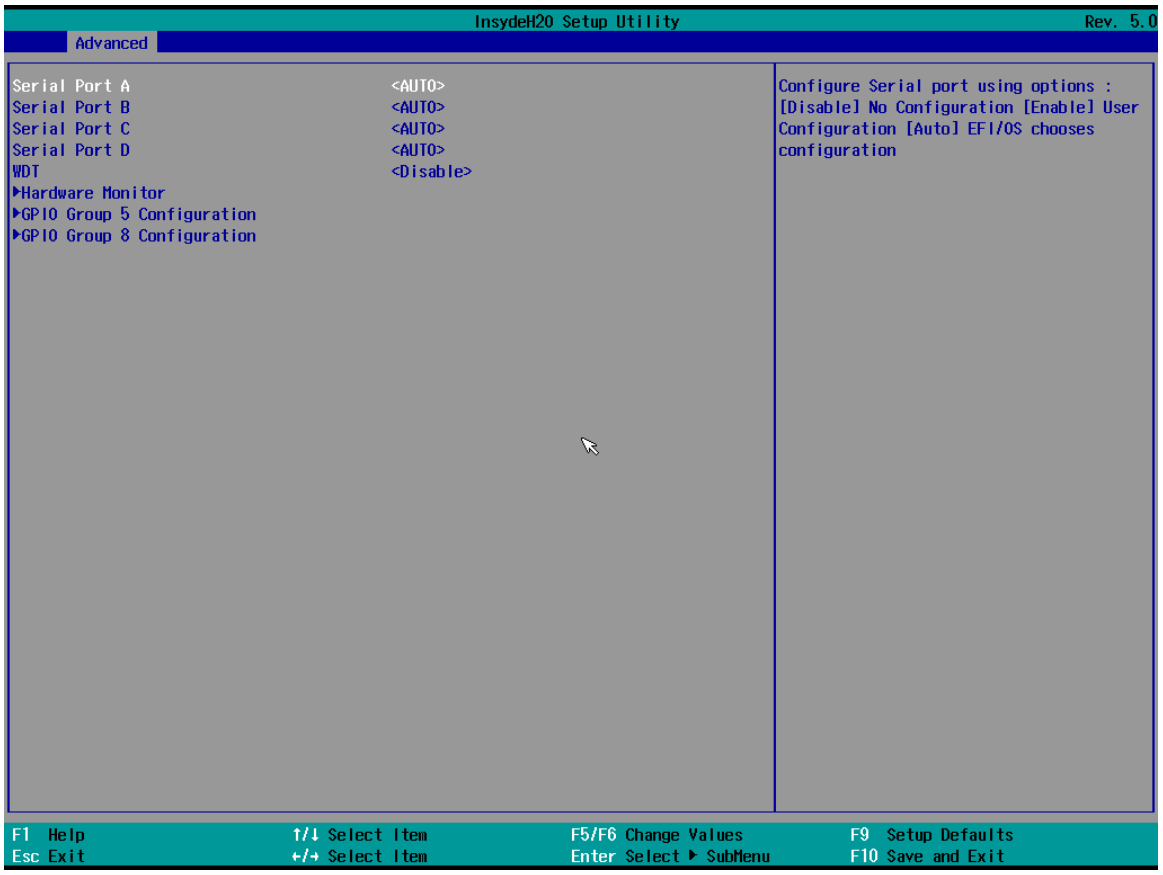
BIOS Setting	Description	Setting Option	Effect
CPU Configuration	Configures Trusted Computing parameters	Enter	Opens submenu
Power & Performance	Configures Power & Performance parameters	Enter	Opens submenu
System Agent Configuration	Configures System Agent Configuration parameters	Enter	Opens submenu
PCH-OI Configuration	Configures PCH-OI parameters	Enter	Opens submenu
PCH-FM Configuration	Configures PCH-FM parameters	Enter	Opens submenu
SIO F81866A	Configures SIO F81866A parameters	Enter	Opens submenu

3.2.2.1 CPU Configuration

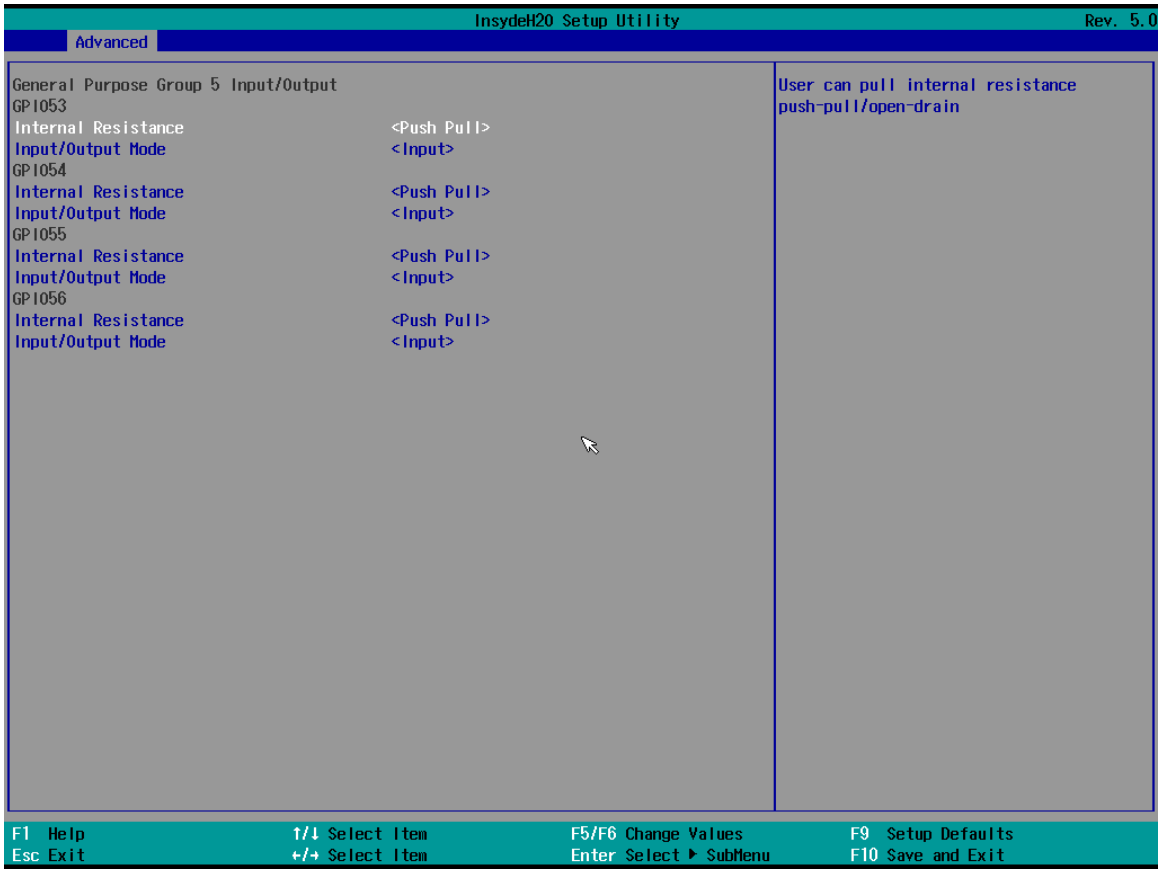


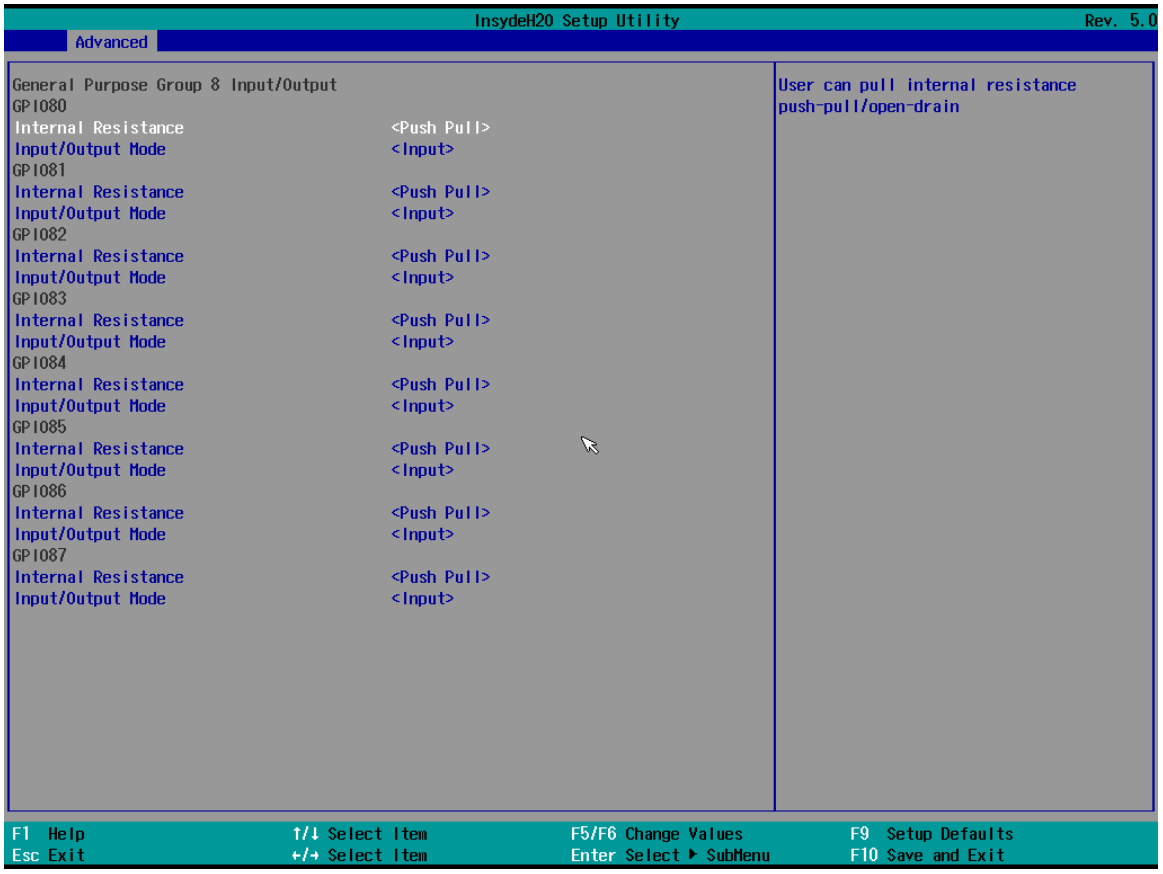
BIOS Setting	Description	Setting Option	Effect
Intel (VMX) Virtualization Technology	Enable or disable Intel Virtualization Technology.	Enable/Disable	When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.
Active Processor Cores	Number of core to enable in each processor package	All / 1 / 2/ 3	Select number of core to enable in each processor package
Hyper Threading	Intel Hyper-Threading Technology allows a single processor to execute two or more separate threads concurrently.	Enable / Disable	Enable or disable Hyper Threading
AES	Enable or disable AES (Advanced Encyption Standard)	Enable/Disable	Enable or disable AES

3.2.2.2 F81886A Configuration

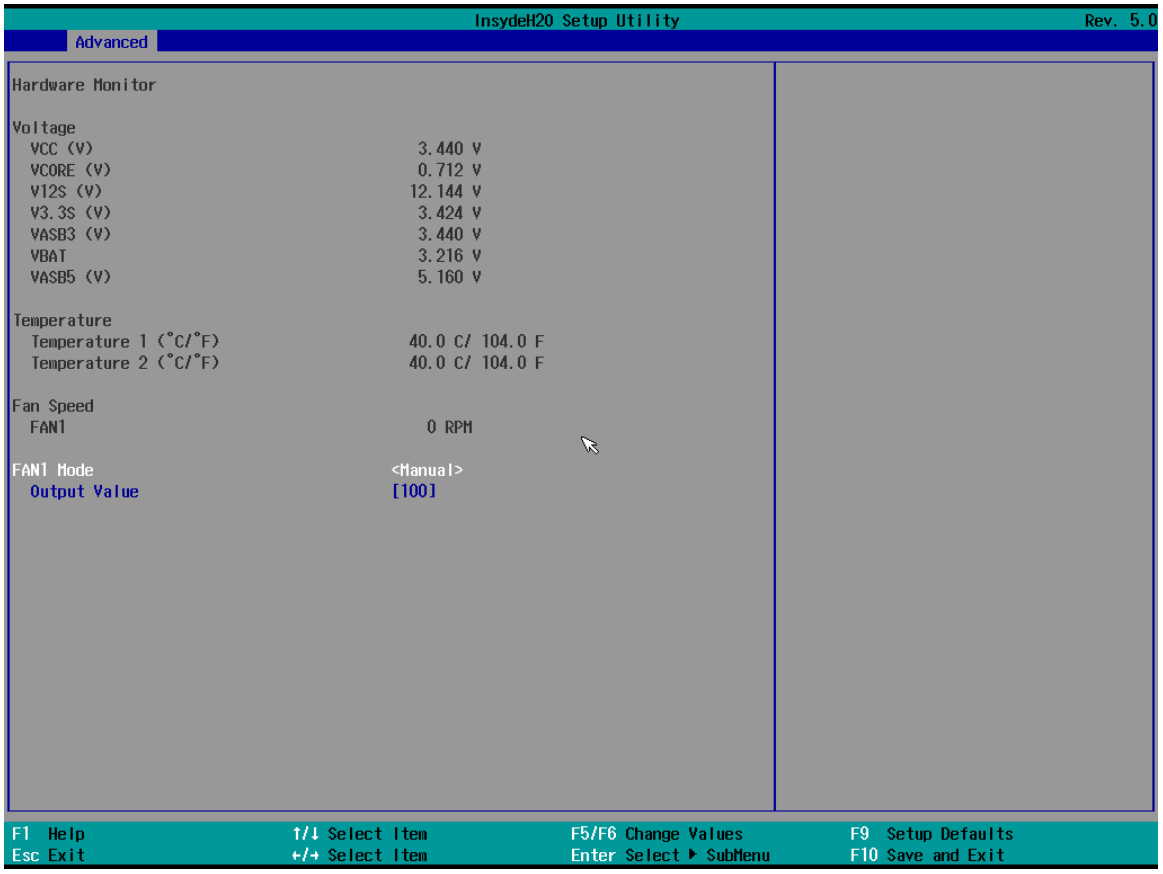


3.2.2.3 GPIO Configuration

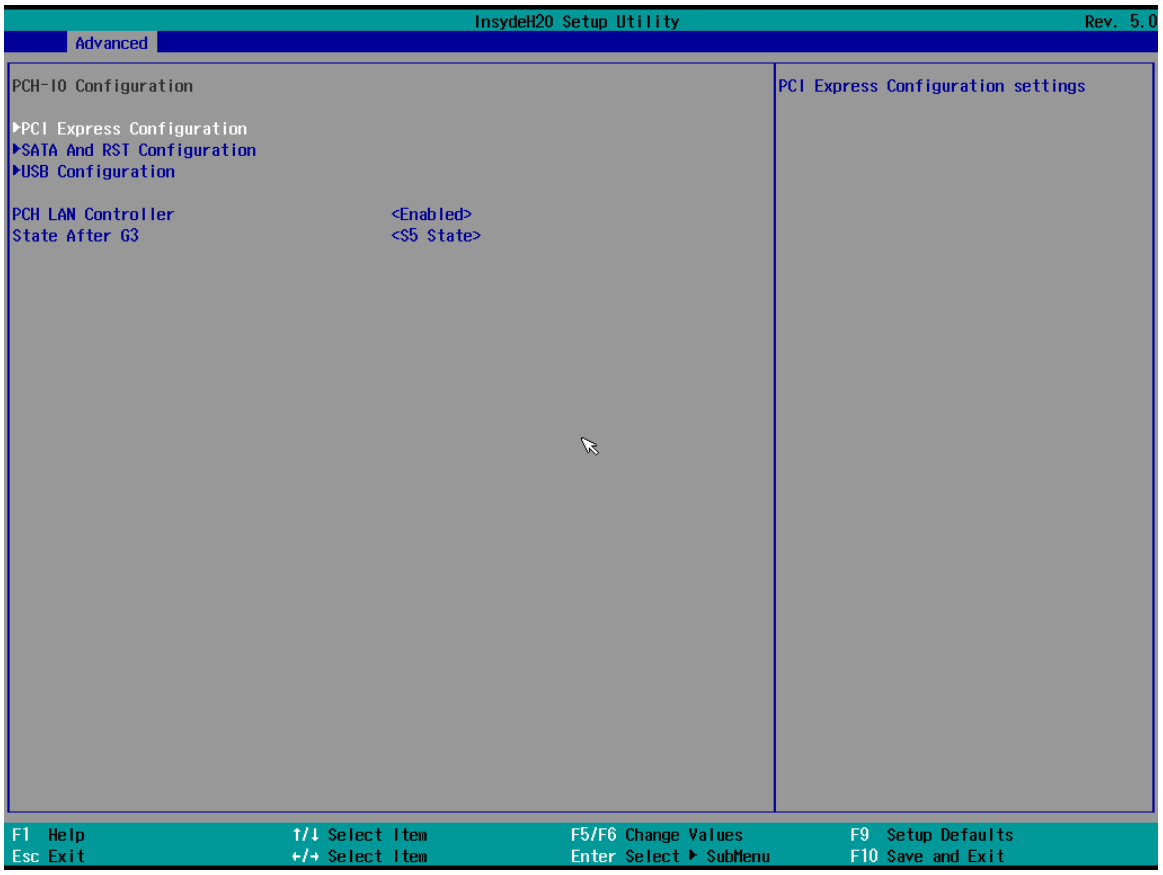




3.2.2.4 Hardware Monitor

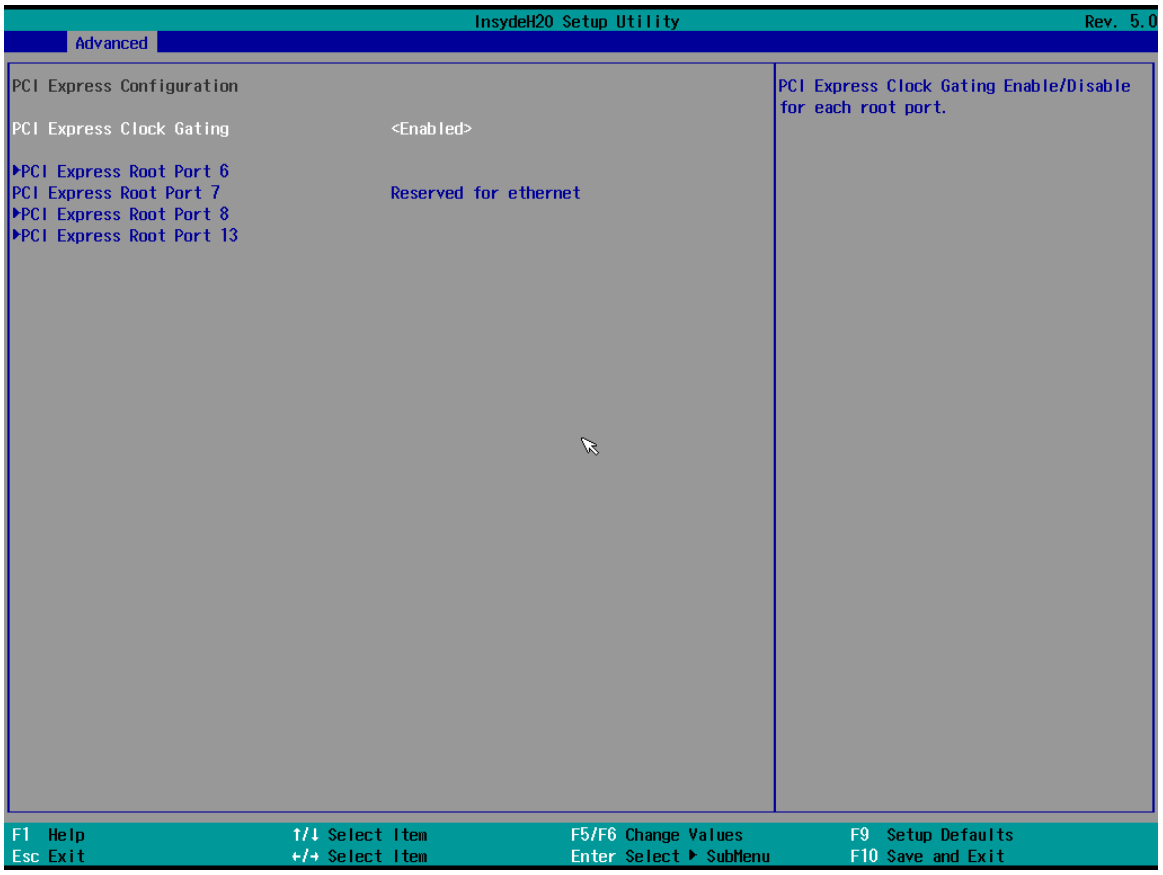


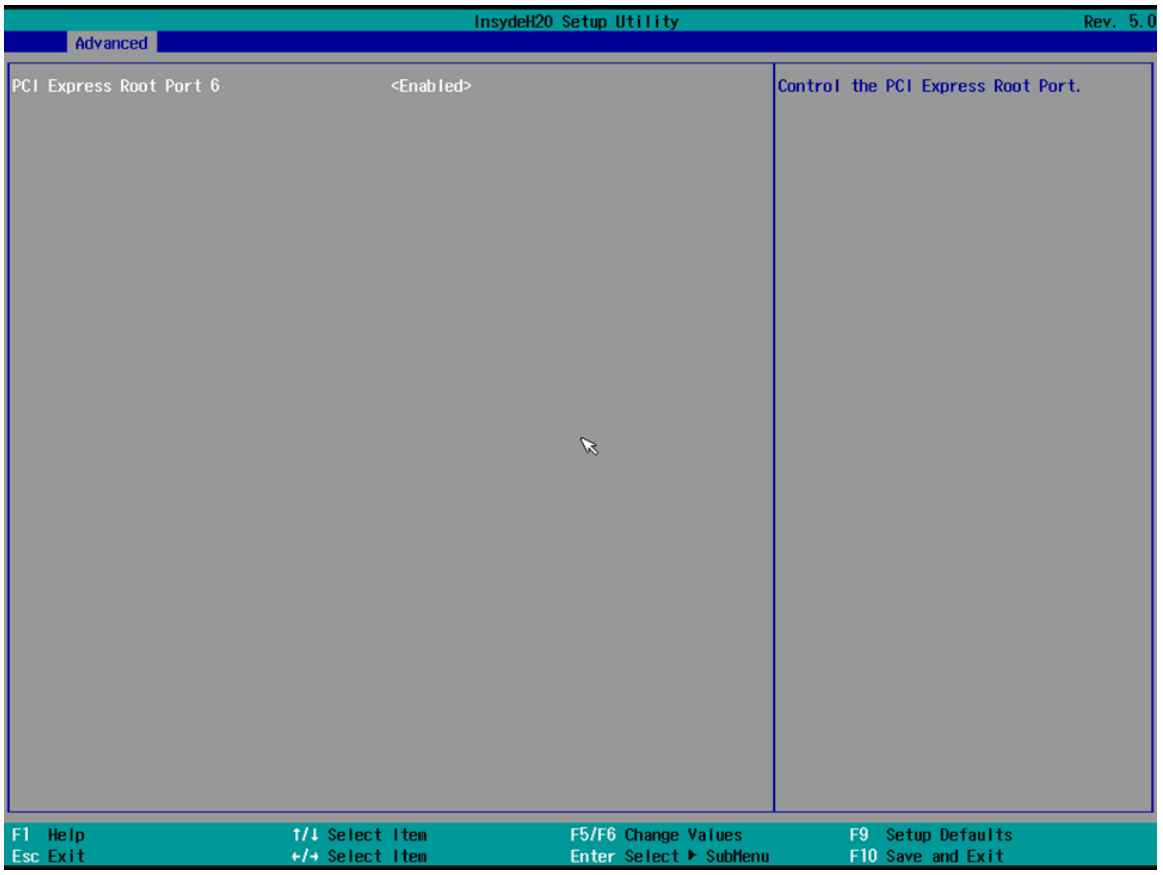
3.2.2.5 PCH-IO Configuration



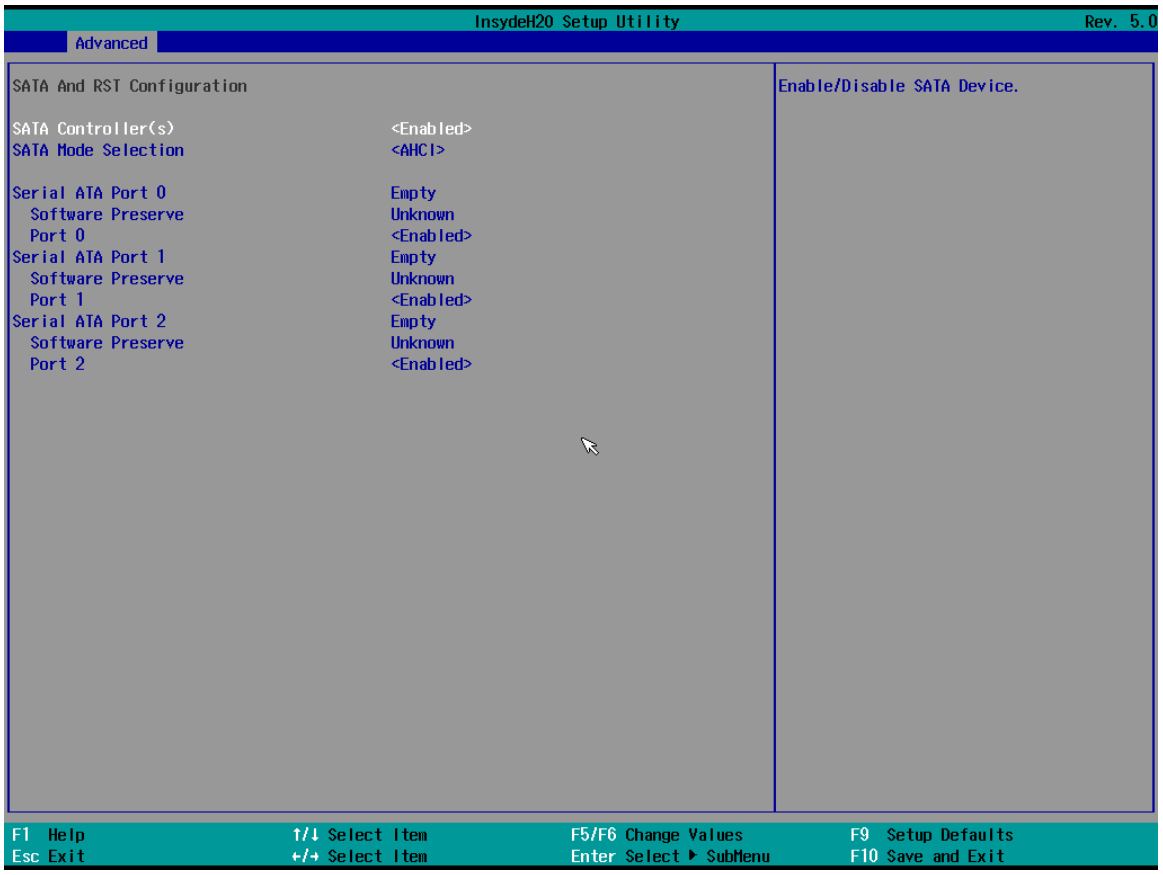
BIOS Setting	Description	Setting Option	Effect
PCI Express Configuration	PCI Express clock gating enable/disable for each root port.	Enter	Opens sub-menu
SATA And RST Configuratuion	Enable/ Disable SATA device	Enter	Opens sub-menu
USB Configuration	Selectively enable/ disable the corresponding USB port from reporting a Device Connection to the controller.	Enter	Opens sub-menu
State After G3	System power state setting	S0 State S5 State	

3.2.2.6 PCI Express Configuration

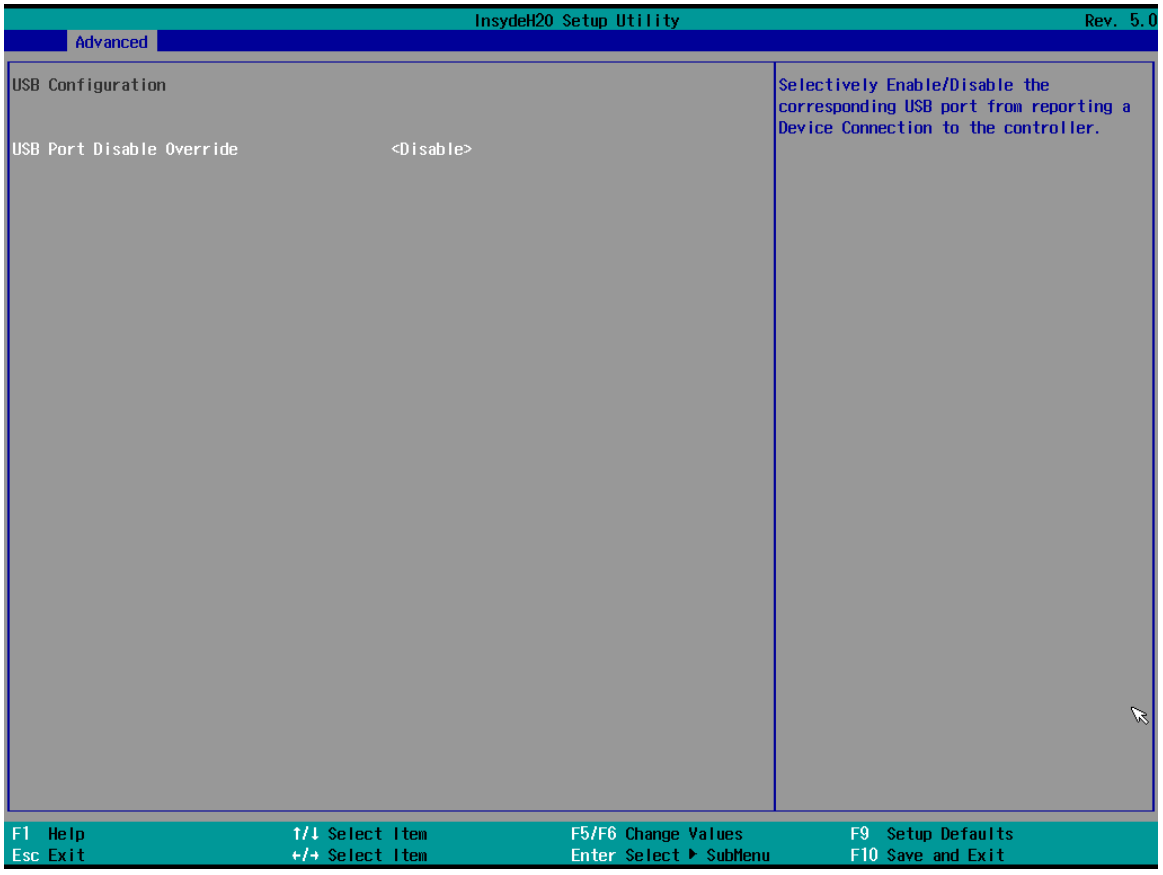




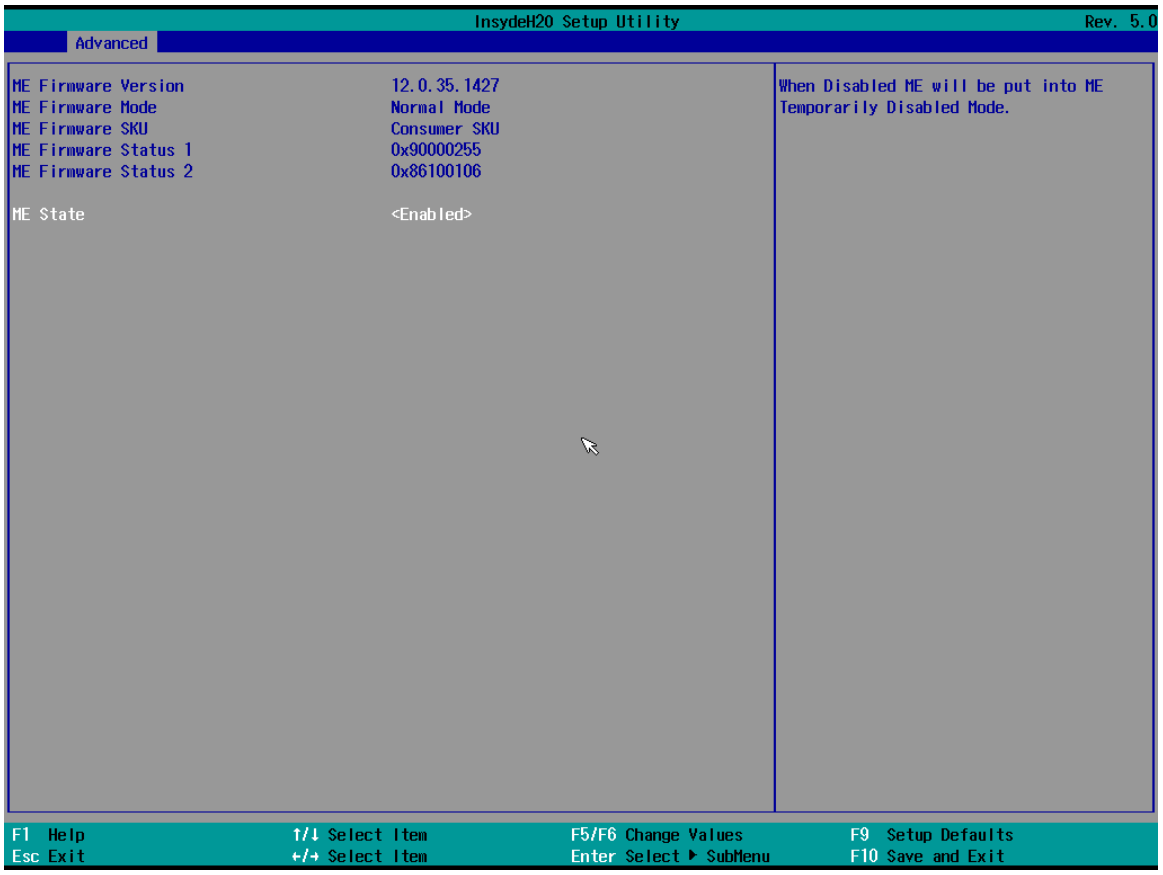
3.2.2.7 SATA and RST Configuration



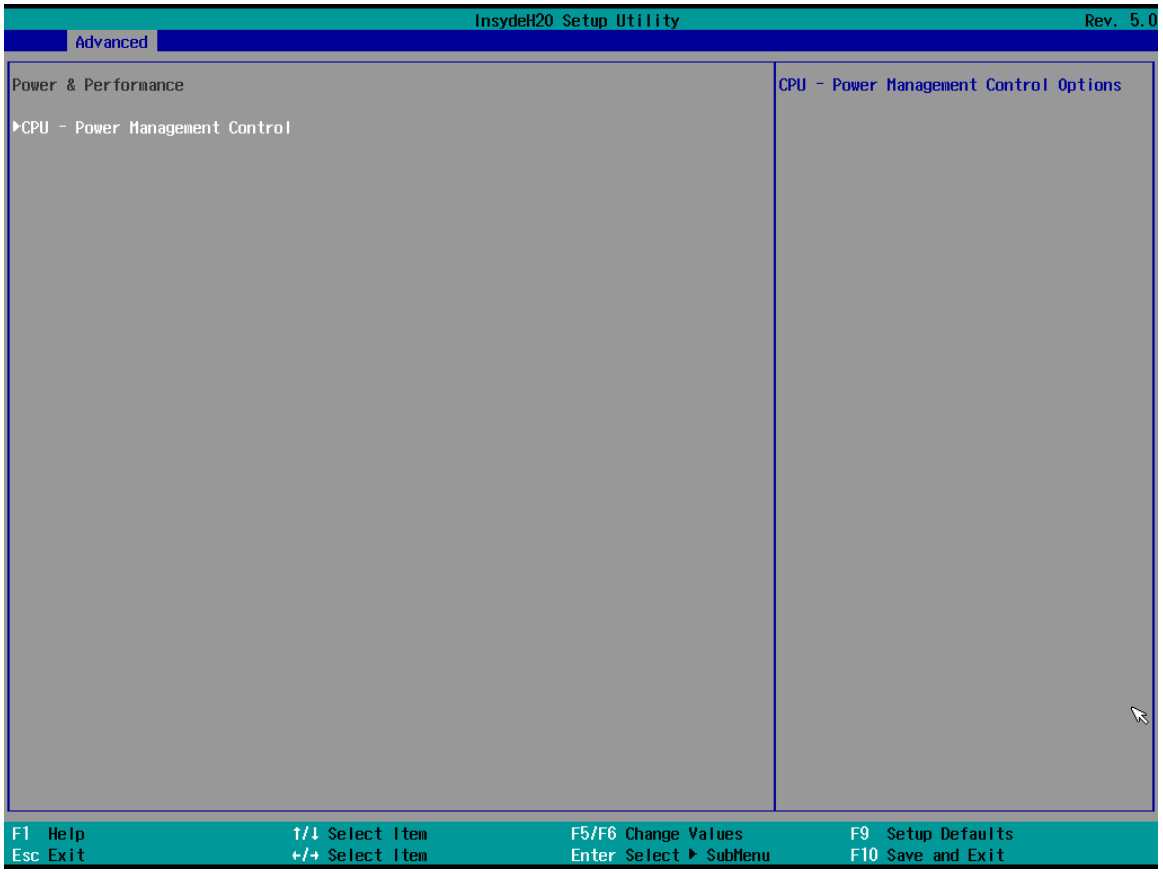
3.2.2.8 USB Configuration



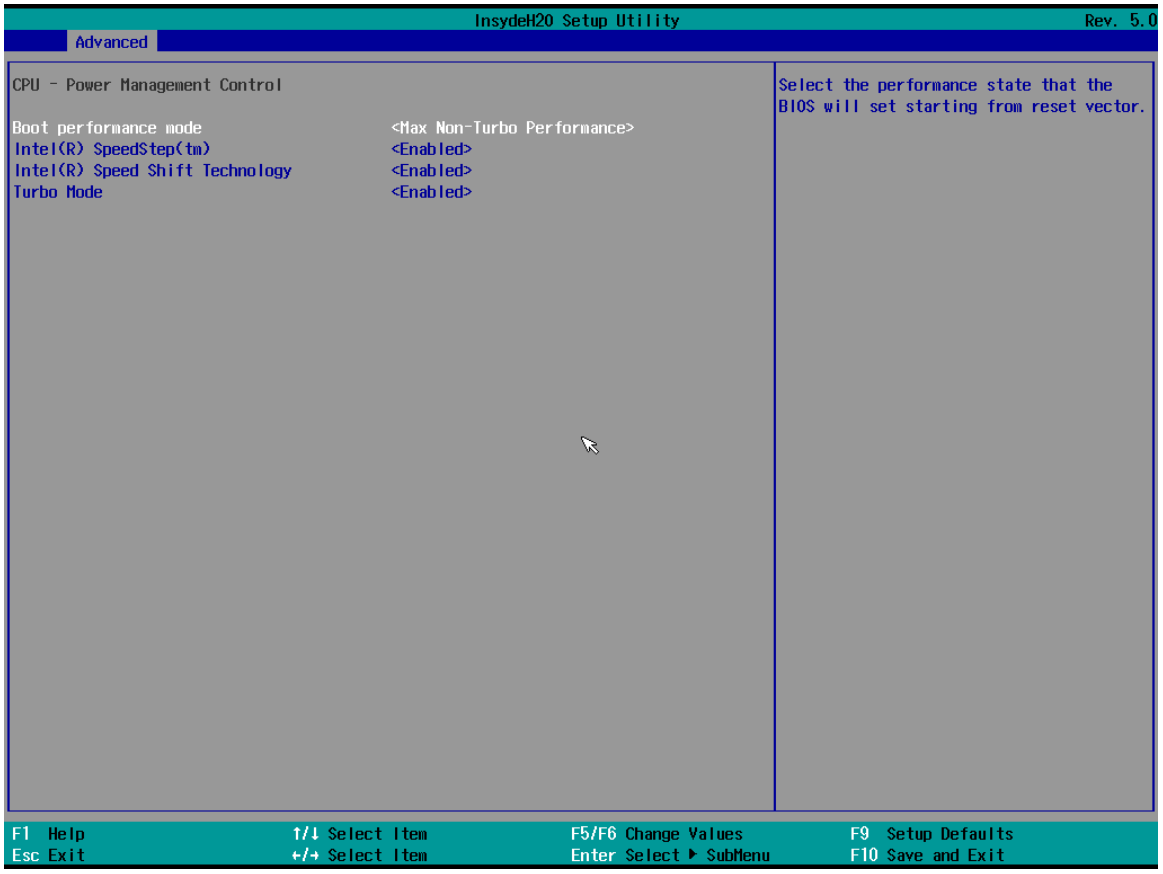
3.2.2.9 ME Firmware Configuration



3.2.2.10 Power & Performance

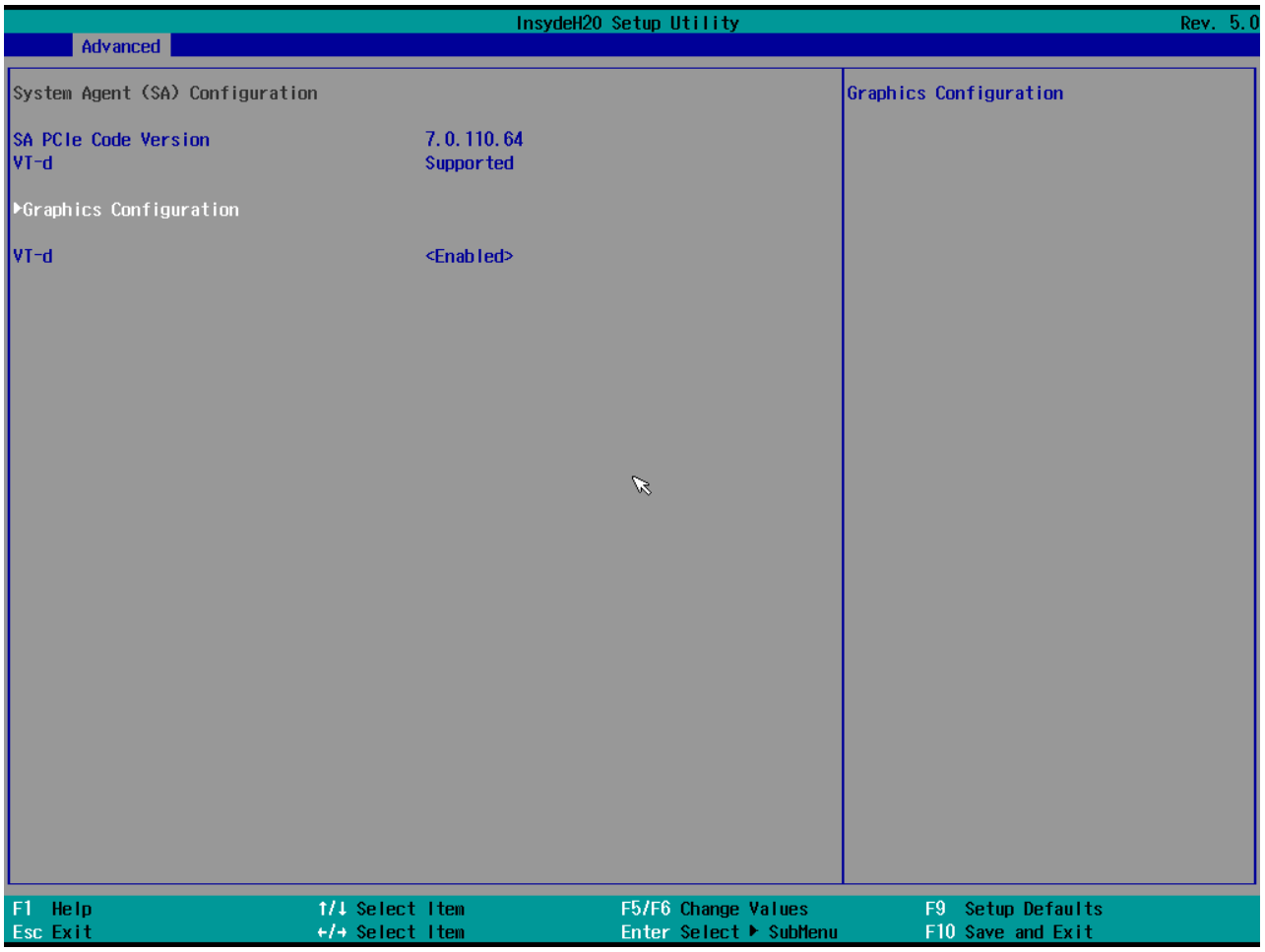


BIOS Setting	Description	Setting Option	Effect
CPU – Power Management Control	Configure CPU – Power Management parameters	Enter	Opens sub-menu



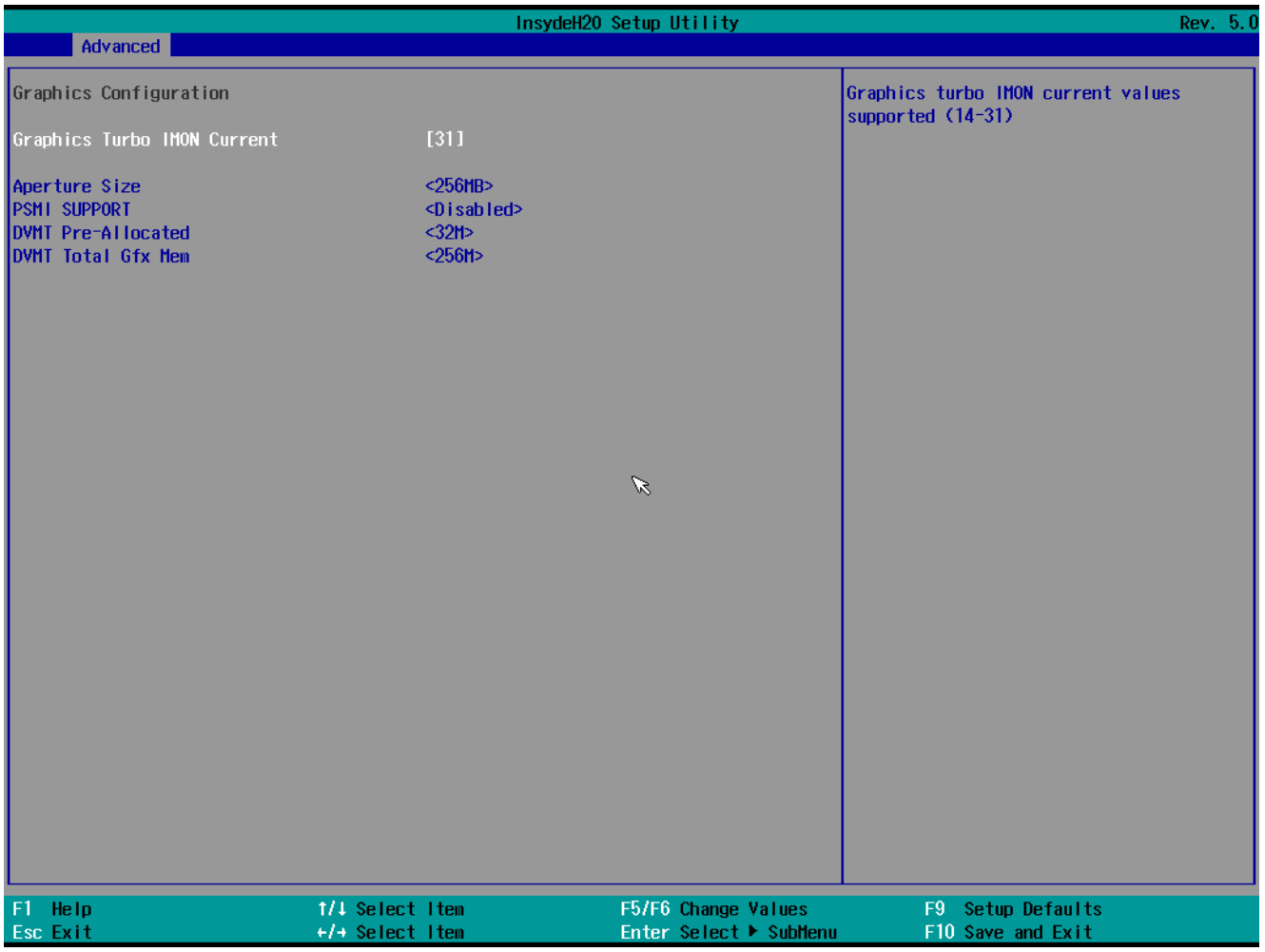
BIOS Setting	Description	Setting Option	Effect
Boot Performance Mode	Configure Boot Performance Mode parameters	-Max non-turbo performance -Max battery -Turbo Performance	Select the performance state that the BIOS will set starting from reset vector
Intel SpeedStep (ta)	Configure Intel SpeedStep (ta) parameters	Enabled/ Disabled	Allows more than two frequency ranges to be supported
Intel Speed Shift Technology	Configure Intel Speed Shift Technology parameters	Enabled/ Disabled	Enable/ Disable Intel Speed Shift Technology support. Enabling will expose the CPP v2 interface to allow for hardware controlled P-states
-Turbo Mode	*Enable or disable Turbo Mode*	*Enabled/ Disabled*	*Enable/ Disable processor Turbo Mode (requires EMTTM enabled too). Auto means enabled, unless max turbo ratio is bigger than 16 – SKL AO W/A*
C states	Enable or disable C states	Enabled/ Disabled	Enable/ Disable CPU Power Management. Allows COU to go to C states when it is not 100% utilized
Custom P-state Table	Configure Custom P-state Table parameters	Enter	Enters sub-menu
-Number of P-states	*Select the number of custom P-states.*	*[Number]*	*Set the number of custom P-states. At least 2 states must be present*

3.2.2.11 System Agent (SA) Configuration



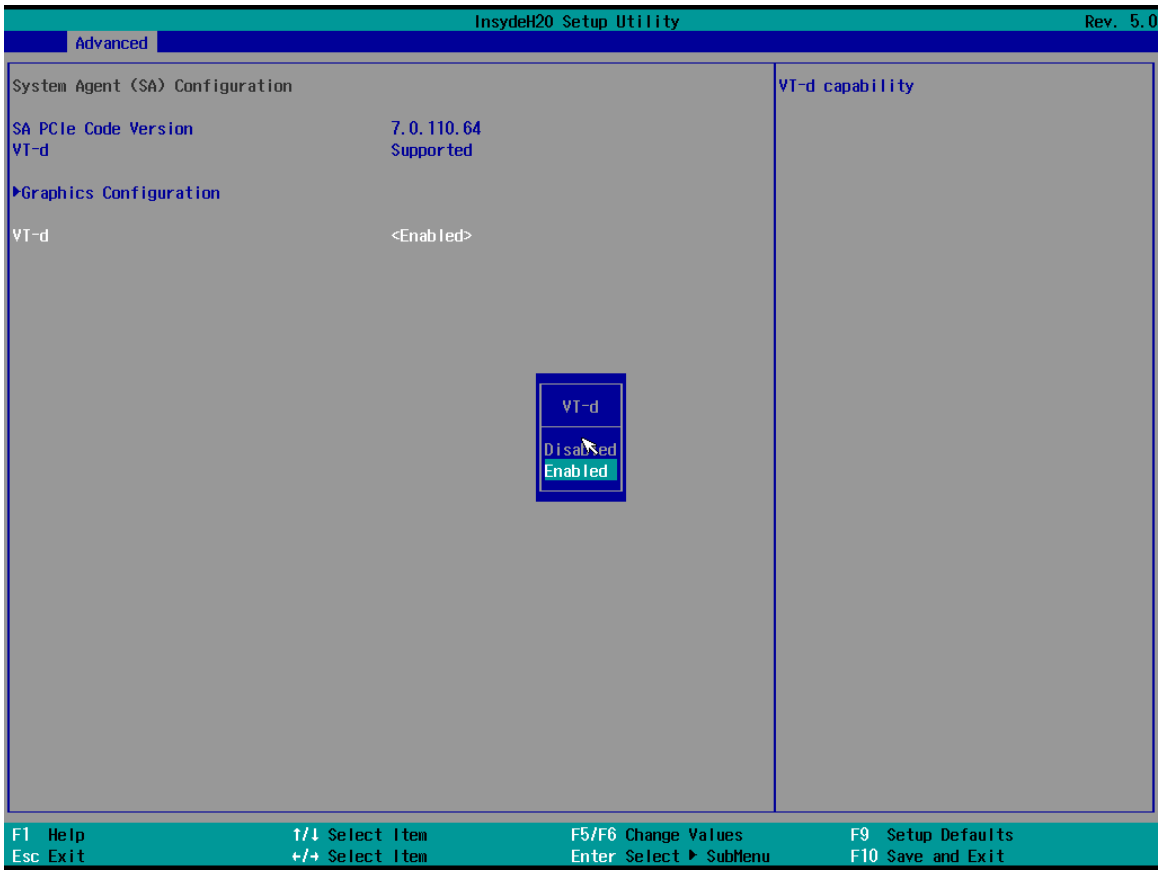
BIOS Setting	Description	Setting Option	Effect
Graphics Configuration	Configure Graphics Configuration parameters	Enter	Opens sub-menu
Vt-d	Intel® Virtualization Technology for Directed I/O	Enabled Disabled	Vt-d capability

3.2.2.11.1 Graphics Configuration



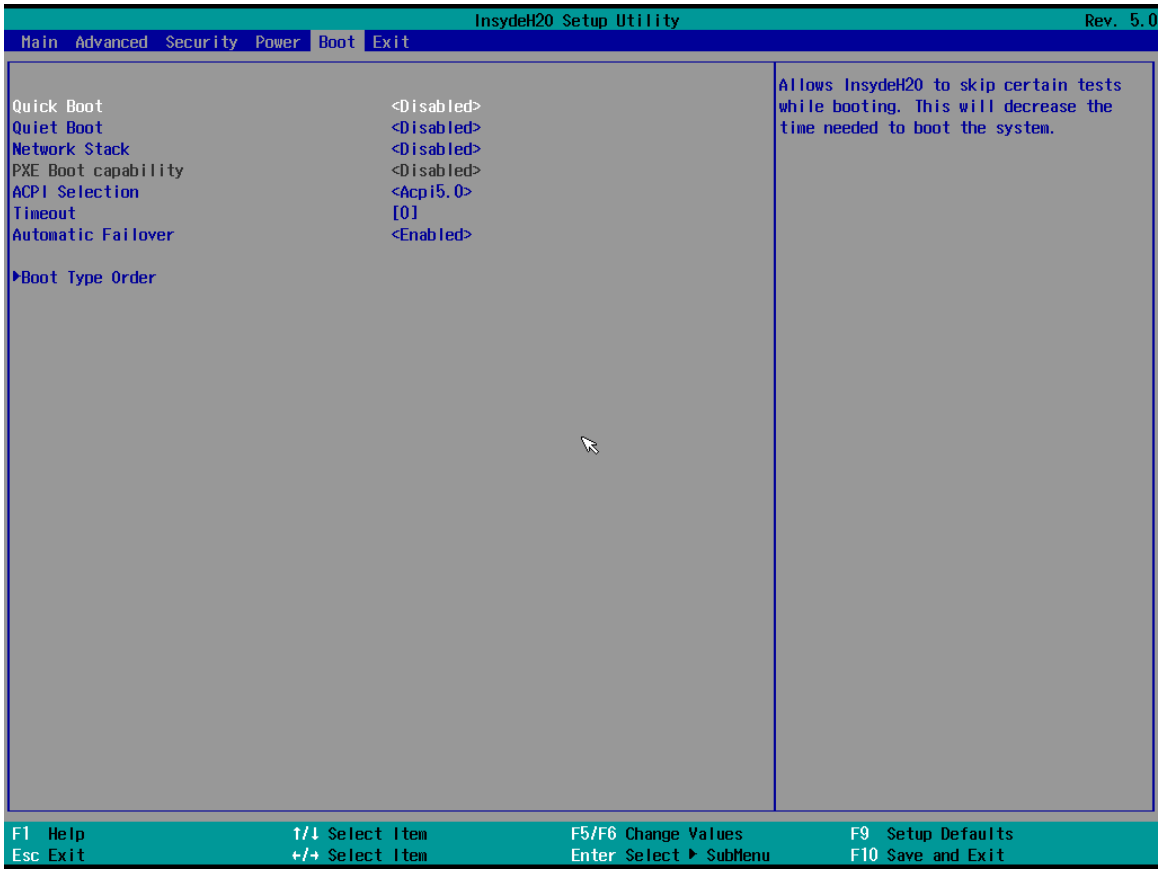
BIOS Setting	Description	Setting Option	Effect
Internal Graphics	Internal Graphics settings	Auto Enabled Disabled	Keep IGFX enabled based on the setup options
Aperture Size	Select the aperture size	128MB 256MB 512MB 1024MB 2048 MB	Select the aperture size *Note: Above 4MB MMIO BIOS assignment is automatically enabled when selecting 2048MB aperture. To use this feature please disable CSM port*
DVMT Pre-Allocated	Select DVMT Pre-Allocated	0M~60M	Select DVMT 5.0 Pre-Allocated (Fixed) Graphic Memory size used by Internal Graphic Device
DVMT Total Gfx Mem	Select DVMT Total Gfx Mem	256M 128M MAX	Select DVMT 5.0 Total Graphic Memory size used by the Internal Graphic Device
Gfx Low Power Mode	Select Gfx Low Power Mode	Enabled/ Disabled	This option is applicable for SFF only

3.2.2.7.2 Vt-d

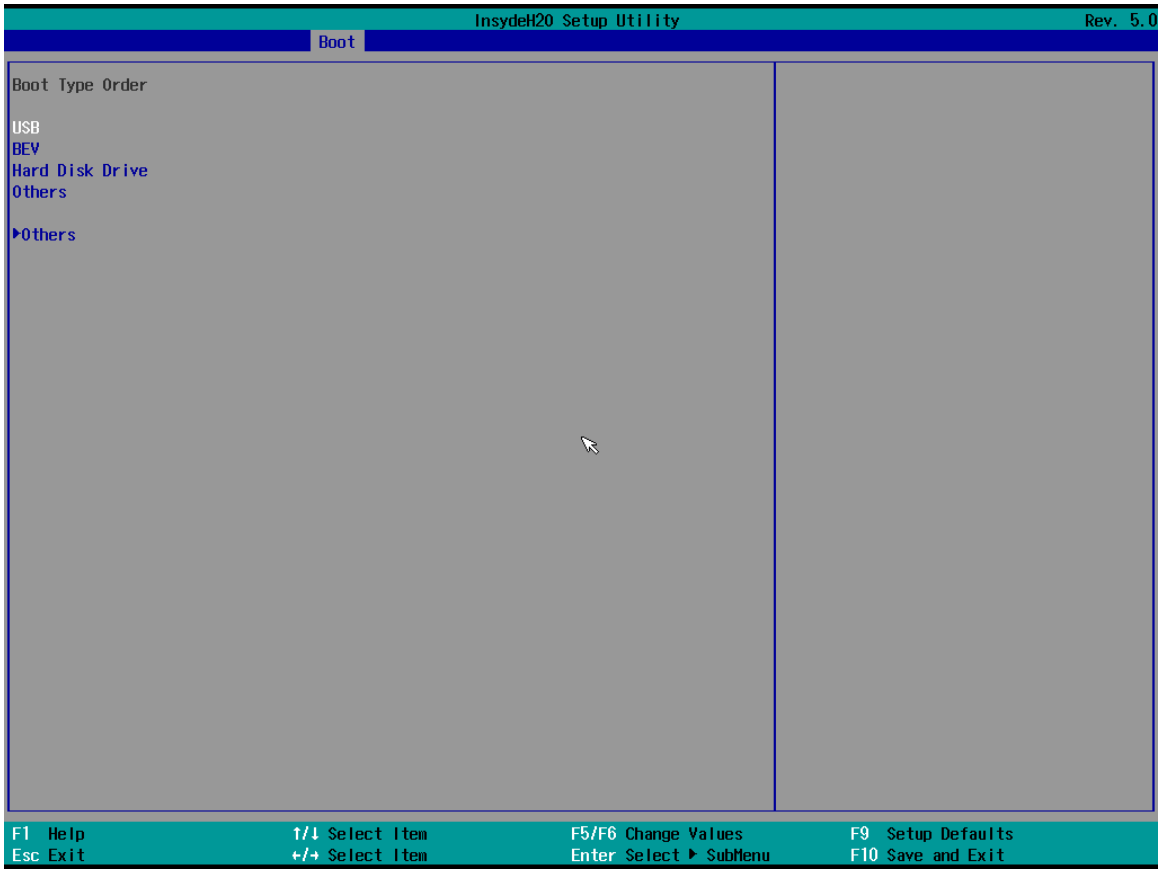


BIOS Setting	Description	Setting Option	Effect
Vt-d	Intel® Virtualization Technology for Directed I/O	Enabled Disabled	Vt-d capability

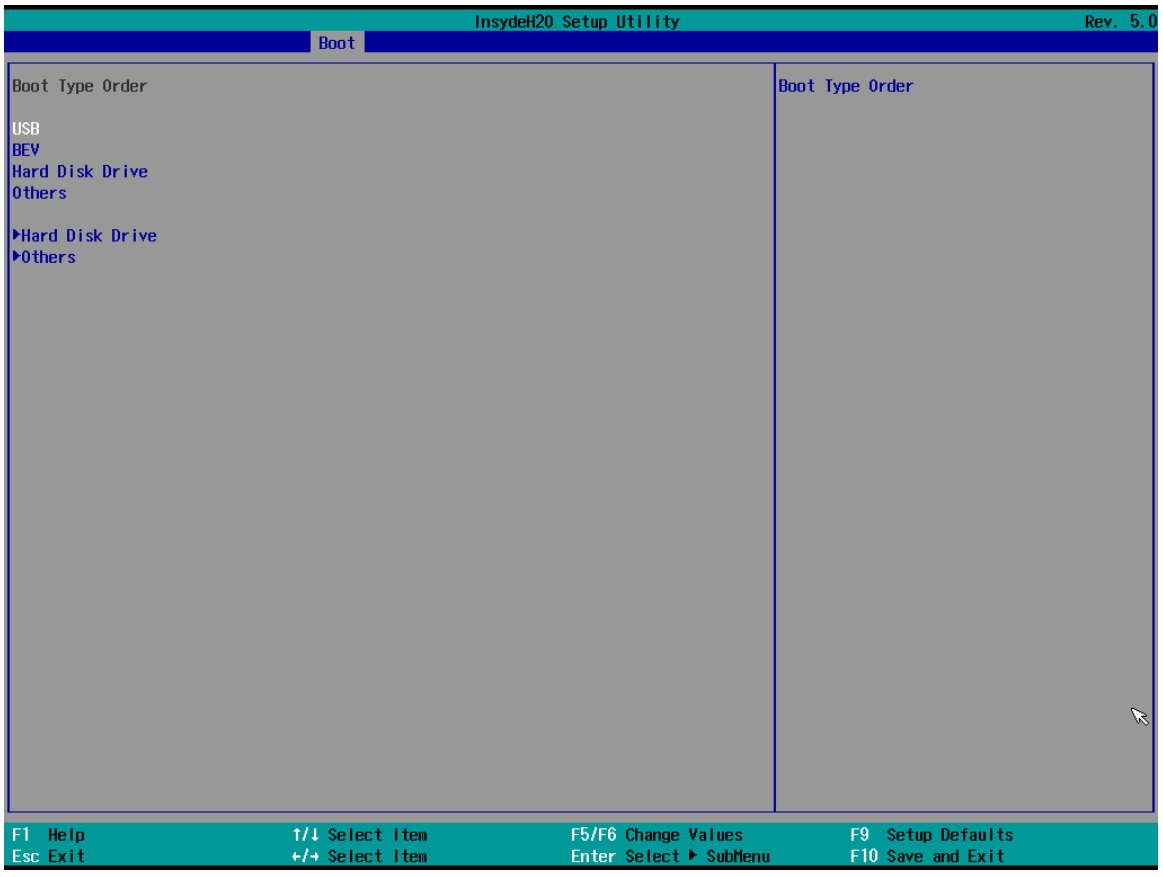
3.2.3 Boot



BIOS Setting	Description	Setting Option	Effect
Boot Type	Boot Type configuration	UEFI Boot Type	Select boot type to Dual type, Legacy type or UEFI type
Quick Boot	Quick Boot configuration	Enabled Disabled	Allows InsydeH20 to skip certain tests while booting. This will decrease the time needed to boot the system
Quiet Boot	Quiet Boot configuration	Enabled Disabled	Disable or enable booting in text Mode.
Timeout	Timeout	[Value]	Timeout settings
Automatic Failover		Enable	If boot to default device fail, it will directly try to boot next device
		Disable	If boot to default device fail, it will pop warning message then go to firmware UI
Boot Type Order	Boot Type Order	Enter	Opens sub-menu



3.2.3.1 Boot Type Order

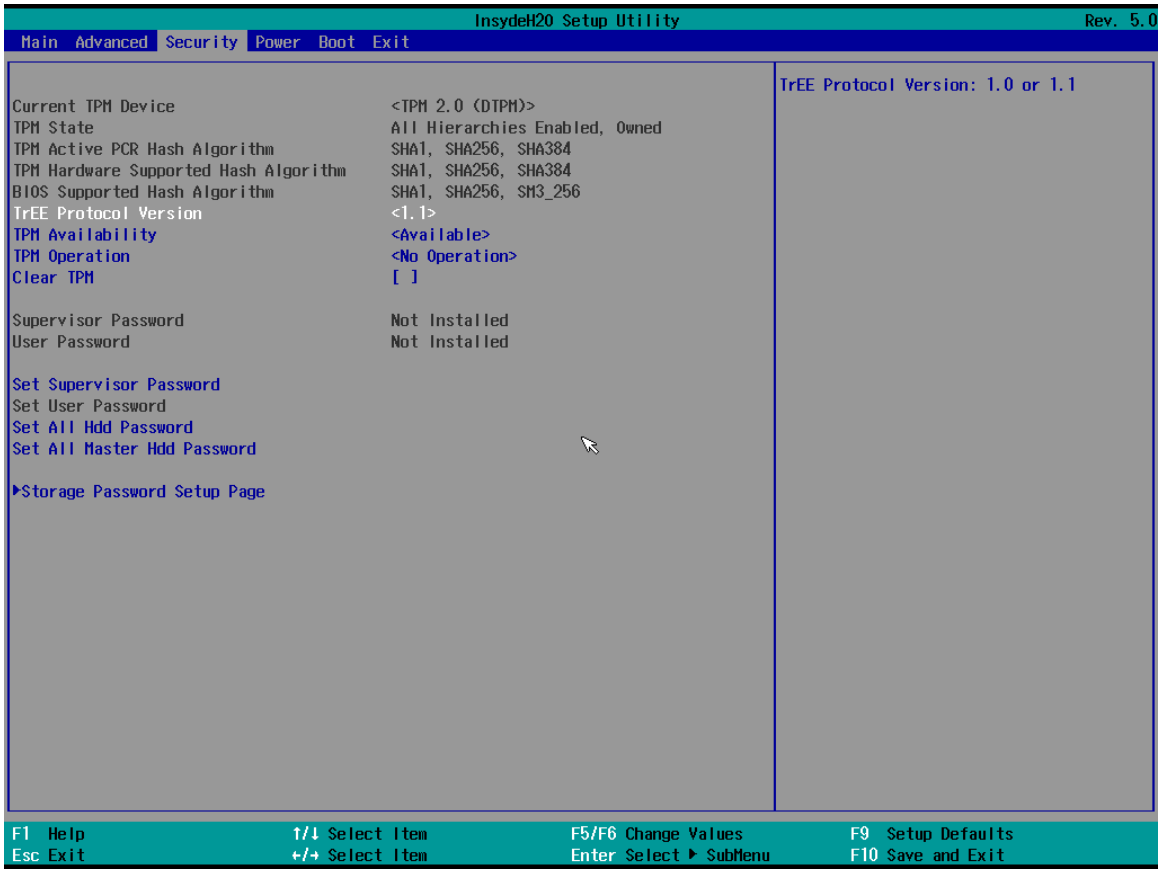


BIOS Setting	Description	Setting Option	Effect
Hard Disk Type	Hard Disk Type configuration	Enter	Opens Sub-menu
Others	Other configuration	Enter	Opens Sub-menu

3.2.3.2 Others

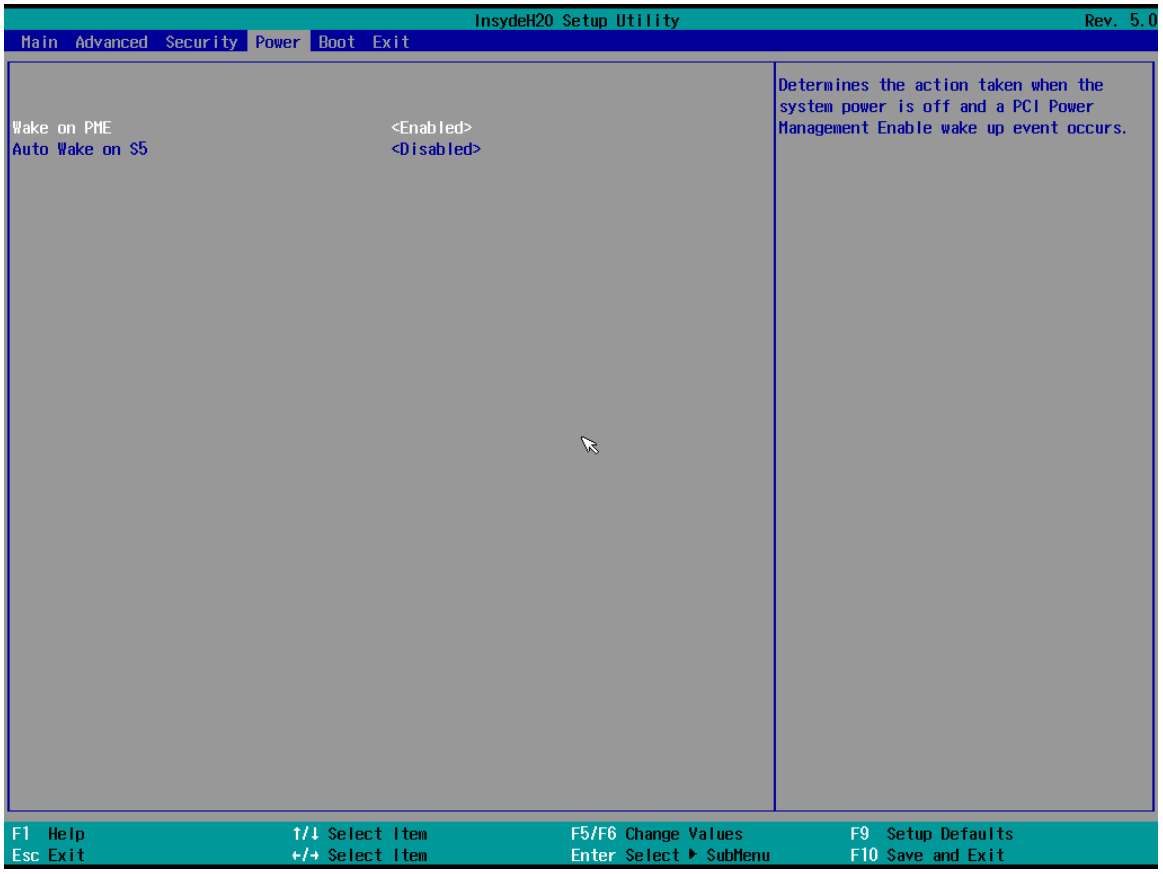

InsydeH20 Setup Utility
Rev. 5.0
Boot
Others
Internal EFI Shell
Others
F1 Help
Esc Exit
↑/↓ Select Item
←/→ Select Item
F5/F6 Change Values
Enter Select ▶ SubMenu
F9 Setup Defaults
F10 Save and Exit

3.2.4 Security



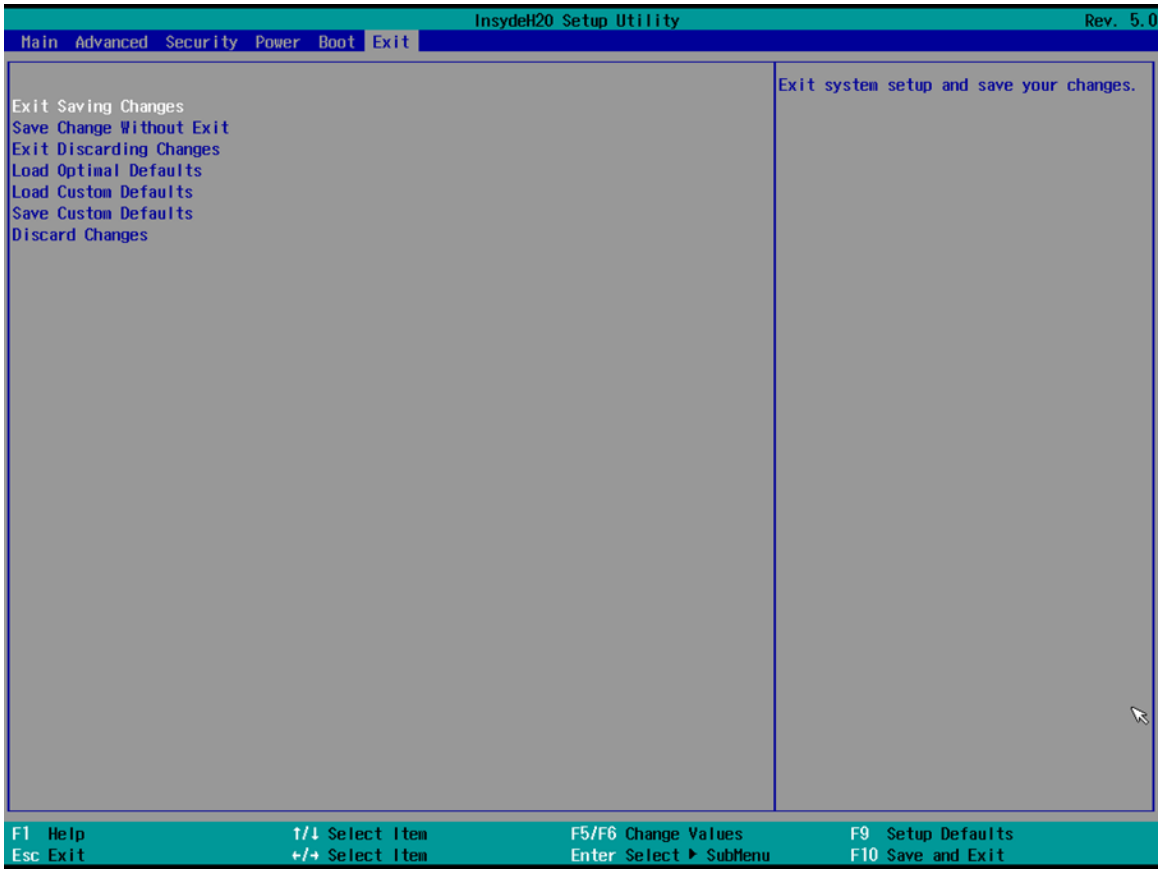
BIOS Setting	Description	Setting Option	Effect
TrEE Protocol Version	Choose TrEE Protocol Version	1.0 1.1	TrEE Protovol Version: 1.0 or 1.1
TPM Availability	TPM Availability configuration	Available Hidden	When hidden don't exposes TPM to 0
TPM Operation	TPM Operation configuration	[ ]	Select one of the supported operation to change TPM2state
Clear TPM	Clear TPM configuration	[ ]	Select to Clear TPM
Set Supervisor Password	Set Supervisor Password	Enter New password	Install or Change the password and the length of password must be greater than one character

3.2.5 Power



BIOS Setting	Description	Setting Option	Effect
ACPI S3	ACPI S3 configuration	Disabled Enabled	Enable/ Disable ACPI S1/S3 Sleep state
Auto Wake on S5	Auto Wake on S5 configuration	Disabled By Every Day By Every Month	Auto Wake on S5, by Day or Month or fixed time of every day

3.2.6 Exit


InsydeH20 Setup Utility
Rev. 5.0
Main Advanced Security Power Boot Exit
Exit Saving Changes
Save Change Without Exit
Exit Discarding Changes
Load Optimal Defaults
Load Custom Defaults
Save Custom Defaults
Discard Changes
Exit system setup and save your changes.
F1 Help
Esc Exit
↑/↓ Select Item
←/→ Select Item
F5/F6 Change Values
Enter Select ▶ SubMenu
F9 Setup Defaults
F10 Save and Exit

Chapter 4: Technical Support

This chapter includes the directory for technical support. Free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. If any problem occurs fill in problem report form enclosed and immediately contact us.

4.1 Software Developer Support

We provide the SDK in the User Manual and SDK CD, or you can download the SDK from Winmate Download Center.

The list of SDK for Rack Mount Pnael PC:

Item	Type	Description
1	SDK	Watchdog SDK
2	Utility	Watchdog Utility

Winmate Download Center:
Go to https://www.winmate.com / >Support > Download Center

4.2 Problem Report Form

Military Grade Rack Mount Panel PC

Customer name:	
Company:	
Tel.:	Fax:
E-mail:	Date:

Product Serial Number: _____

Problem Description: Please describe the problem as clearly as possible. Detailed description of the occurred problem will allow us to find the best solution to solve the problem as soon as possible.

Appendix

This chapter contains additional product information, including troubleshooting guide and frequency table

Appendix A: Technical Specifications

This section includes product technical specifications.

Model Name	R15IT3S-MLA3FP	R17IT3S-MLA1FP	R19IT3S-MLA3FP	W22IT3S-MLA3FP	W24IT3S-MLA2FP	W32IT3S-MLA3FP
Display						
Size	15.0 inches	17.0 inches	19.0 inches	21.5 inches	23.8 inches	32.0 inches
Resolution	1024 x 768	1280 x 1024	1280 x 1024	1920 x 1080	1920 x 1080	1920 x 1080
Contrast Ratio	2500:1	1000:1	1000:1	3000:1	3000:1	4000:1
Brightness	500 nits	350 nits	350 nits	250 nits	250 nits	400 nits
Viewing Angle	88,88,88,88	85,85,80,80	85,85,80,80	89,89,89,89	89,89,89,89	89,89,89,89
Touch/ Glass	Projected Capacitive Multi Touch Screen	Projected Capacitive Multi Touch Screen	Projected Capacitive Multi Touch Screen	Projected Capacitive Multi Touch Screen	Projected Capacitive Multi Touch Screen	Projected Capacitive Multi Touch Screen
System Specification						
Processor	Intel® Core™ i5 -8265U (6M Cache, 1.6 GHz up to 3.9 GHz)	Intel® Core™ i5 -8265U (6M Cache, 1.6 GHz up to 3.9 GHz)	Intel® Core™ i5 -8265U (6M Cache, 1.6 GHz up to 3.9 GHz)	Intel® Core™ i5 -8265U (6M Cache, 1.6 GHz up to 3.9 GHz)	Intel® Core™ i5 -8265U (6M Cache, 1.6 GHz up to 3.9 GHz)	Intel® Core™ i5 -8265U (6M Cache, 1.6 GHz up to 3.9 GHz)
Memory	1 x SO-DIMM, DDR4 2400 MHz, 4 GB (Default) Up to 32 GB (Optional)	1 x SO-DIMM, DDR4 2400 MHz, 4 GB (Default) Up to 32 GB (Optional)	1 x SO-DIMM, DDR4 2400 MHz, 4 GB (Default) Up to 32 GB (Optional)	1 x SO-DIMM, DDR4 2400 MHz, 4 GB (Default) Up to 32 GB (Optional)	1 x SO-DIMM, DDR4 2400 MHz, 4 GB (Default) Up to 32 GB (Optional)	1 x SO-DIMM, DDR4 2400 MHz, 4 GB (Default) Up to 32 GB (Optional)
Storage	1 x M.2 2242 B-key SSD 64 GB up to 512 GB (Optional)	1 x M.2 2242 B-key SSD 64 GB up to 512 GB (Optional)	1 x M.2 2242 B-key SSD 64 GB up to 512 GB (Optional)	1 x M.2 2242 B-key SSD 64 GB up to 512 GB (Optional)	1 x M.2 2242 B-key SSD 64 GB up to 512 GB (Optional)	1 x M.2 2242 B-key SSD 64 GB up to 512 GB (Optional)
Ethernet controller	Intel® Ethernet Controller I210-AT + Intel® Ethernet Connection I219-LM	Intel® Ethernet Controller I210-AT + Intel® Ethernet Connection I219-LM	Intel® Ethernet Controller I210-AT + Intel® Ethernet Connection I219-LM	Intel® Ethernet Controller I210-AT + Intel® Ethernet Connection I219-LM	Intel® Ethernet Controller I210-AT + Intel® Ethernet Connection I219-LM	Intel® Ethernet Controller I210-AT + Intel® Ethernet Connection I219-LM
Operating System	Windows 10 IoT Enterprise (Optional)	Windows 10 IoT Enterprise (Optional)	Windows 10 IoT Enterprise (Optional)	Windows 10 IoT Enterprise (Optional)	Windows 10 IoT Enterprise (Optional)	Windows 10 IoT Enterprise (Optional)
Mechanical						
Dimension, mm	402 x 321 x 70	482.6 x 399.3 x 79.6	482.6 x 399.3 x 79.6	580 x 384 x 71	635.2 x 430.9 x 66	825 x 500 x 87.2
Mounting	Rack Mount/ VESA Mount	Rack Mount/ VESA Mount	Rack Mount/ VESA Mount	Rack Mount/ VESA Mount	Rack Mount/ VESA Mount	Rack Mount/ VESA Mount
Enclosure	Metal Housing with Aluminum Bezel	Metal Housing with Aluminum Bezel	Metal Housing with Aluminum Bezel	Metal Housing with Aluminum Bezel	Metal Housing with Aluminum Bezel	Metal Housing with Aluminum Bezel
Cooling System	Fanless Design	Fanless Design	Fanless Design	Fanless Design	Fanless Design	Fanless Design

Environment						
Operating Humidity	10% to 95% RH	10% to 95% RH	10% to 95% RH	10% to 95% RH	10% to 95% RH	10% to 95% RH
Operating Temp.	-20°C~60°C	-20°C~60°C	-20°C~60°C	-20°C~60°C	-20°C~60°C	-20°C~60°C
Storage Temp.	-30°C~70°C	-30°C~70°C	-30°C~70°C	-30°C~70°C	-30°C~70°C	-30°C~70°C
IO Ports						
USB Port	2 x USB 3.2 Gen 1	2 x USB 3.2 Gen 1	2 x USB 3.2 Gen 1	2 x USB 3.2 Gen 1	2 x USB 3.2 Gen 1	2 x USB 3.2 Gen 1
Serial Port	1 x RS232/422/ 485 (Default RS232)	1 x RS232/422/ 485 (Default RS232)	1 x RS232/422/ 485 (Default RS232)	1 x RS232/422/ 485 (Default RS232)	1 x RS232/422/ 485 (Default RS232)	1 x RS232/422/ 485 (Default RS232)
Video	1 x HDMI	1 x HDMI	1 x HDMI	1 x HDMI	1 x HDMI	1 x HDMI
LAN	2 x RJ-45	2 x RJ-45	2 x RJ-45	2 x RJ-45	2 x RJ-45	2 x RJ-45
Power						
Power Rating	AC 100~240V, Universal, ±10% DC 9~36V, ±10% (Optional)	AC 100~240V, Universal, ±10% DC 9~36V, ±10% (Optional)	AC 100~240V, Universal, ±10% DC 9~36V, ±10% (Optional)	AC 100~240V, Universal, ±10% DC 9~36V, ±10% (Optional)	AC 100~240V, Universal, ±10% DC 9~36V, ±10% (Optional)	AC 100~240V, Universal, ±10% DC 9~36V, ±10% (Optional)
Control						
Button	8 Key OSD Control Pad: Power, Brightness DOWN, Brightness UP, Night, Day, Auto / Manual, Reset, Lock	8 Key OSD Control Pad: Power, Brightness DOWN, Brightness UP, Night, Day, Auto / Manual, Reset, Lock	8 Key OSD Control Pad: Power, Brightness DOWN, Brightness UP, Night, Day, Auto / Manual, Reset, Lock	8 Key OSD Control Pad: Power, Brightness DOWN, Brightness UP, Night, Day, Auto / Manual, Reset, Lock	8 Key OSD Control Pad: Power, Brightness DOWN, Brightness UP, Night, Day, Auto / Manual, Reset, Lock	8 Key OSD Control Pad: Power, Brightness DOWN, Brightness UP, Night, Day, Auto / Manual, Reset, Lock
Compliance						
MIL-STD 461E/F	RE101 / RE102 CE101 / CE 101 with EMI Glass / Touch (Optional) RS101 / RS 103 CS101 / CS 106 / CS 109 / CS 114 / CS 115 / CS 116	RE101 / RE102 CE101 / CE 101 with EMI Glass / Touch (Optional) RS101 / RS 103 CS101 / CS 106 / CS 109 / CS 114 / CS 115 / CS 116	RE101 / RE102 CE101 / CE 101 with EMI Glass / Touch (Optional) RS101 / RS 103 CS101 / CS 106 / CS 109 / CS 114 / CS 115 / CS 116	RE101 / RE102 CE101 / CE 101 with EMI Glass / Touch (Optional) RS101 / RS 103 CS101 / CS 106 / CS 109 / CS 114 / CS 115 / CS 116	RE101 / RE102 CE101 / CE 101 with EMI Glass / Touch (Optional) RS101 / RS 103 CS101 / CS 106 / CS 109 / CS 114 / CS 115 / CS 116	RE101 / RE102 CE101 / CE 101 with EMI Glass / Touch (Optional) RS101 / RS 103 CS101 / CS 106 / CS 109 / CS 114 / CS 115 / CS 116
MIL-STD 810F/G	Vibration Method 514.5, Humidity Method 507.4, Transit Drop Method516.5	Vibration Method 514.5, Humidity Method 507.4, Transit Drop Method516.5	Vibration Method 514.5, Humidity Method 507.4, Transit Drop Method516.5	Vibration Method 514.5, Humidity Method 507.4, Transit Drop Method516.5	Vibration Method 514.5, Humidity Method 507.4, Transit Drop Method516.5	Vibration Method 514.5, Humidity Method 507.4, Transit Drop Method516.5
Certification						
Certification	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

Accessory						
Accessory	1 x Manual (Hardcopy), 1 x Driver CD, 1 x Power Cord (MIL-DTL-38999/1)	1 x Manual (Hardcopy), 1 x Driver CD, 1 x Power Cord (MIL-DTL-38999/1)	1 x Manual (Hardcopy), 1 x Driver CD, 1 x Power Cord (MIL-DTL-38999/1)	1 x Manual (Hardcopy), 1 x Driver CD, 1 x Power Cord (MIL-DTL-38999/1)	1 x Manual (Hardcopy), 1 x Driver CD, 1 x Power Cord (MIL-DTL-38999/1)	1 x Manual (Hardcopy), 1 x Driver CD, 1 x Power Cord (MIL-DTL-38999/1)

Appendix B: Military Grade Compliance

This section includes description of military grade compliance.

Military Grade EMC Compliance

EMC (MIL-STD 461E/F Compliance)			
EMC Test Spec	**Type of Test**	**Frequency Range**	**Requirement**
CE101	Conducted Emissions	30Hz ~10kHz	30Hz ~ 1kHz :110 dB 1k-10k:110-90 dB
CE102	Conducted Emissions	30Hz ~10kHz	10kHz ~ 500KHz: 100-66dB, 500KHz~10MHz:66dB
RE101	Radiated Emissions	30Hz ~100kHz	30~100k :180-110 dBpT
RE102	Radiated Emissions	10kHz ~-18GHz	2MHz~18G Hz: 44-89 dB

Military Grade Environmental Compliance

Environmental (MIL-STD 810F/G Compliance)		
Low Pressure	Operating	15,000 ft, Method 500.5 / Procedure II
	Storage	15,000 ft, Method 500.5 / Procedure I
Salt Fog	Method 509.5	
Vibration	5 ~ 500 Hz, 1.48 & 1.90 & 2.24 Grms Method 514.6 / Procedure I	
Transit Drop	Method 516.6 / Procedure IV	
Shock	Method 516.6 / Procedure I	

Appendix C: Maintenance

This equipment is extremely rugged and does not require a lot of maintenance. Remember that electrical equipment should be handled with care and used accordingly to its specifications.

Cleaning the Display Screen

- Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles. Do not use acetone, ethyl alcohol, toluene, ethyl acid or methyl chloride to clear the panel. It may permanently damage the display screen.
- You can apply a small amount of non-ammonia; non-alcohol based glass cleaner onto a clean, soft, lint-free cloth and wipe the screen.
- Never spray or pour any liquid directly on the screen or case.
- **Do Not** use water or oil directly on the display screen. If droplets are allowed to drop on the screen, permanent staining or discoloration may occur.

Cleaning the Casing

Use the following procedure to clean the equipment.

Caution Always turn off the device and disconnect other peripherals before cleaning and maintenance procedures.

Attention Toujours éteindre l'appareil et débrancher tous les périphériques avant que les procédures de nettoyage et d'entretien.

Before Cleaning:

- Make sure the device is turned off.
- Disconnect the power cable from any AC outlet.

When Cleaning:

- Wipe dust off the outside casing with a cloth slightly moistened with water or mild ammonia-based cleaning solution. Do not use this cloth on a display screen!
- Do not use an abrasive cleaner or high pressure washer on the screen.
- Do not rub the unit with a dry cloth. This action can result in a static charge being built up and cause a spark. Always use damp cloth while cleaning the unit.

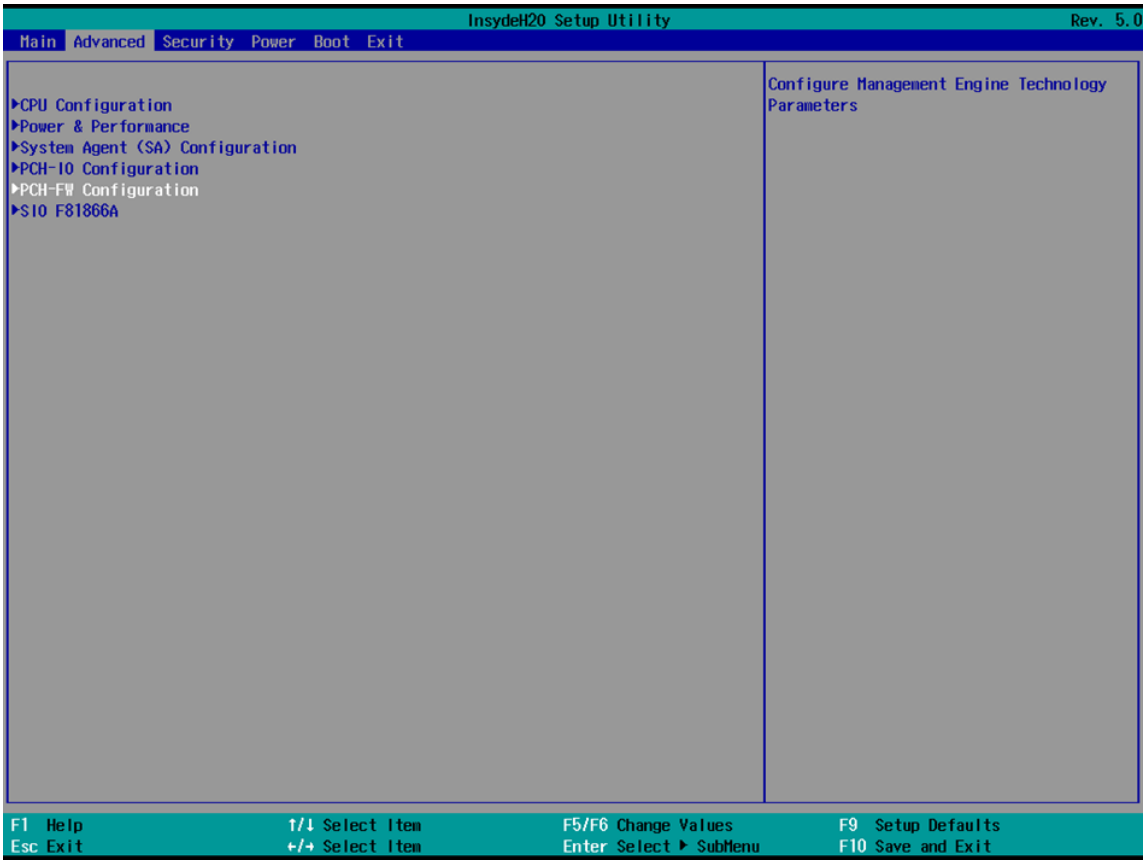
Warning! POTENTIAL ELECTROSTATIC CHARGE HAZARD – SEE INSTRUCTIONS

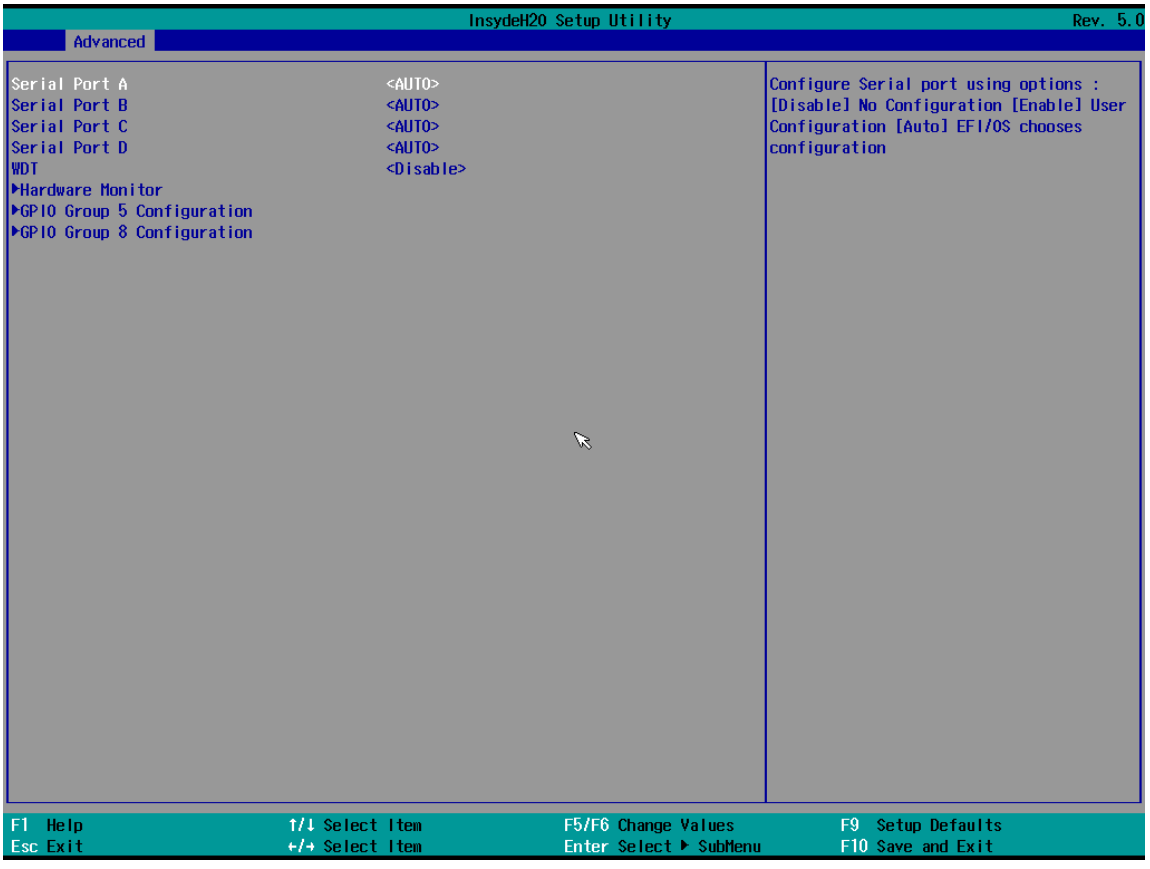
Avertissement! POTENTIEL ÉLECTROSTATIQUE CHARGE DANGER - VOIR INSTRUCTIONS

Appendix D: Serial Port Settings

To change serial port settings, enter the BIOS setup menu by pressing **DEL** key during POST.

Go to **Advanced** => **PCH-FW Configuration > Serial Port**





Notes

Notes

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