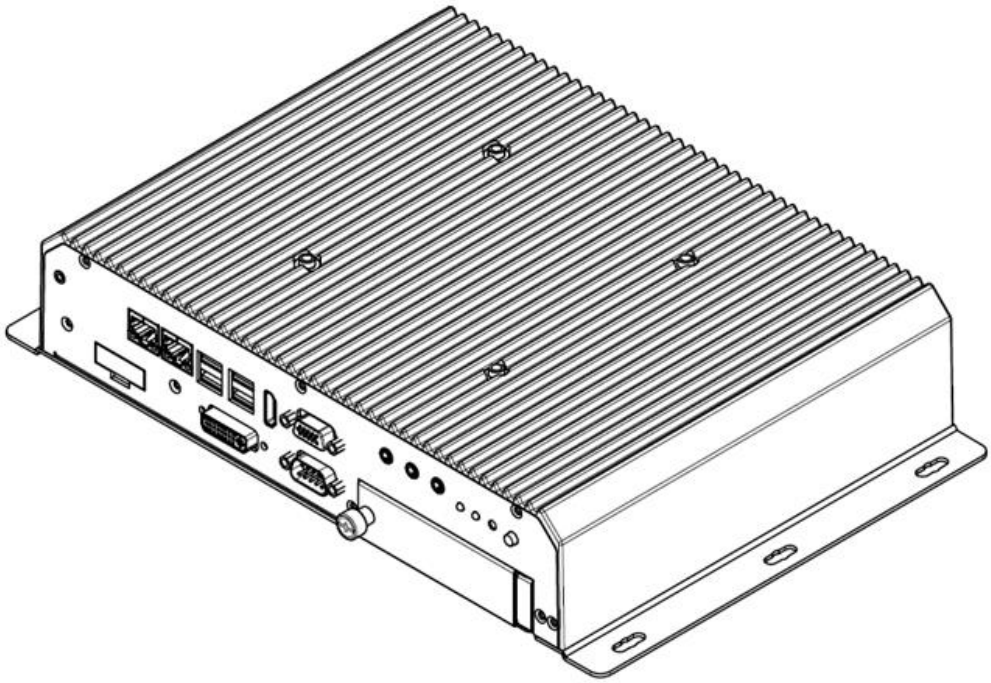
Embedded Computer

Intel® Core i5-7200U, 2.5 GHz (Turbo to 3.1 GHz)
Intel® Core i5-6200U, 2.3 GHz (Turbo to 2.8 GHz)



I330EAC-IKW

User Manual

Document Version 1.0
Document Part No. 91521110105L

Please read these instructions carefully before using this product, and save this manual for future use.

Contents

Preface **4**

Chapter 1: Introduction **7**

1.1 Features 7

1.2 Package Contents 7

1.3 Product Overview 8

Chapter 2: Hardware Installation **9**

2.1 Mounting 9

2.2 Connecting the Power 9

Chapter 3: Operating the Device **10**

3.1 How to Enable Watchdog 10

3.2 S4 Wake on LAN 11

3.3 Changing Serial Port Settings 12

3.4 Changing DIDO Settings 15

3.5 Changing NMEA Port Settings 16

3.6 Using Recovery Wizard to Restore Computer 17

Chapter 4: INSYDE H20 BIOS Setup **18**

4.1 How and When to Use BIOS Setup 18

4.2 BIOS Functions 19

4.2.1 Main Menu 19

4.2.2 Advanced 20

4.2.3 Boot 34

4.2.4 Security 37

4.2.5 Power 38

4.2.5 Exit 39

Chapter 5: Driver Installation **40**

5.1 Chipset Driver 40

5.2 Graphic Driver 42

5.3 Management Engine (ME) 46

5.4 Audio Driver 49

5.5 Ethernet Driver 50

5.6 Watchdog Driver 53

5.9 Option Devices Driver Installation 56

5.9.1 WIDOM Driver 56

5.9.2 U2RS4 Driver 68

5.9.3 DIDO Driver 70

5.10 Option Device Configuration Tool Installation 71

Appendix **74**

Appendix A: Hardware Specifications 74

Appendix B: System Dimensions 75
Appendix C: Software Developer Support 75

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 1W18Axxxxxxxx means October of year 2018.

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.

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 Une alerte d'attention indique un dommage possible à l'équipement et explique comment éviter le problème 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 Électrique indique le potentiel de chocs sur des emplacements électriques et comment éviter ces problèmes.

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

Safety Information

Warning! Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.
Avertissement! Toujours débrancher le cordon d'alimentation du chassis lorsque vous travaillez sur celui-ci. Ne pas brancher de connections lorsque l'alimentation est présente. Des composantes électroniques sensibles peuvent être endommagées par des sauts d'alimentation. Seulement du personnel expérimenté devrait ouvrir ces chassis.

Caution Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.
Attention Toujours verifier votre mise à la terre afin d'éliminer toute charge statique avant de toucher la carte CPU. Les équipements électroniques modernes sont très sensibles aux décharges d'électricité statique. Toujours utiliser un bracelet de mise à la terre comme précaution. Placer toutes les composantes électroniques sur une surface conçue pour dissiper les charge, ou dans un sac anti-statique lorsqu'elles ne sont pas dans le chassis.

Important Information

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.

EC Declaration of Conformity

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 EN 55022: 2010 Class B
  - IEC61000-4-2: 2009
  - IEC61000-4-3: 2006+A1: 2007+A2: 2010
  - IEC61000-4-4: 2012
  - IEC61000-4-5: 2014
  - IEC61000-4-6: 2013
  - IEC61000-4-8: 2010
  - IEC61000-4-11: 2004
- EN55022: 2010/AC:2011
- 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

Chapter 1: Introduction

Congratulations on purchasing Winmate® EAC IKW Embedded Computer. EAC IKW with 7th Generation Intel® i5-7200U offers high performance computing power and outstanding video processing. EAC IKW suitable for Factory Automation, Machine Vision, Surveillance, Machine Automation and other high-performance applications.

1.1 Features

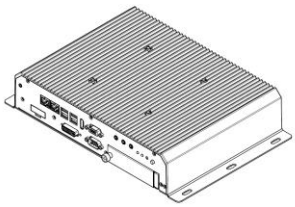
Winmate® I330EAC-IKW Embedded Computer offers the following features:

- Design for Industrial Automation, M2M application
- Intel® Core i5-7200U, 2.5 GHz (turbo to 3.1 GHz)
- Intel® Core i5-6200U, 2.3 GHz (turbo to 2.8 GHz) (Optional)
- 1 x DDR4L-2133 SODIMM, max.16 GB
- 8 x Isolated DIDO, 4 In/4 Out (Optional)
- 4 x Isolated RS-422/485, programmable by software (Optional)
- 2.5" Removable SSD/HDD
- Fanless, high efficiency thermal design with sealed construction

1.2 Package Contents

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

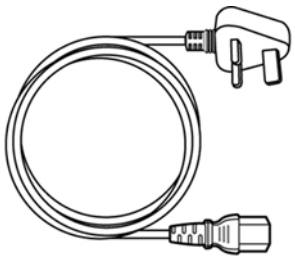
Standard factory shipment list:



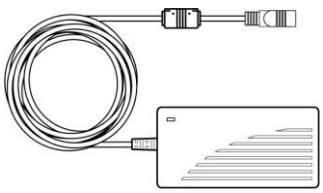
- **I330EAC-IKW Embedded Computer**

- **Quick Start Guide (Hardcopy)**

- **Driver CD & User Manual**



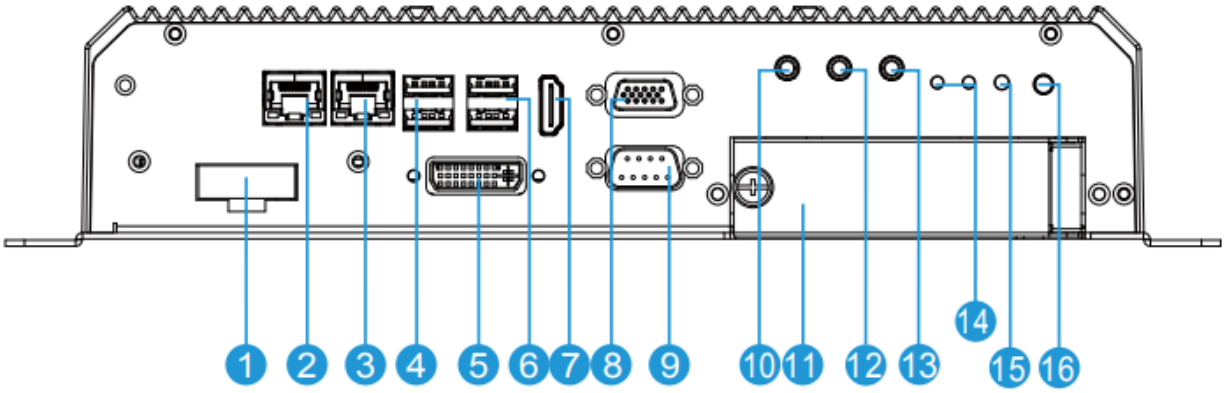
- **Power Cord**



- **AC Adapter 12V/ 84W**

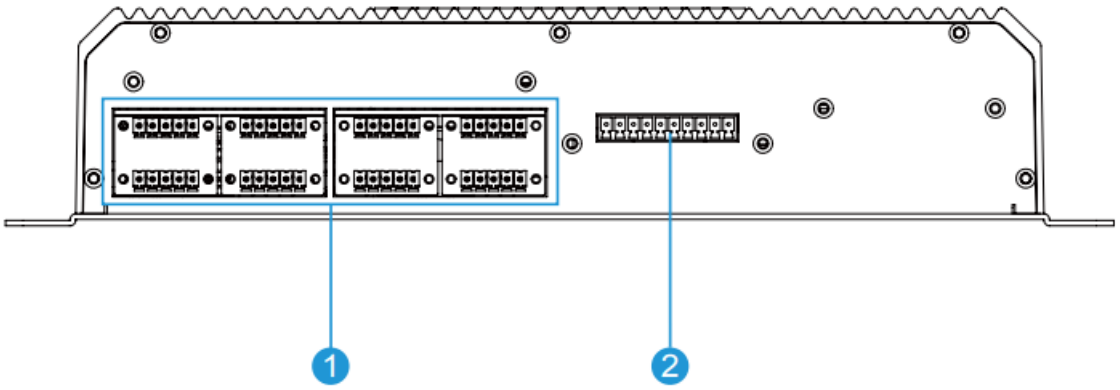
1.3 Product Overview

Front Side I/O Connectors



№	Description	№	Description
❶	DC Input	❾	RS232/422/485
❷	Giga LAN	❿	Mic in
❸	Giga LAN	⓫	2.5” SSD Slot x 2
❹	USB 3.0 x 2	⓬	Line in
❺	DVI	⓭	Line out
❻	USB 3.0 x 2	⓮	LED indicator
❼	HDMI	⓯	Reset
❽	VGA	⓰	Power Vutton

Rear Side I/O Connectors



№	Description	№	Description
❶	8 x NMEA 0183 (Optional)	❷	8 x Isolated DIDO (Optional)

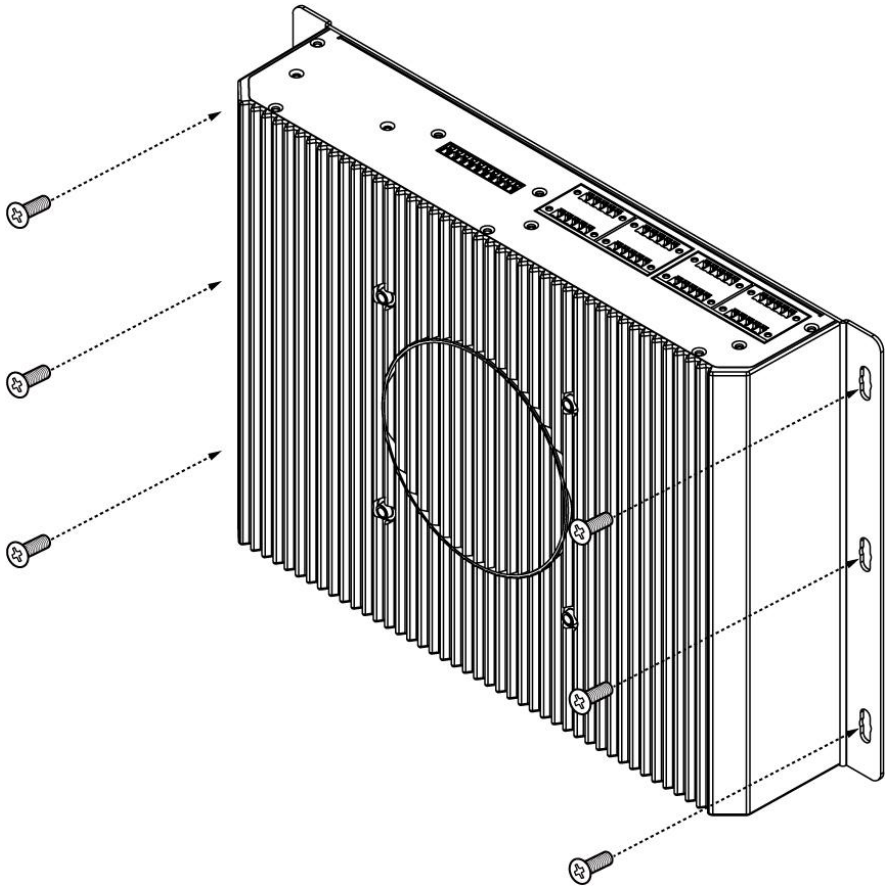
Chapter 2: Hardware Installation

2.1 Mounting

I330EAC-IKW Embedded Computer supports table mounting.

Mounting Instruction:

1. Fasten screws to secure L-shape mounting brackets to the I330EAC-IKW.
2. Insert the I330EAC-IKW into the fixture (ex. rack) and fasten screws to secure the unit.



2.2 Connecting the Power

The DC power supply connector of the I330EAC-IKW Embedded Computer is on the front panel.

Warning!

Ensure voltage and polarity is compliant with the DC input. Improper input voltage or polarity can cause system damage.

Avertissement! Assurez-vous que la tension et la polarité sont conformes à l'entrée CC. Une tension d'entrée ou une polarité incorrecte peut endommager le système.

Warning!

Connect the I330EAC-IKW either to AC power or DC power. Do not perform both connections at the same time.

Avertissement! Connectez l'I330EAC-IKW à une alimentation CA ou CC. N'effectuez pas les deux connexions en même temps.

Connecting to DC Power

Connect open wire cable (not supplied by Winmate) to 9-36V DC, maximum power source 220W.

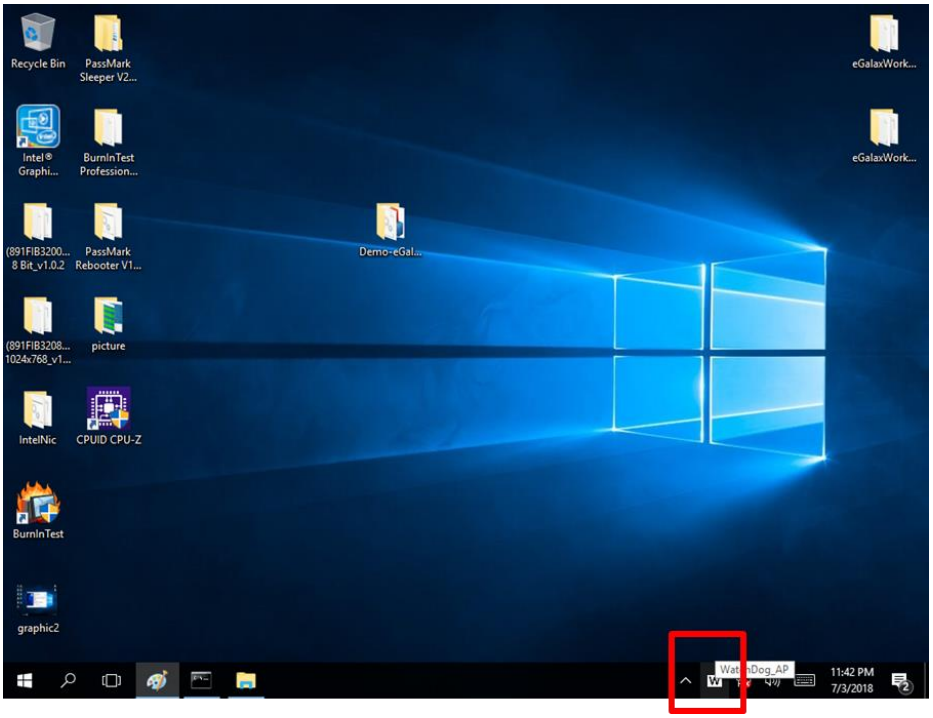
Chapter 3: Operating the Device

3.1 How to Enable Watchdog

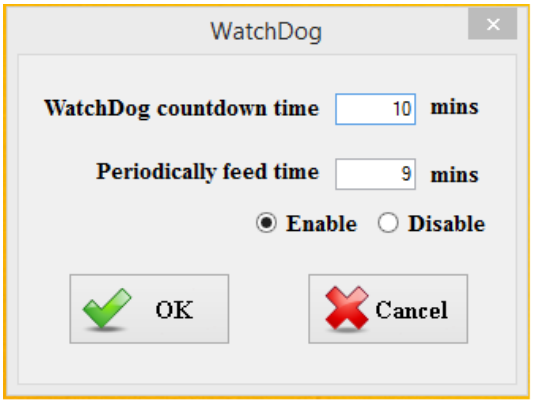
Download Winmate Watchdog utility to enable Watchdog. Find more information in “Watchdog Guide” that you can download from Download Center.

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. 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*

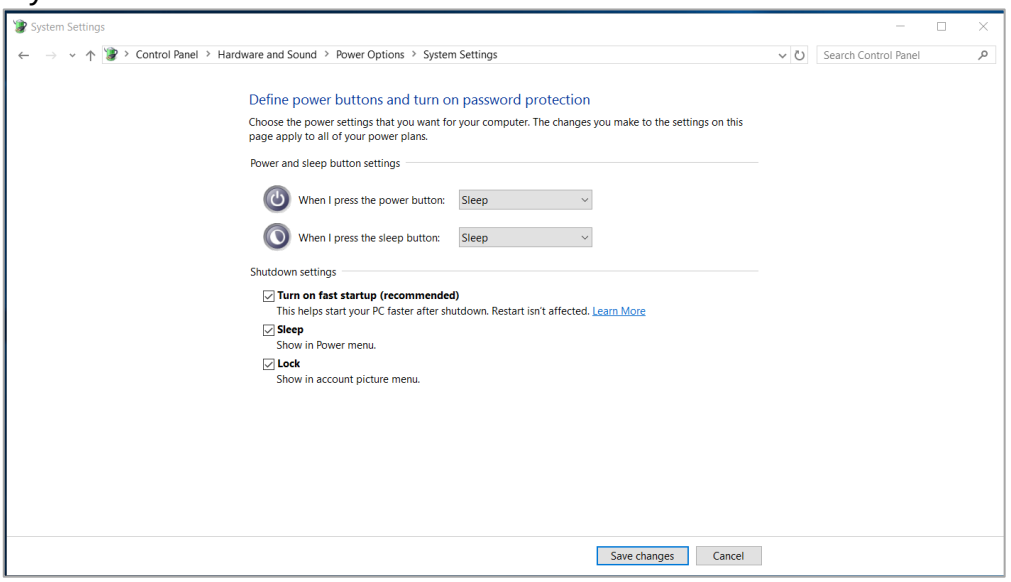
3.2 S4 Wake on LAN

In Windows 10 OS shutdown settings will not have Hibernate mode if your storage capacity is below 32 GB.

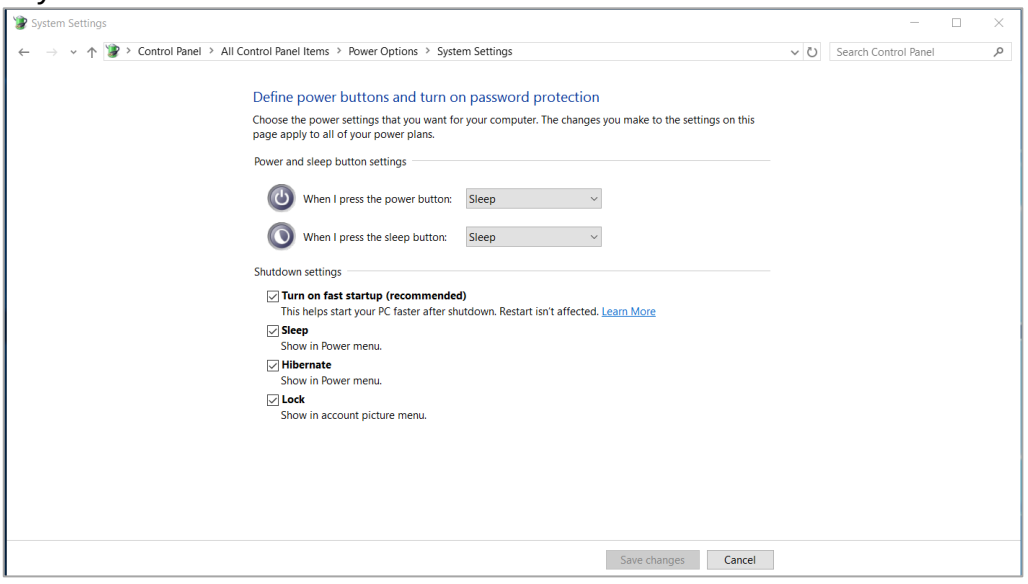
Caution Check if your system storage capacity is 32 GB before entering Hibernation mode.

Attention Vérifiez si la capacité de stockage de votre système est de 32 Go avant de passer en mode Veille prolongée.

Storage capacity below 32 GB:



Storage capacity above 32 GB

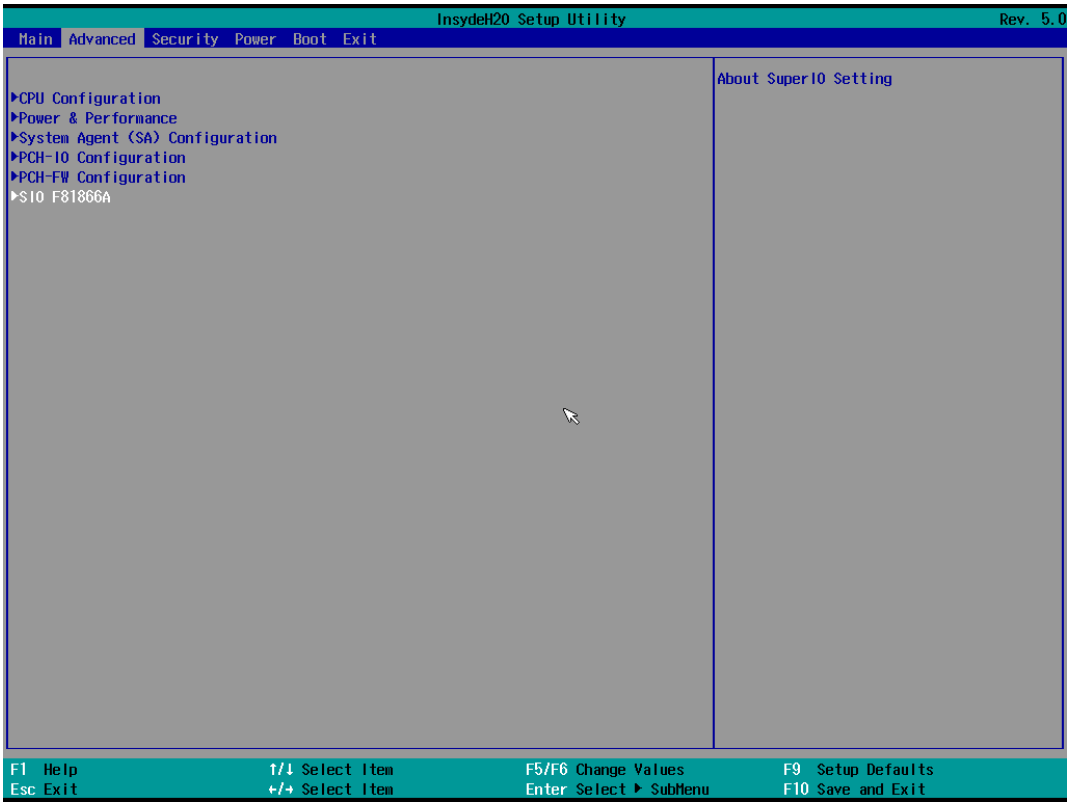


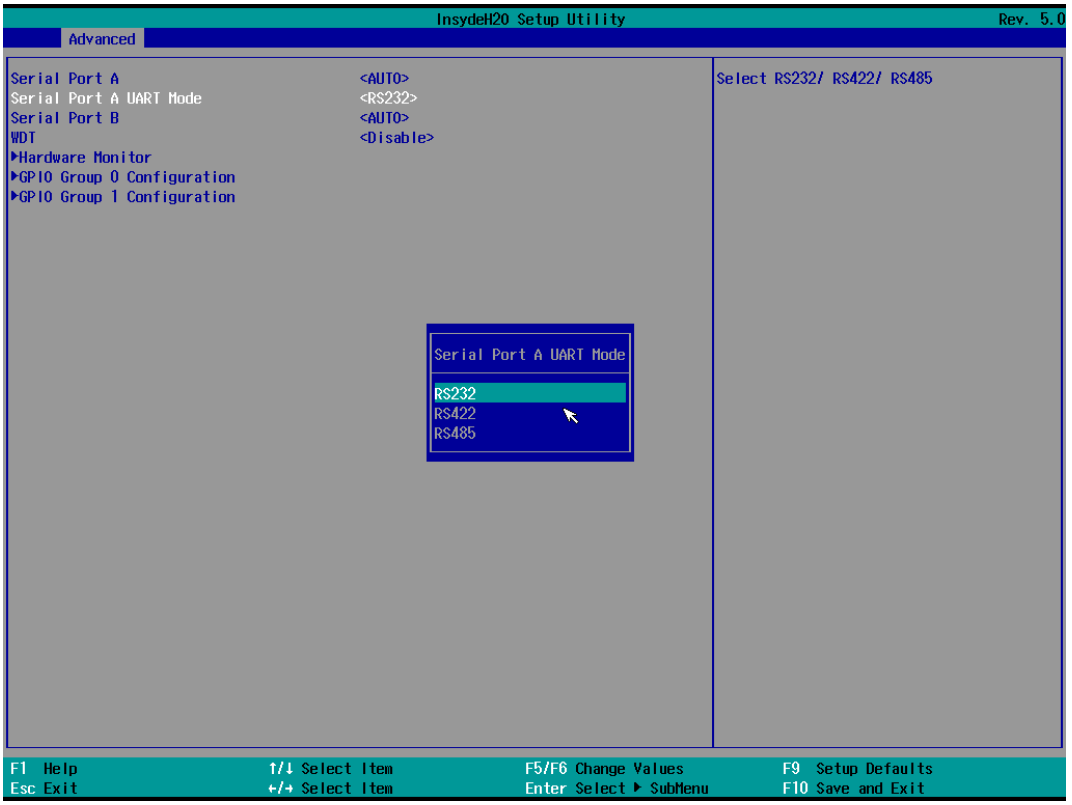
3.3 Changing Serial Port Settings

You can change serial port settings in BIOS.

To change serial port settings (Kaby Lake Core i5-7200U):

1. To enter the BIOS setup connect an external USB keyboard, external monitor and quickly press **Del** key when the prompt appears on the screen during start up.
2. In BIOS go to **Advanced > F81866 Super IO Configuration > Serial Port Configuration.**



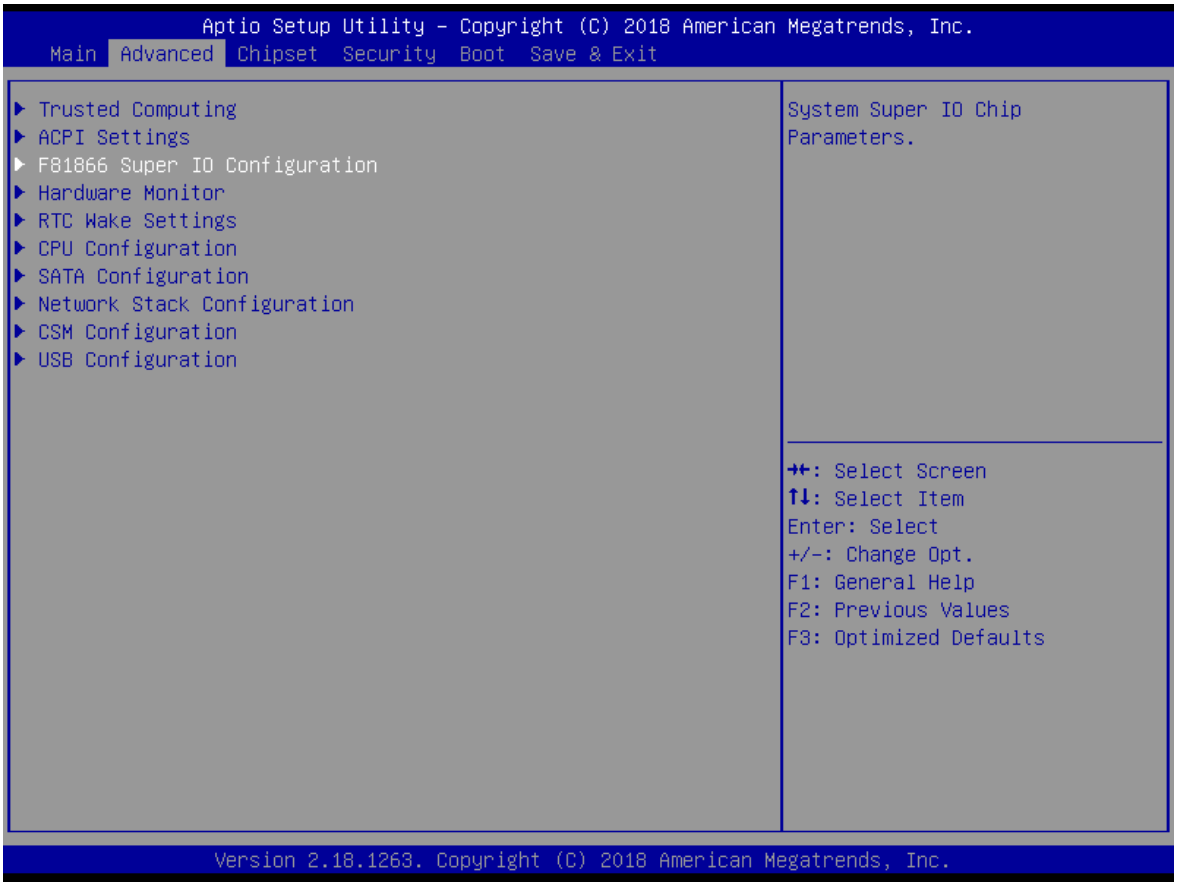


3. Change Settings from UART mode to RS232/422/485.

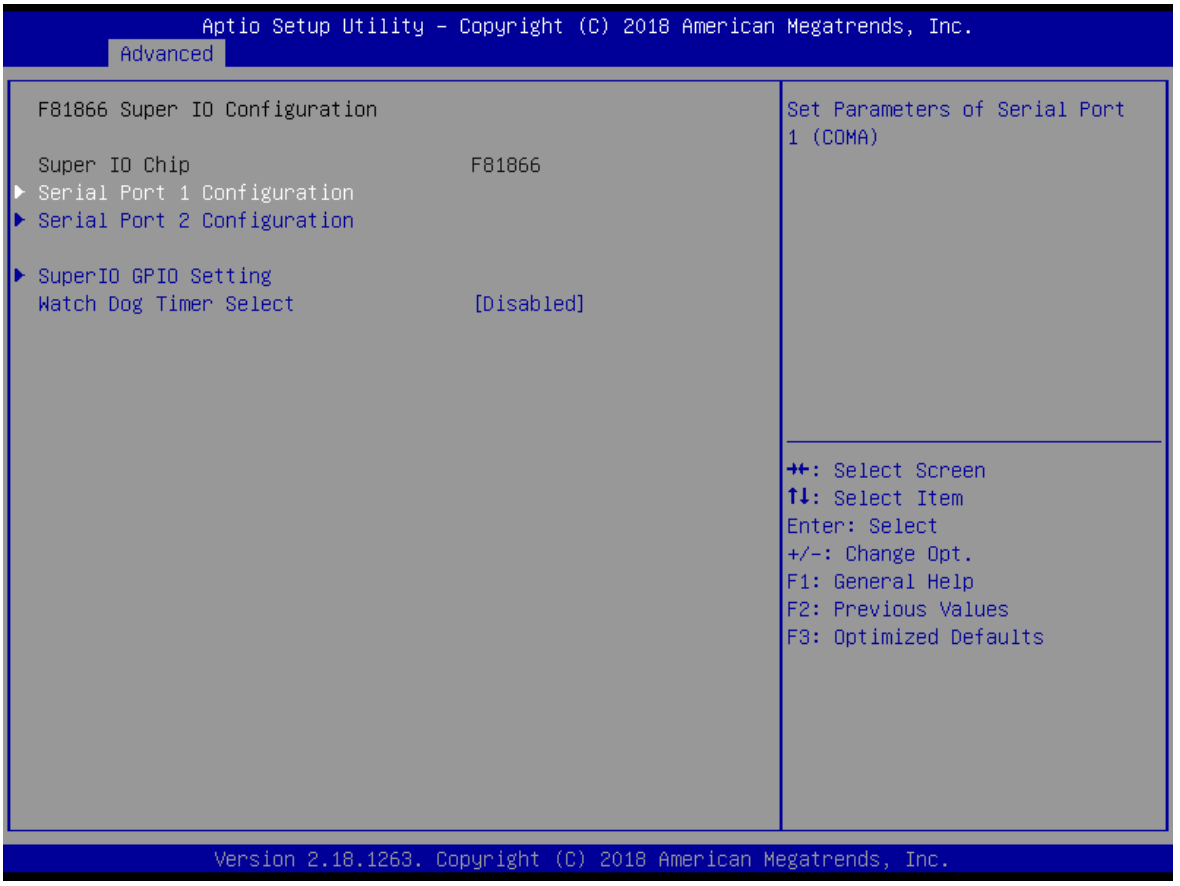
4. Exit BIOS utility.

To change serial port settings (Skylake Core i5-6200U):

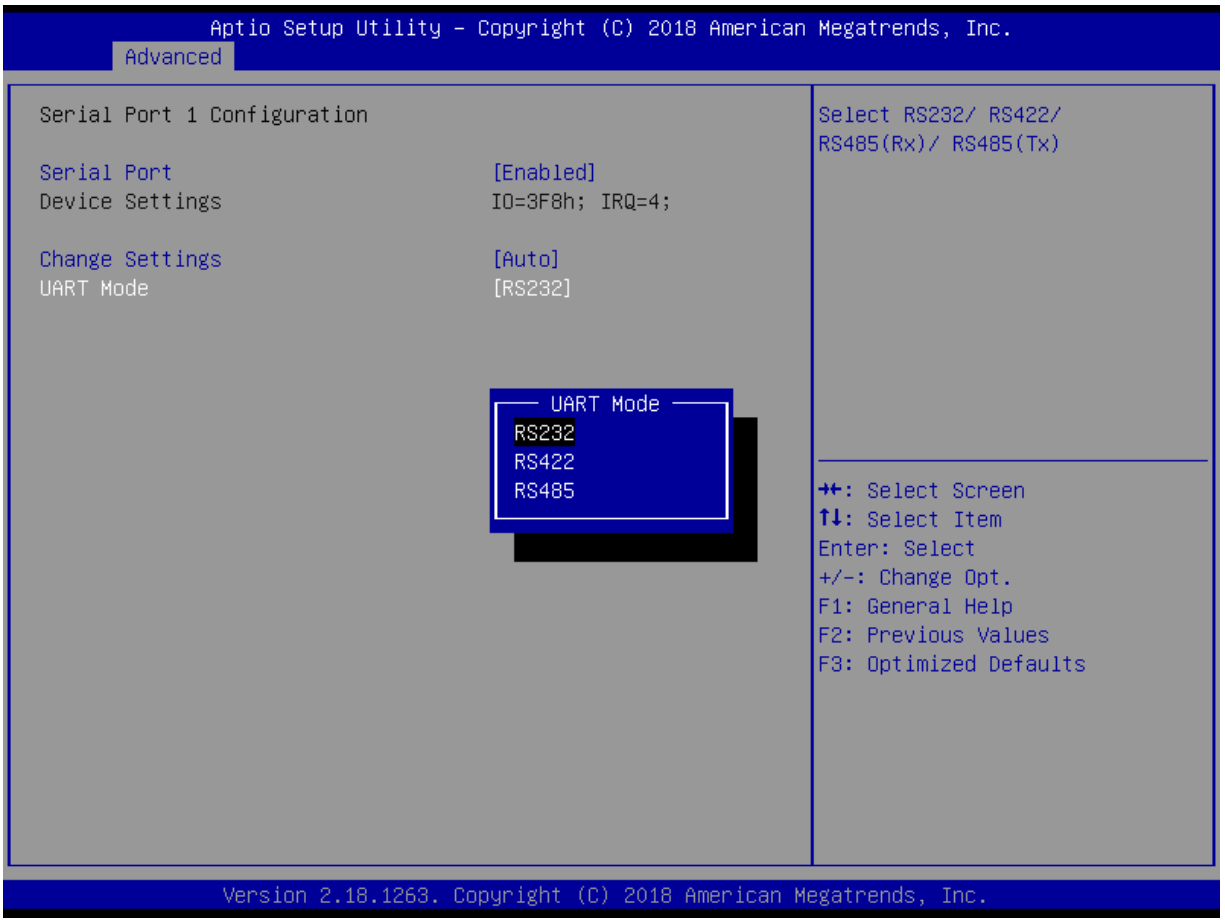
5. To enter the BIOS setup connect an external USB keyboard, external monitor and quickly press **Del** key when the prompt appears on the screen during start up.
6. In BIOS go to **Advanced > F81866 Super IO Configuration.**



7. Serial Port Configuration.



8. Change Settings from UART mode to RS232/422/485.



9. Exit BIOS utility.

3.4 Changing DIDO Settings

Download **Option Device Config Tool** from Winmate Download Center or driver CD that comes in a package with Box PC.

To change DIDO Settings:

1. Click the **Option Device Config Tool** icon on the desktop.
2. Click **DI4DO4**.

3. Adjust DI4DO4 settings and press **Start**.

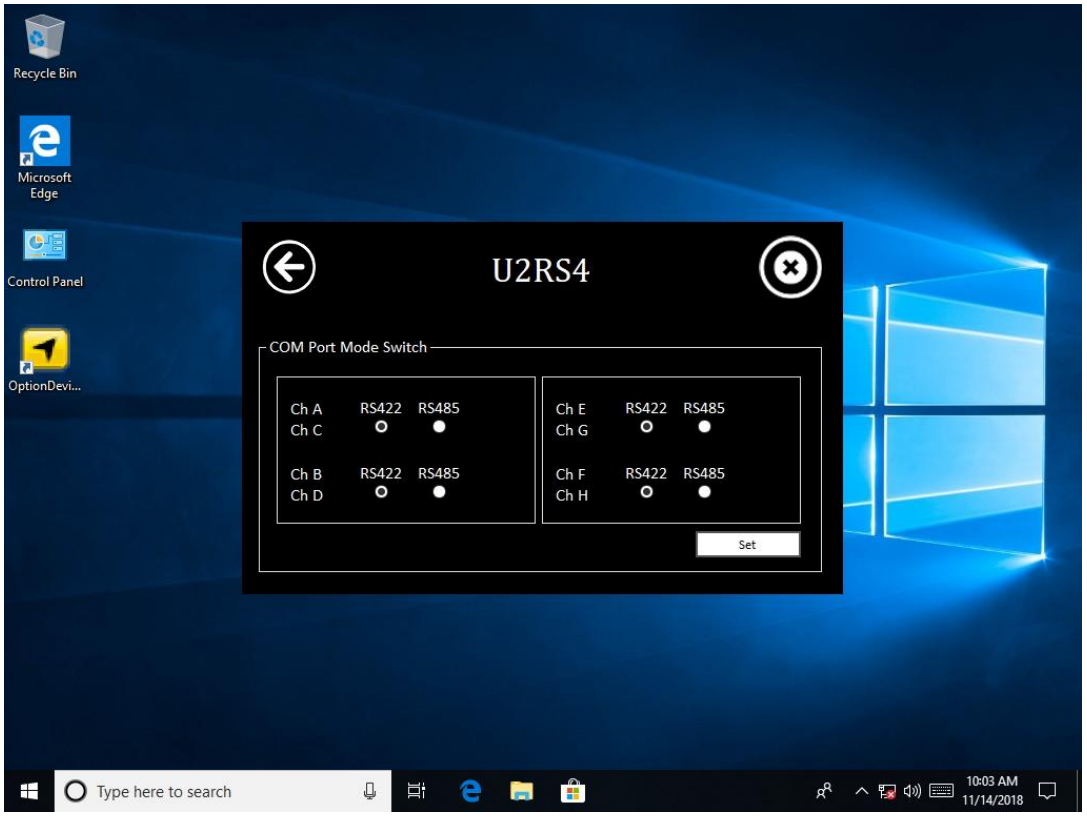
3.5 Changing NMEA Port Settings

Download **Option Device Config Tool** from Winmate Download Center or driver CD that comes in a package with Box PC.

To change DIDO Settings:

4. Click the **Option Device Config Tool** icon on the desktop.
5. Click **U2RS4**.

6. Adjust U2RS4 settings and press **Start**.



3.6 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.

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 **Tab+ 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 4: INSYDE H20 BIOS Setup

This chapter describes the different settings available in the INSYDE BIOS that comes with the board. This chapter offers information on the BIOS installation utility.

4.1 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

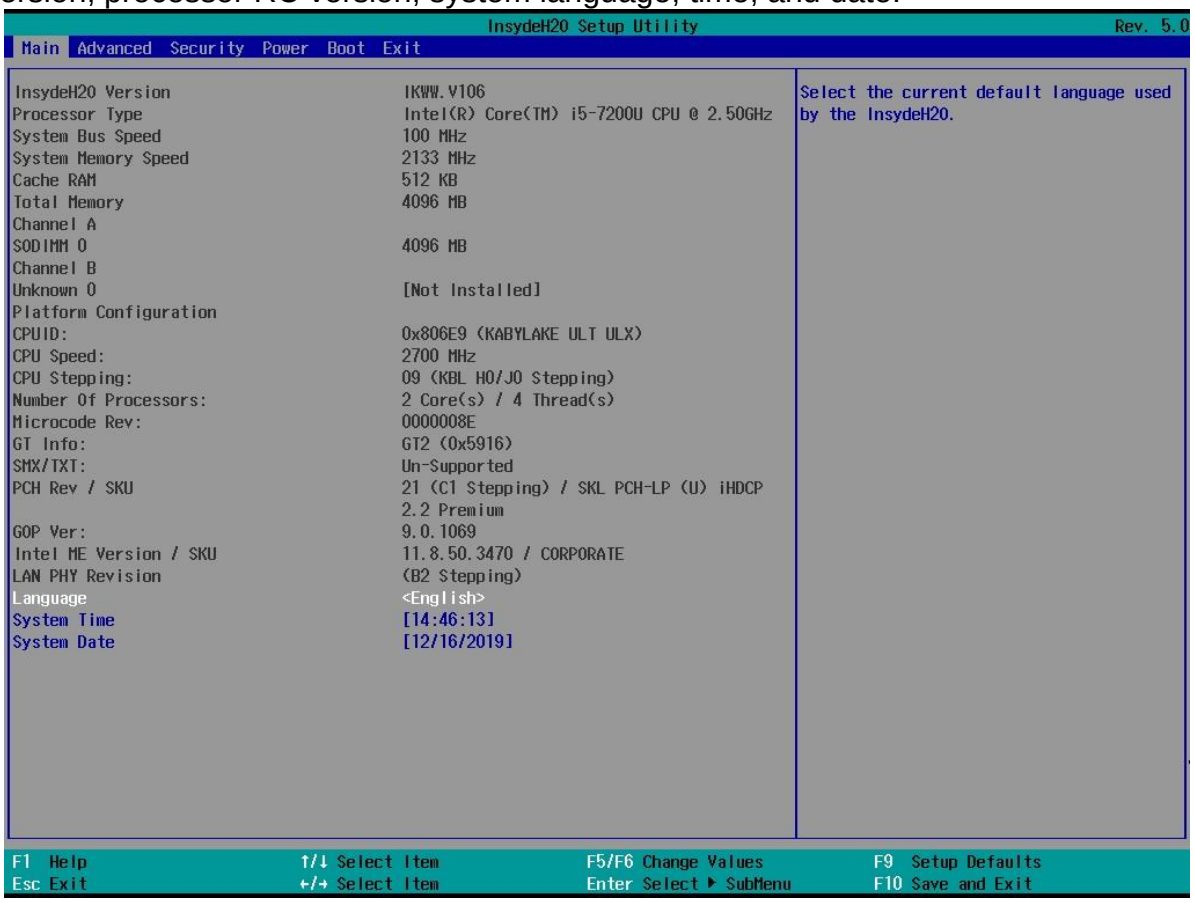
Note: You can press the F1, F2, F3, F4, –/+, and Esc keys by connecting a USB keyboard to your computer.

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

4.2 BIOS Functions

4.2.1 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.

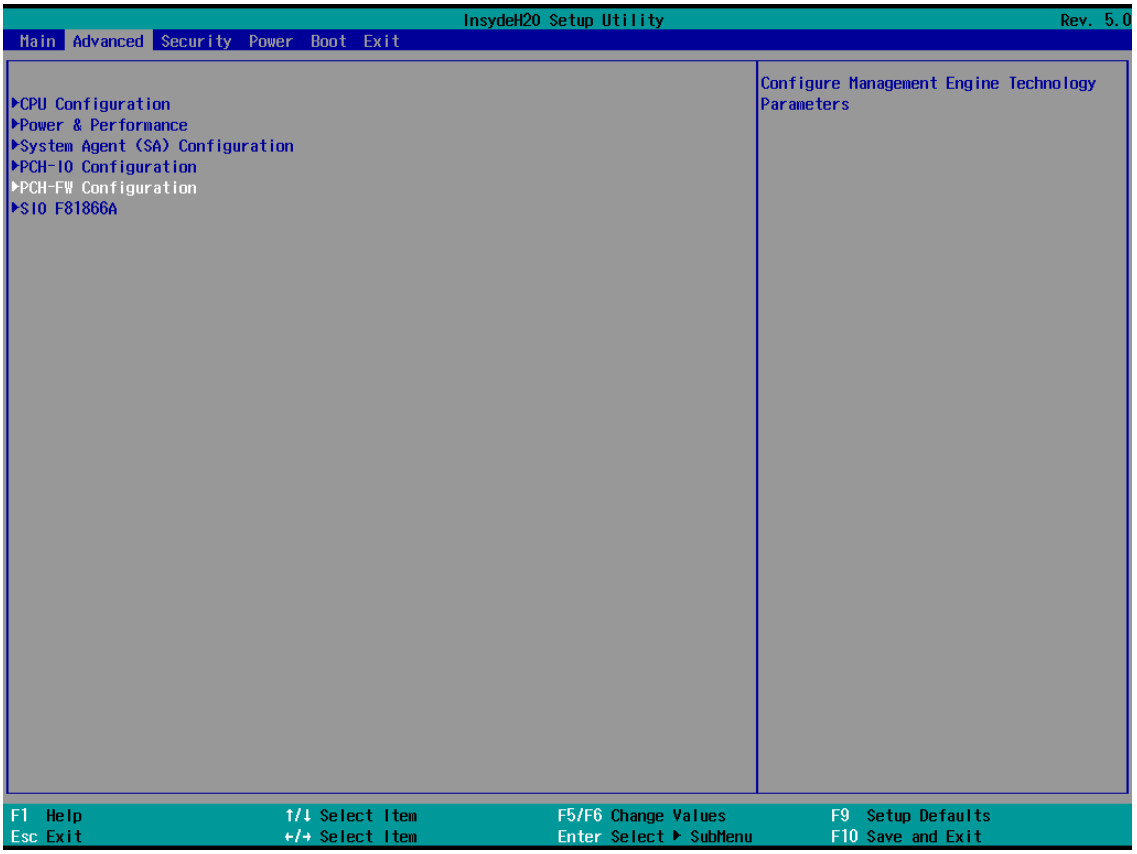


BIOS Setting	Description	Setting Option	Effect
Language	Displays the system language. [English] is set up by default.	Adjustment of the language	Set the language in other language. The language in this device is English.
System Time	This is current time setting. The time is maintained by the battery 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];

4.2.2 Advanced

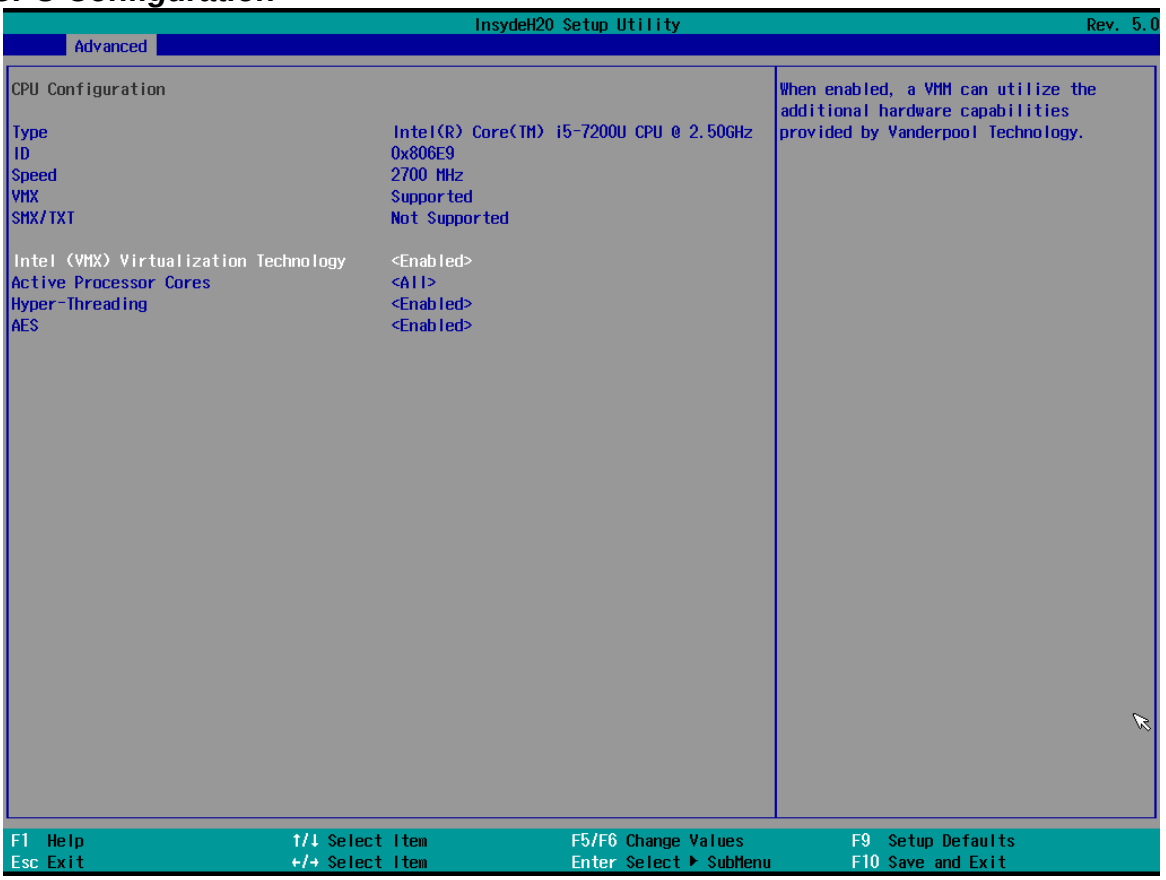
Select the Advanced Tab from the setup menu to enter the advanced BIOS setup screen. You can select any of the items on the left frame of the screen to go to the sub menu for the item, such as CPU Configuration. You can use the <Arrow> keys enter all advanced BIOS setup options. The advanced BIOS setup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



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

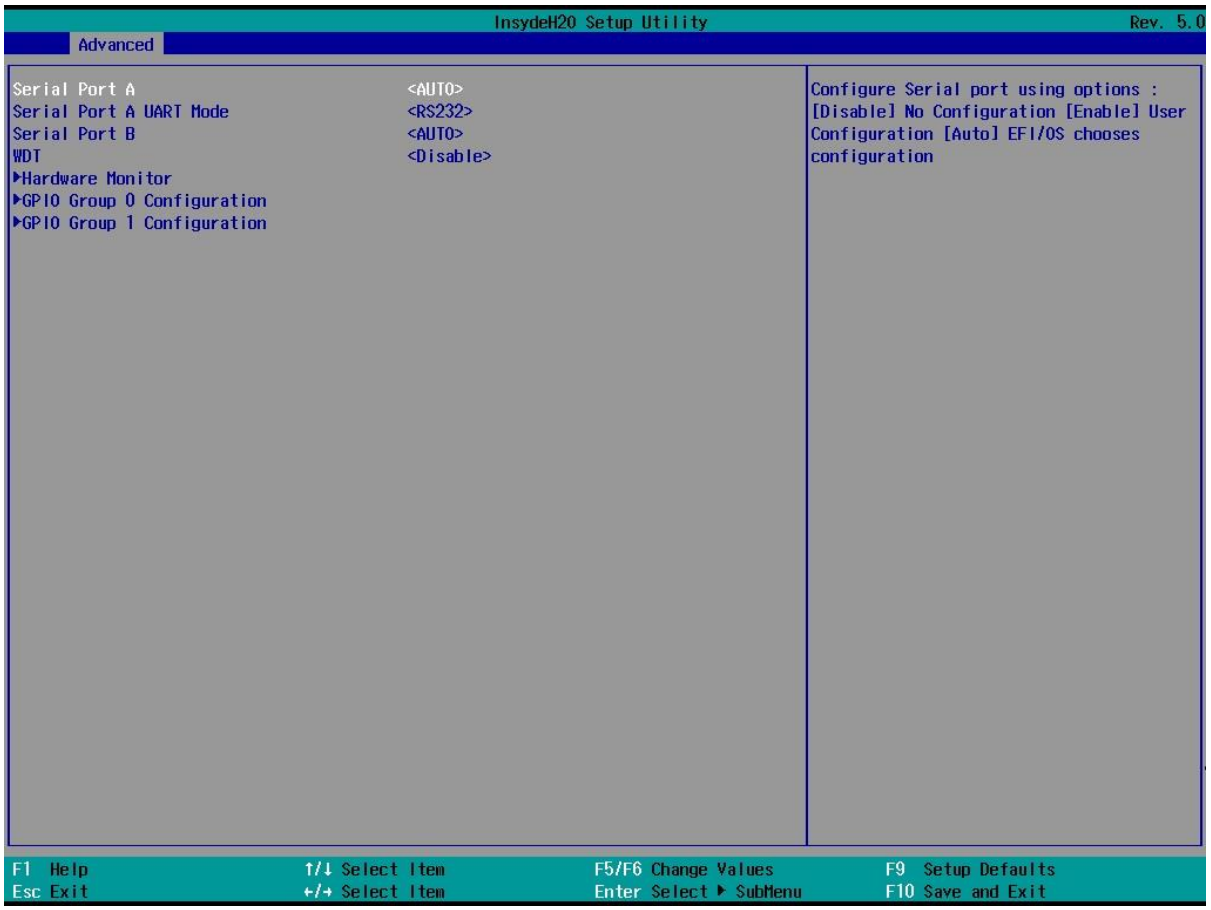
4.2.2.1 CPU Configuration



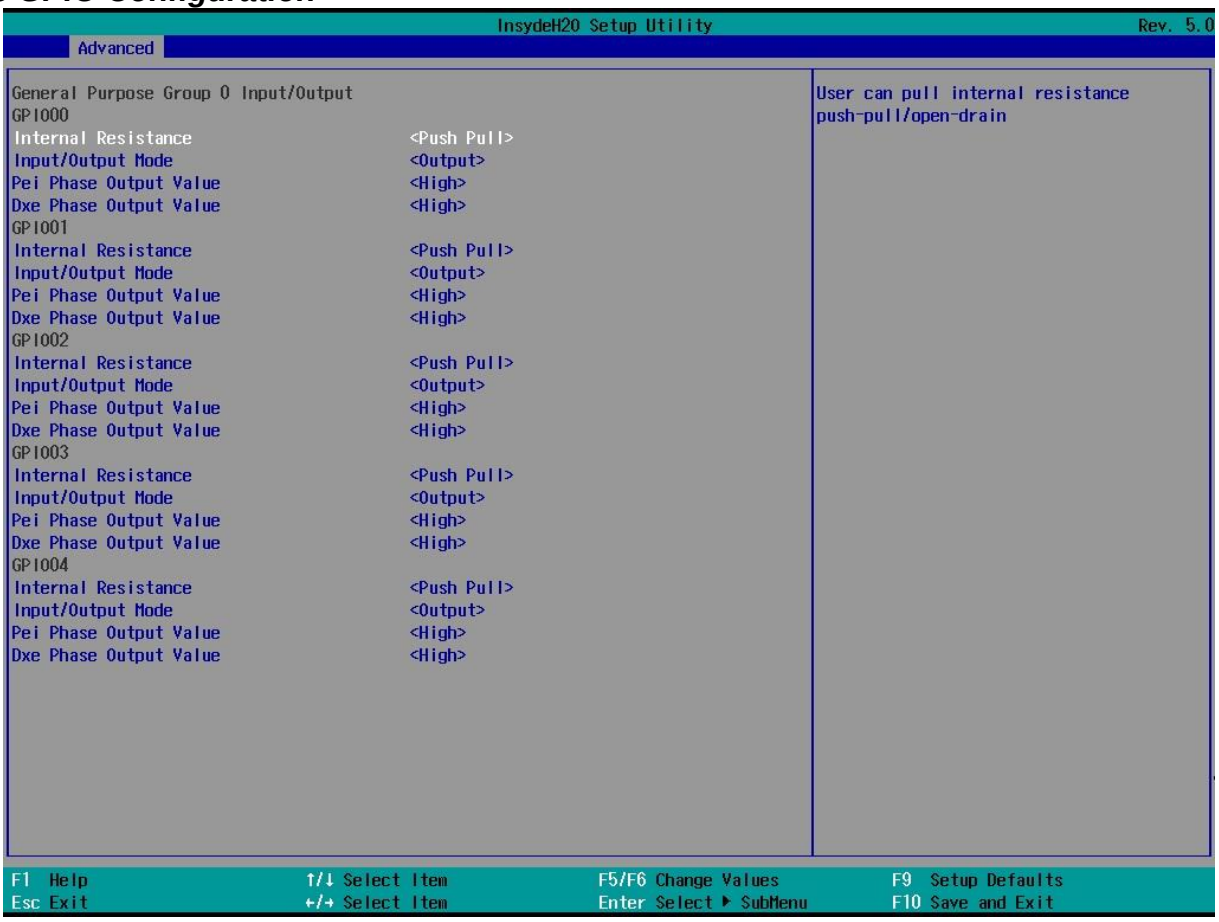
BIOS Setting	Description	Setting Option	Effect
Intel (VMM) Virtualization Technology	Enable or disable Intel Virtualization Technology.	Enable/Disable	When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.
Active Processor Cores	Number of core to enable 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

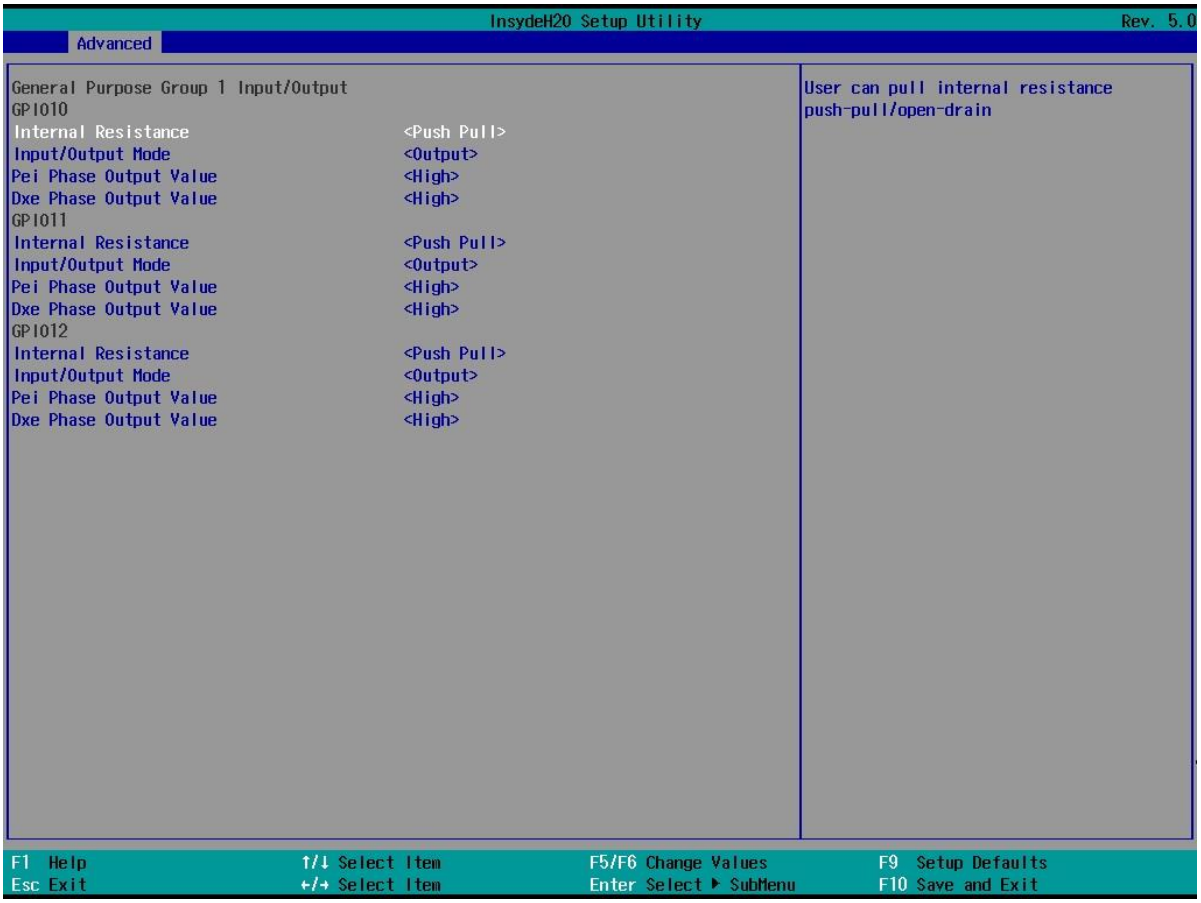
4.2.2.2 F81886A Configuration

BMP

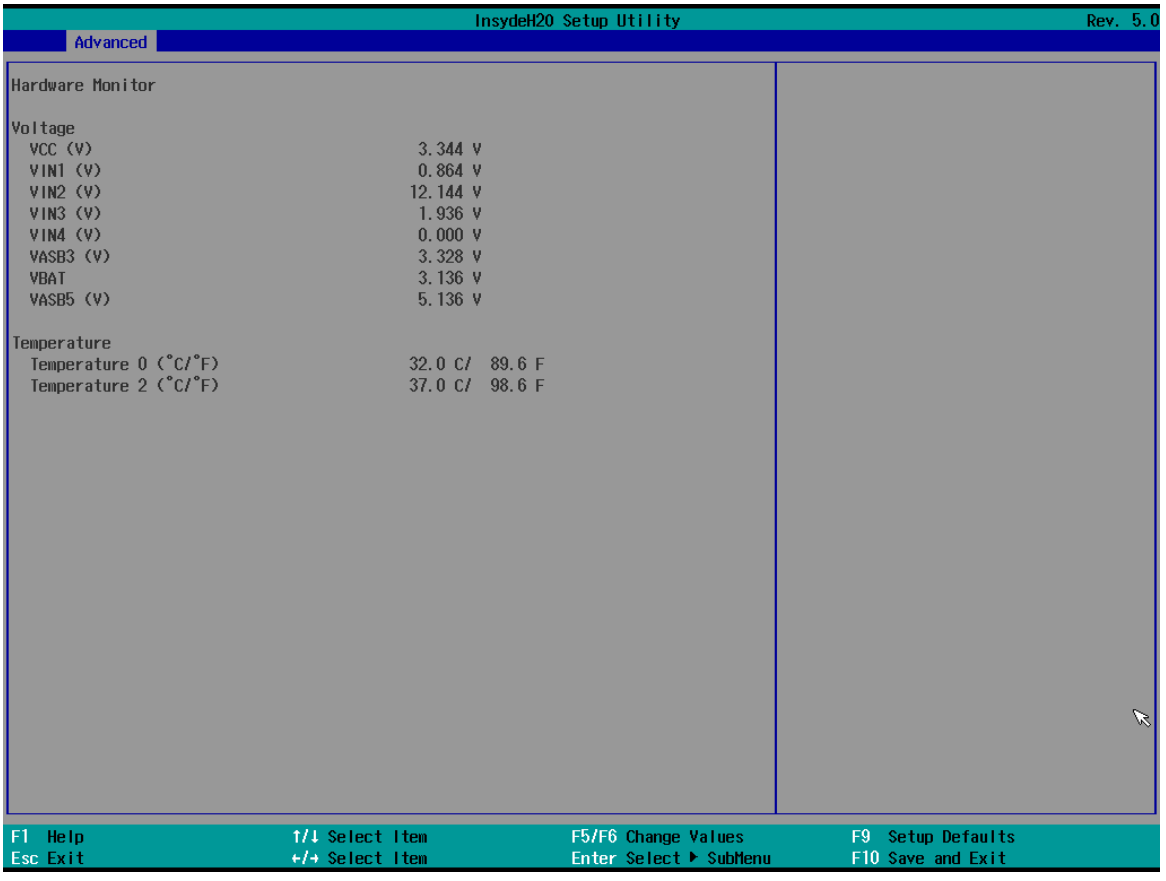


4.2.2.3 GPIO Configuration

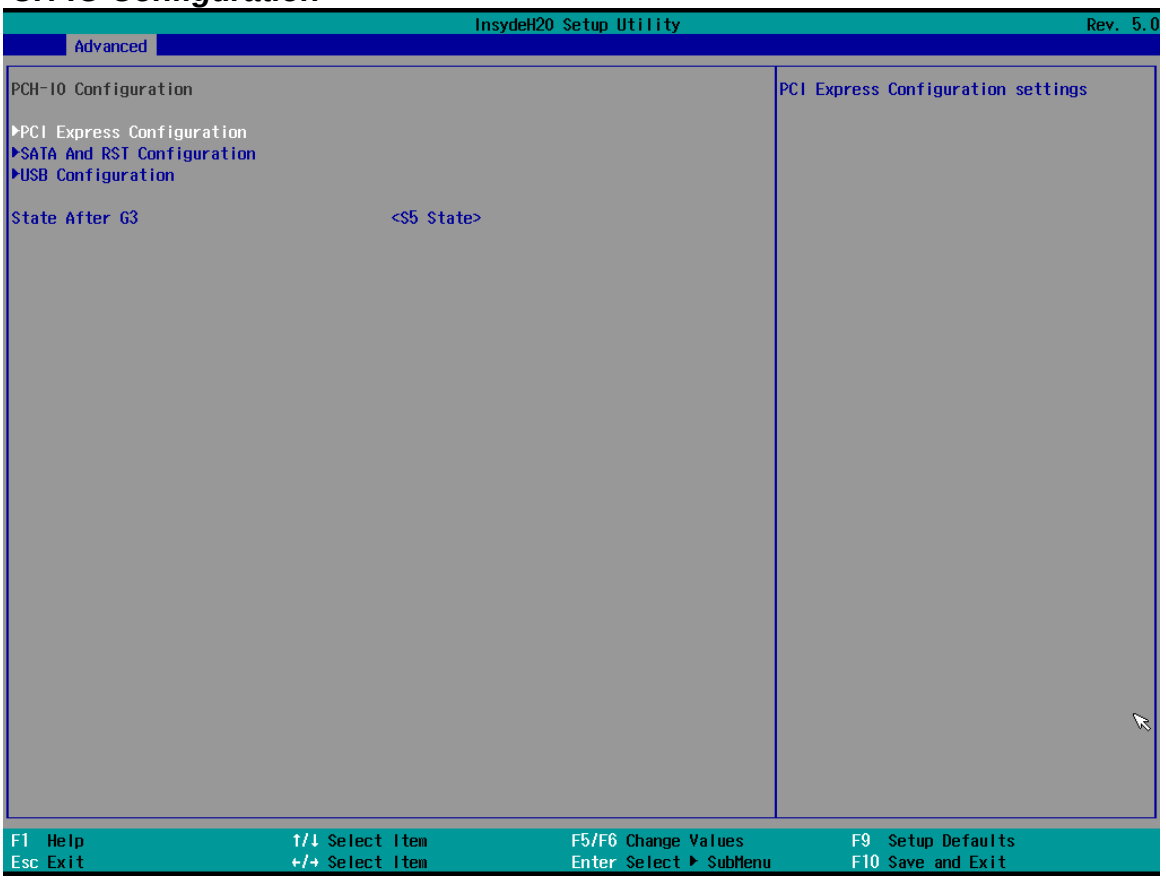




4.2.2.4 Hardware Monitor

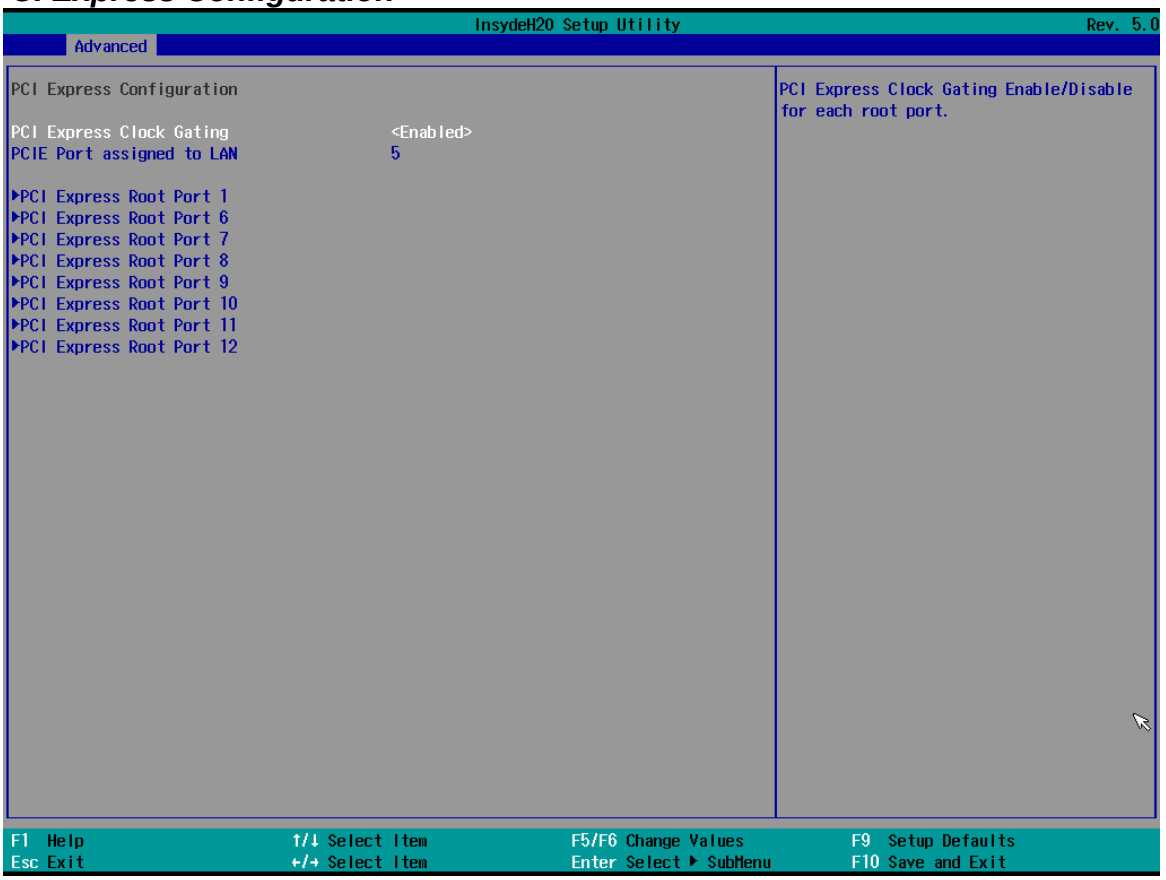


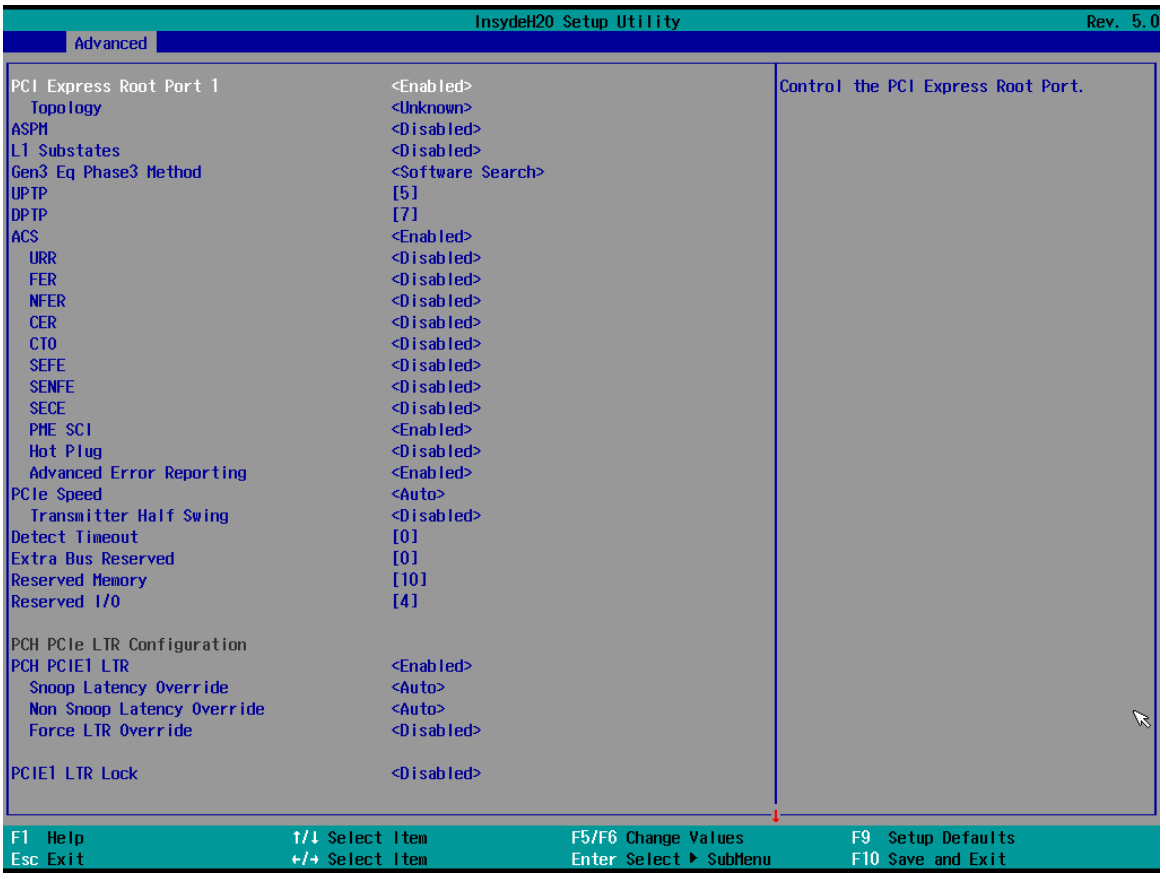
4.2.2.5 PCH-IO Configuration



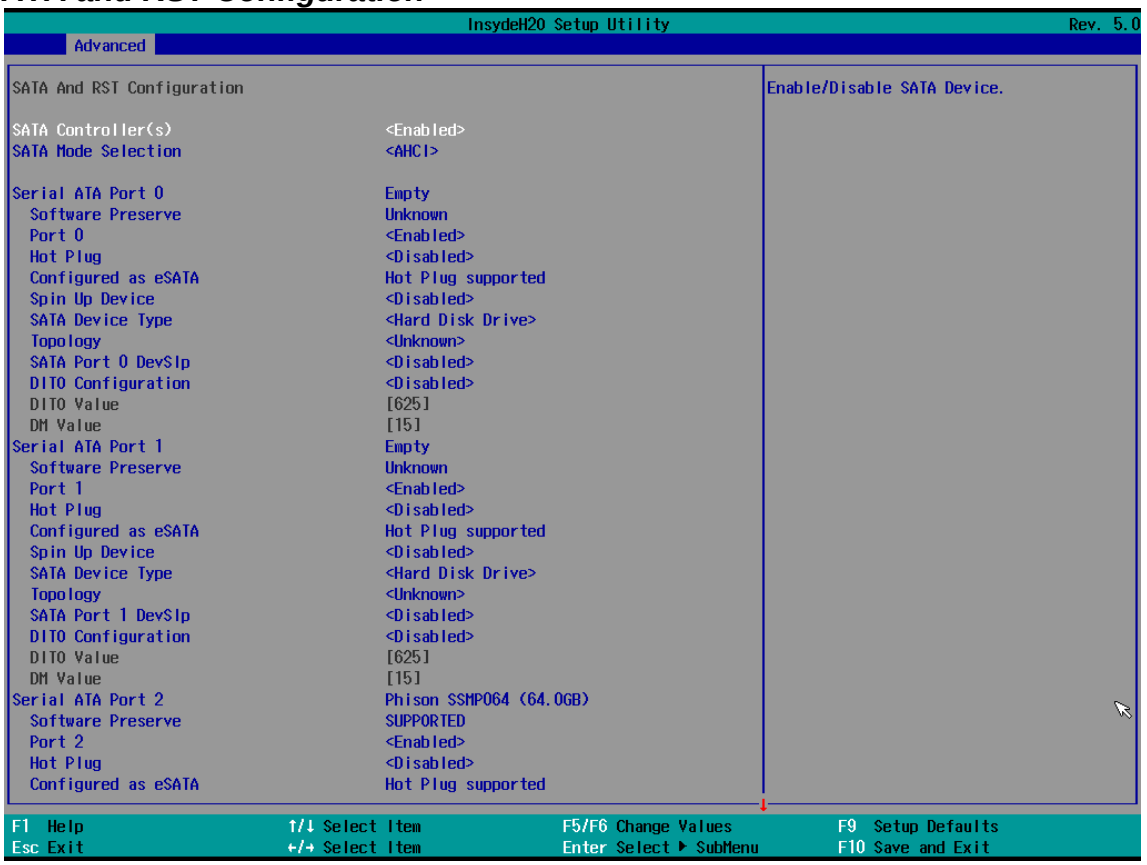
BIOS Setting	Description	Setting Option	Effect
PCI Express Configuration	PCI Express clock gating enable/disable for each root port.	Enter	Opens sub-menu
SATA And RST Configuration	Enable/ Disable SATA device	Enter	Opens sub-menu
USB Configuration	Selectively enable/ disable the corresponding USB port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

4.2.2.6 PCI Express Configuration

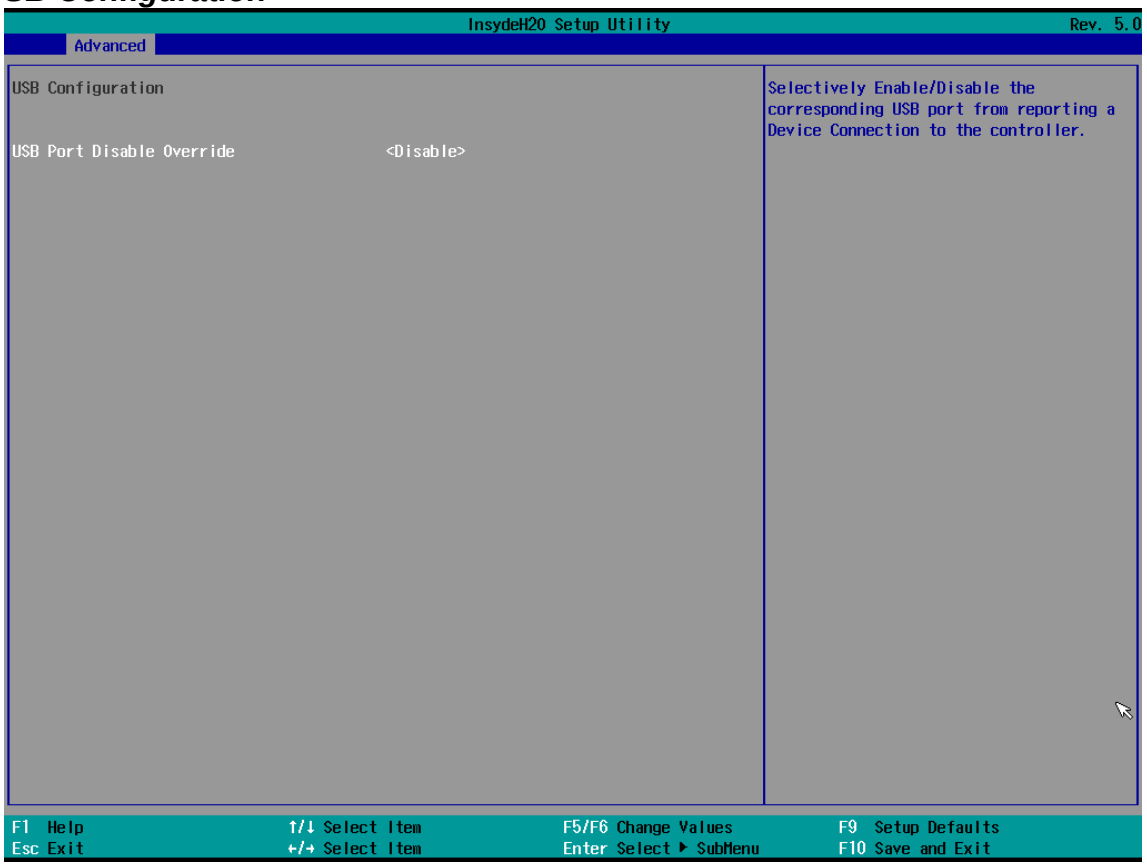




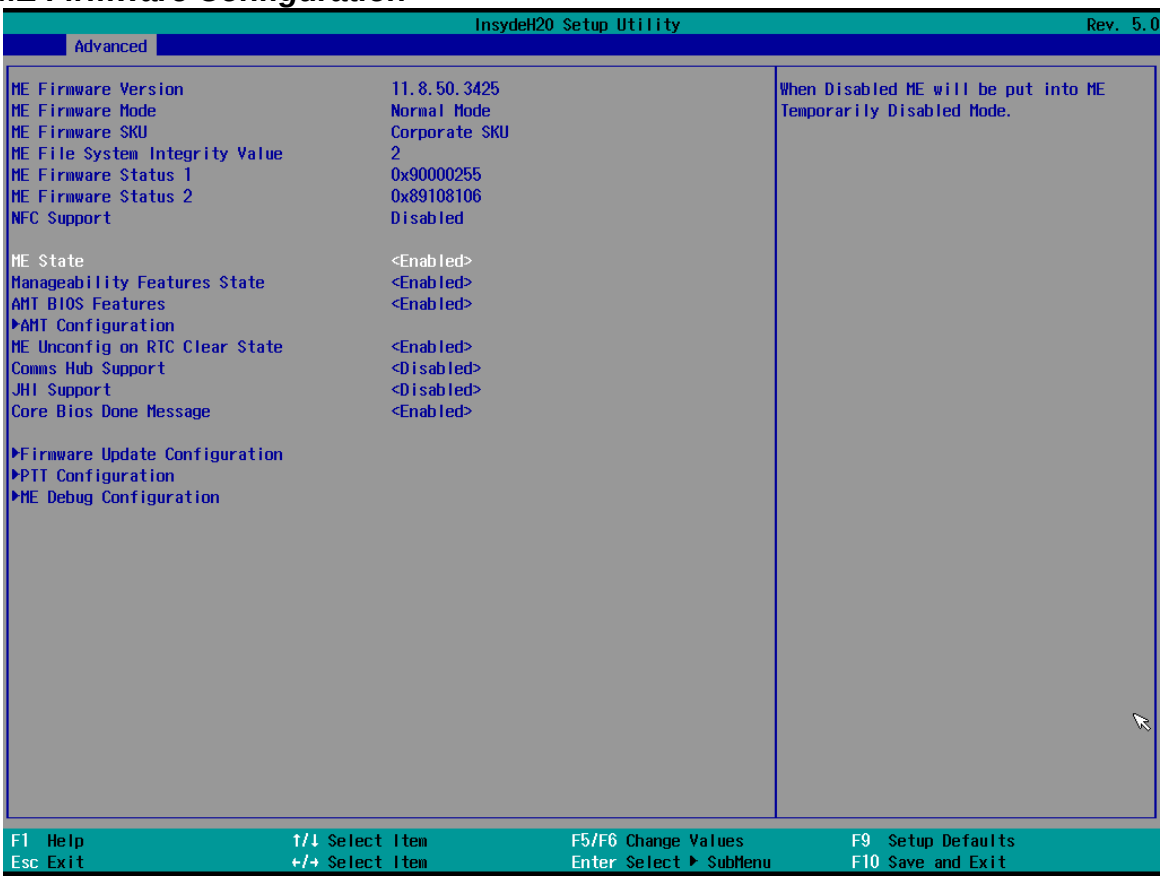
4.2.2.7 SATA and RST Configuration

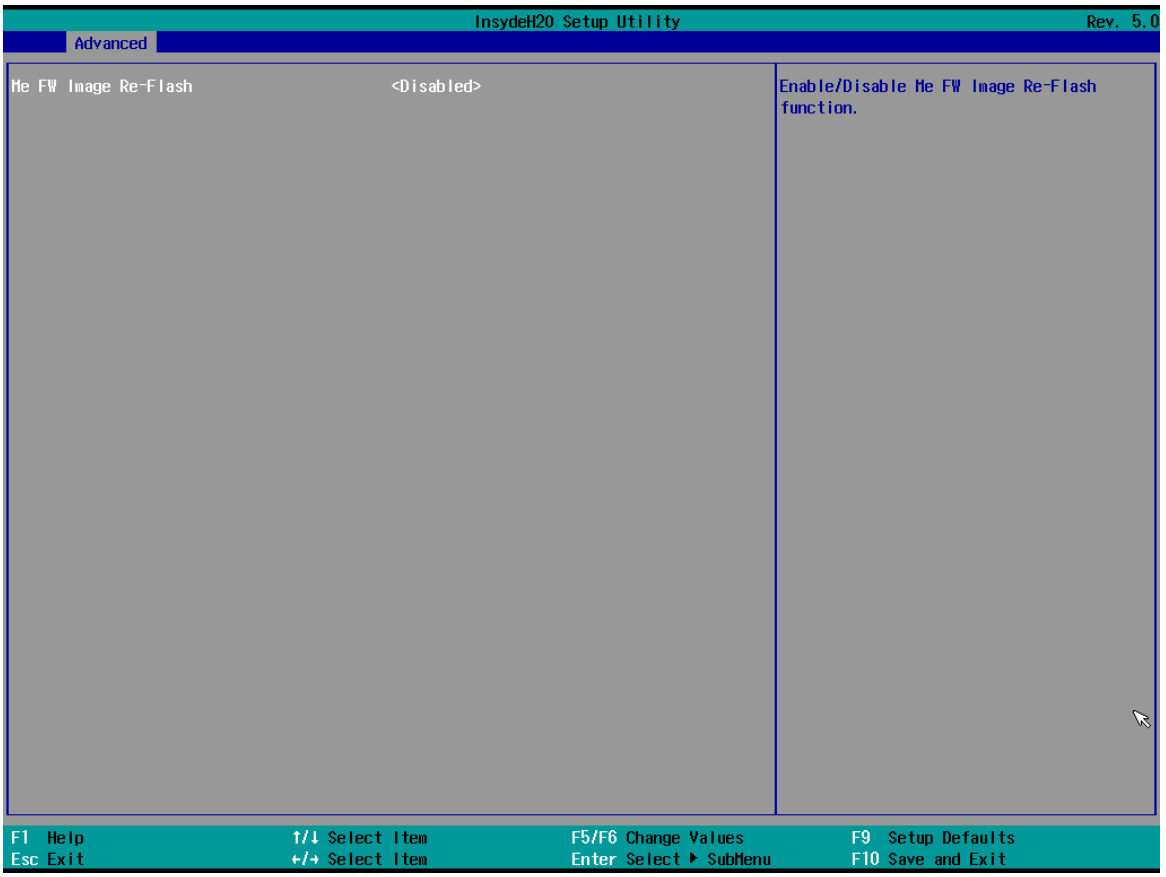


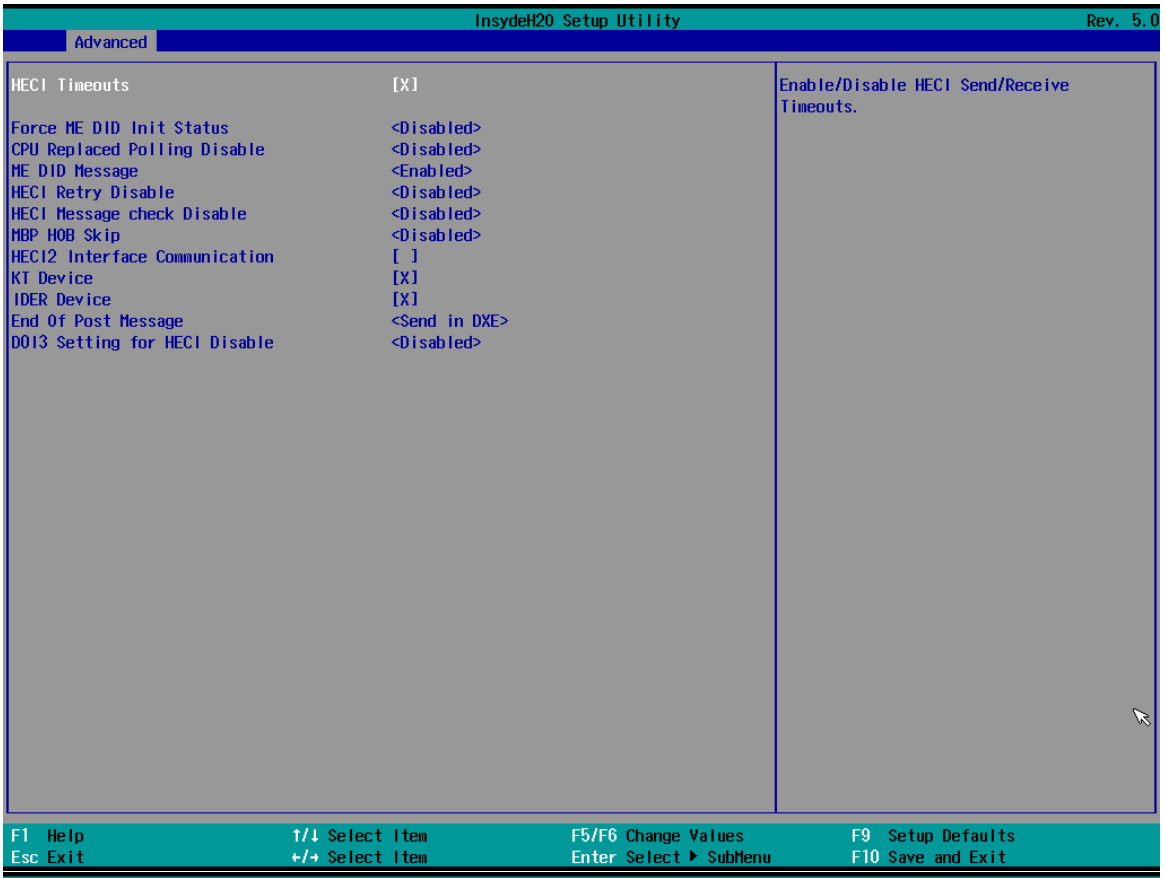
4.2.2.8 USB Configuration



4.2.2.9 ME Firmware Configuration

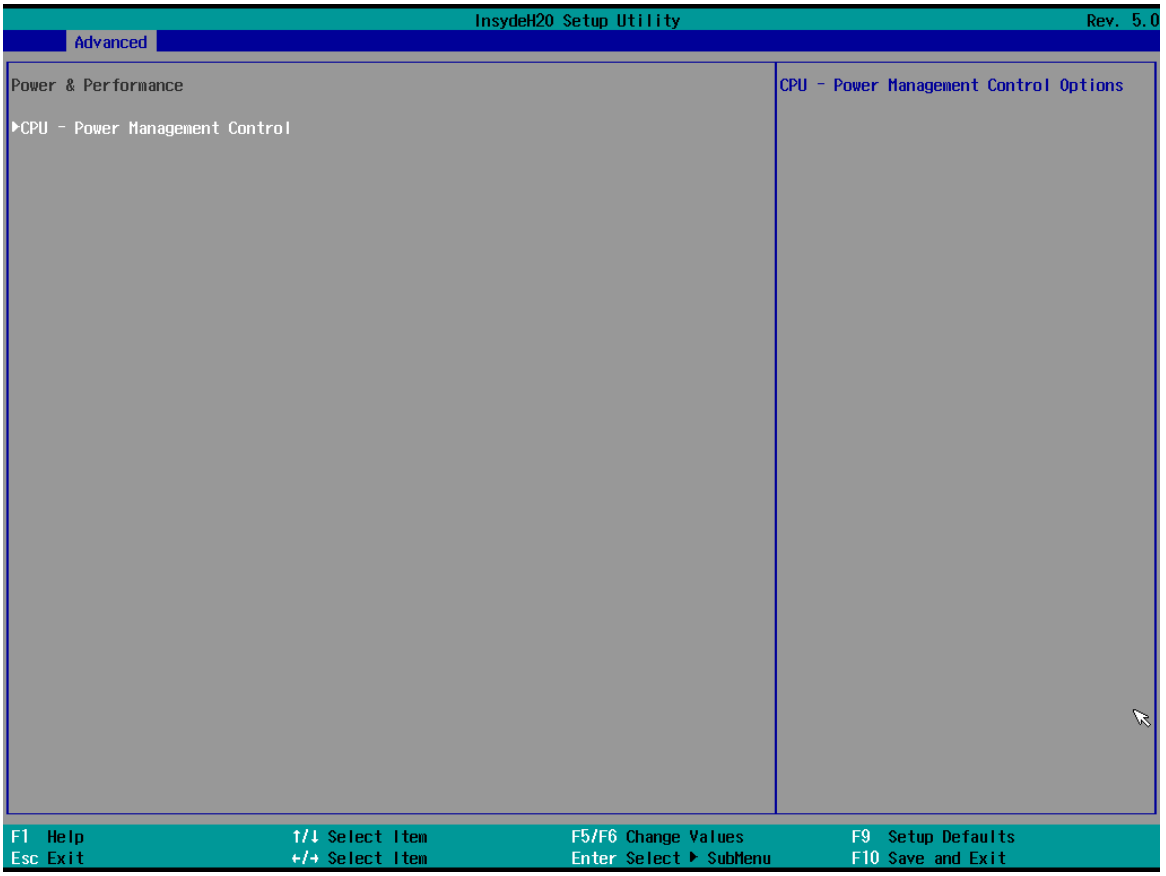




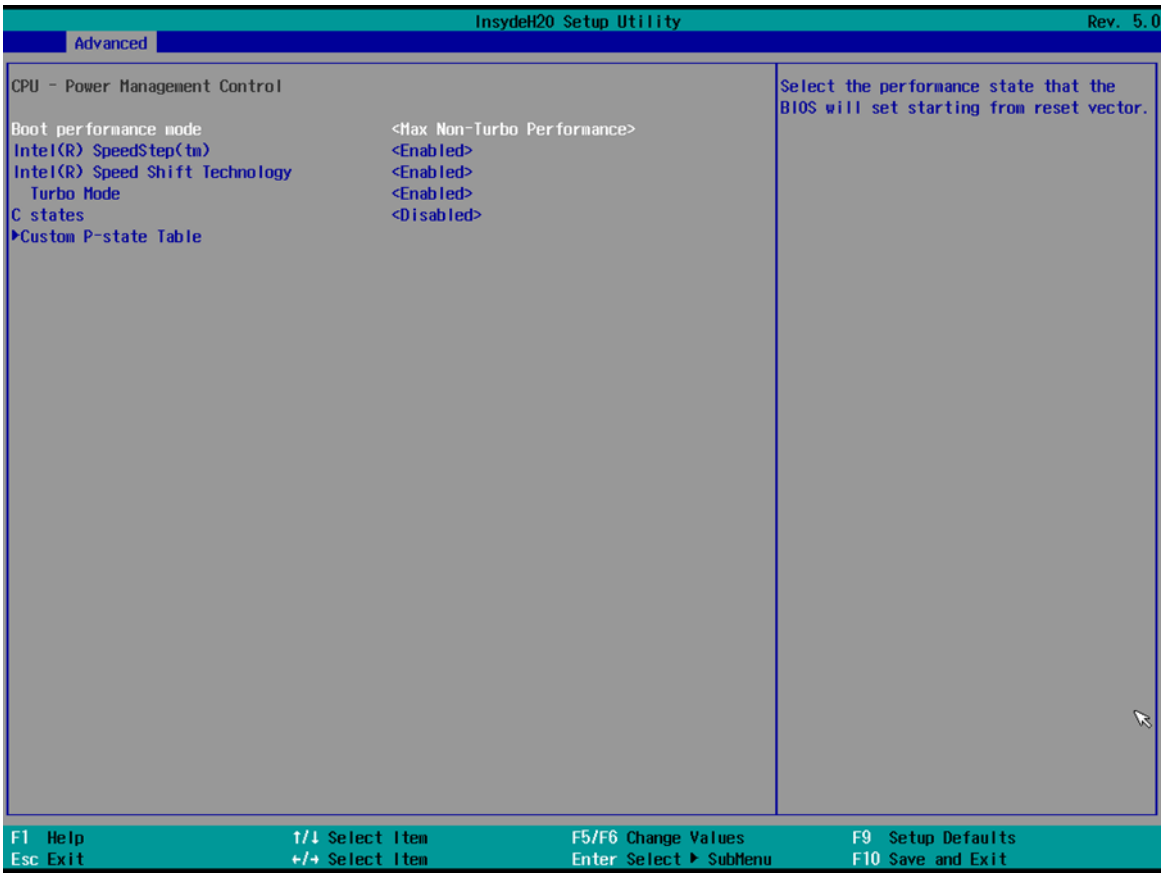

InsydeH20 Setup Utility
Rev. 5.0
Advanced
HECI Timeouts
[X]
Enable/Disable HECI Send/Receive Timeouts.
Force ME DID Init Status
<Disabled>
CPU Replaced Polling Disable
<Disabled>
ME DID Message
<Enabled>
HECI Retry Disable
<Disabled>
HECI Message check Disable
<Disabled>
MBP HOB Skip
<Disabled>
HECI2 Interface Communication
[ ]
KT Device
[X]
IDER Device
[X]
End Of Post Message
<Send in DXE>
DOI3 Setting for HECI Disable
<Disabled>
F1 Help
↑/↓ Select Item
F5/F6 Change Values
F9 Setup Defaults
Esc Exit
←/→ Select Item
Enter Select ▸ SubMenu
F10 Save and Exit

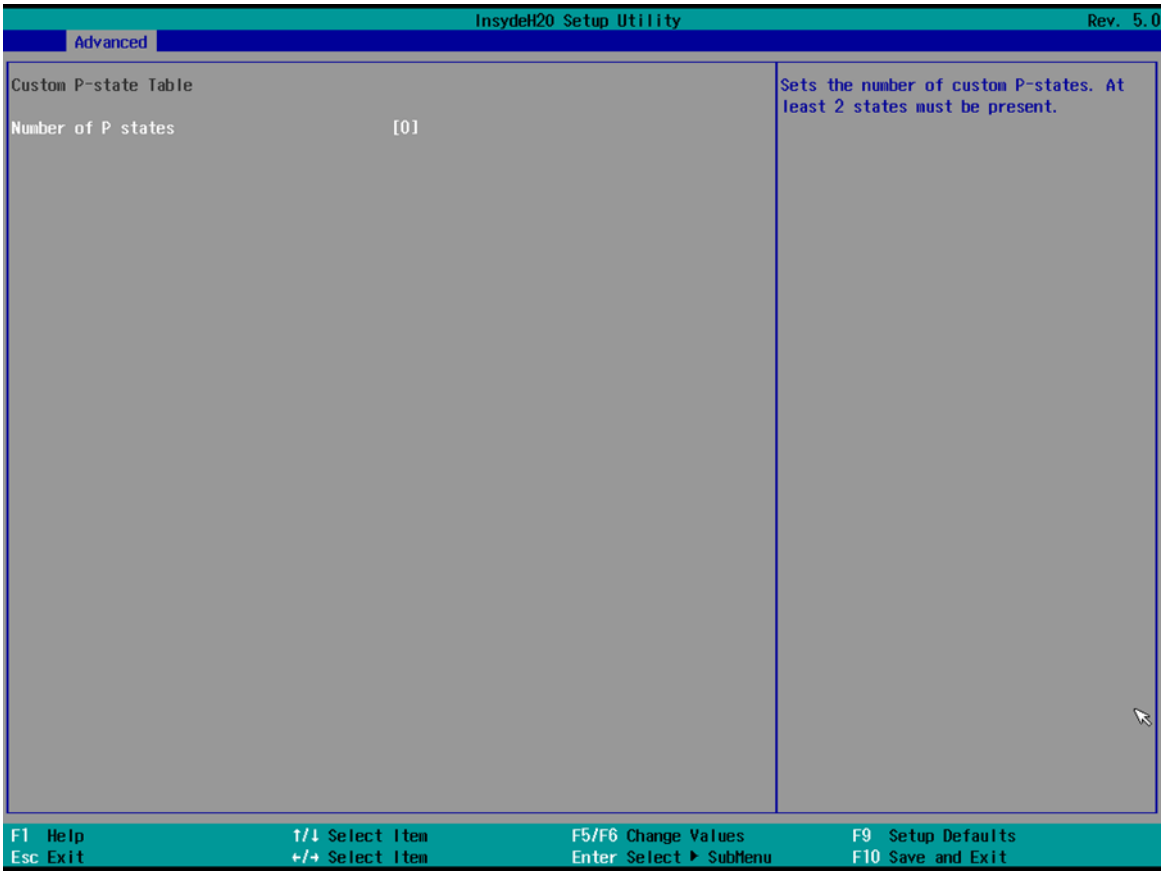

InsydeH20 Setup Utility
Rev. 5.0
Advanced
PTT Capability / State
1 / 1
Select whether or not the OS you will boot to will be PTP aware
PTP aware OS
<PTP Aware>
F1 Help
↑/↓ Select Item
F5/F6 Change Values
F9 Setup Defaults
Esc Exit
←/→ Select Item
Enter Select ▸ SubMenu
F10 Save and Exit

4.2.2.10 Power & Performance



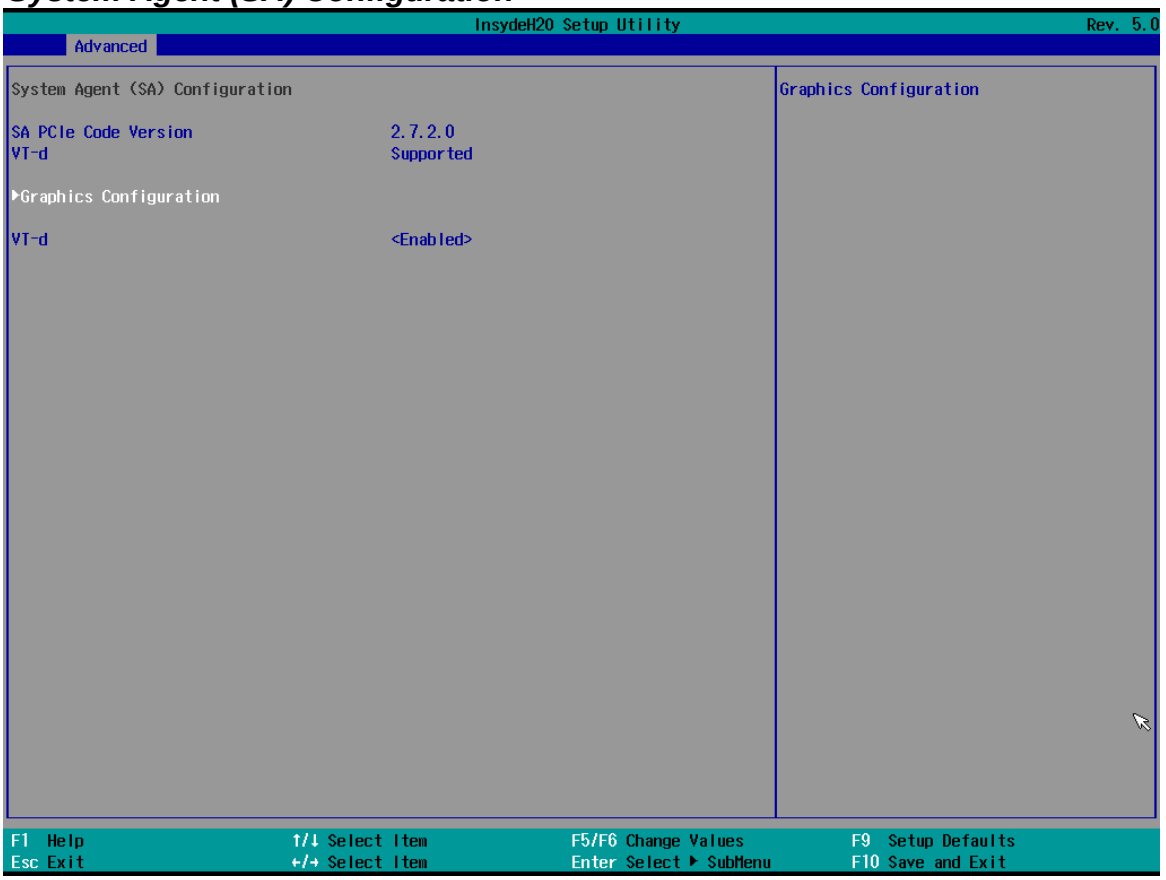
BIOS Setting	Description	Setting Option	Effect
CPU – Power Management Control	Configure CPU – Power Management parameters	Enter	Opens sub-menu





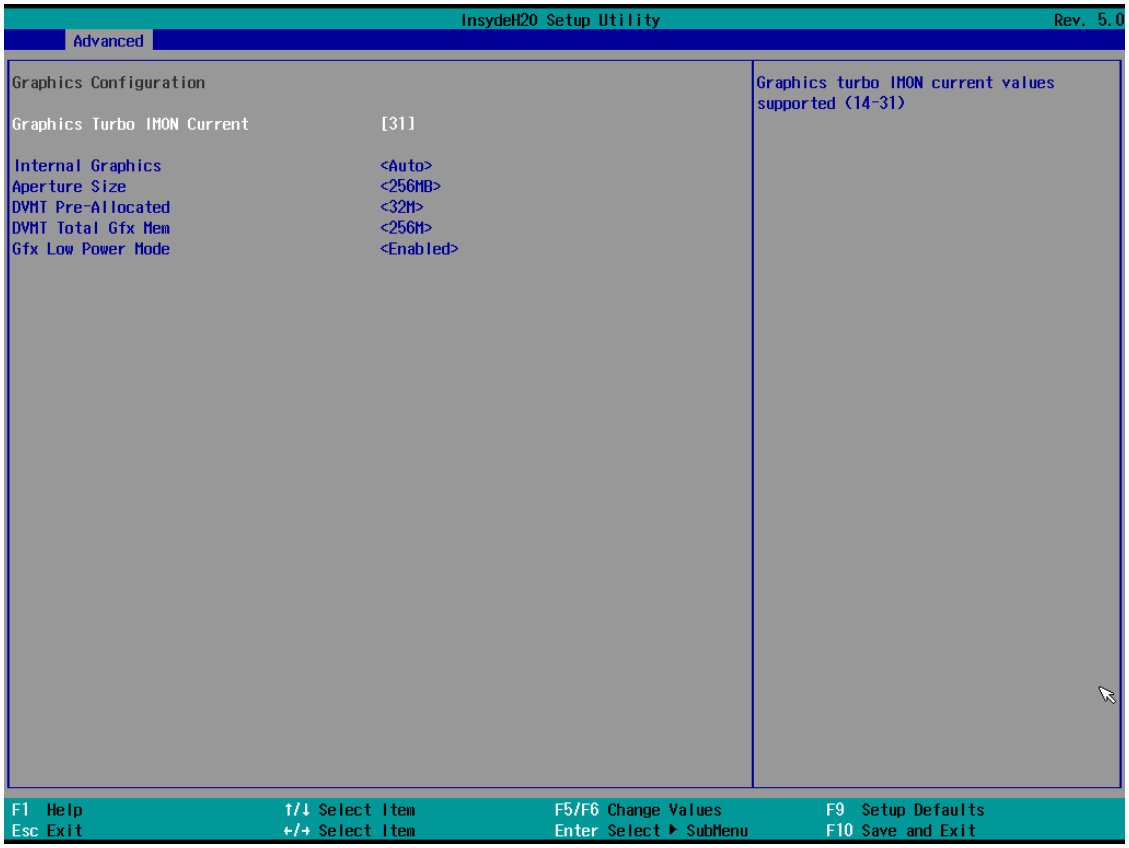
BIOS Setting	Description	Setting Option	Effect
Boot Performance Mode	Configure Boot Performance Mode parameters	-Max non-turbo performance -Max battery -Turbo Performance	Select the performance state that the BIOS will set starting from reset vector
Intel SpeedStep (ta)	Configure Intel SpeedStep (ta) 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*

4.2.2.11 System Agent (SA) Configuration



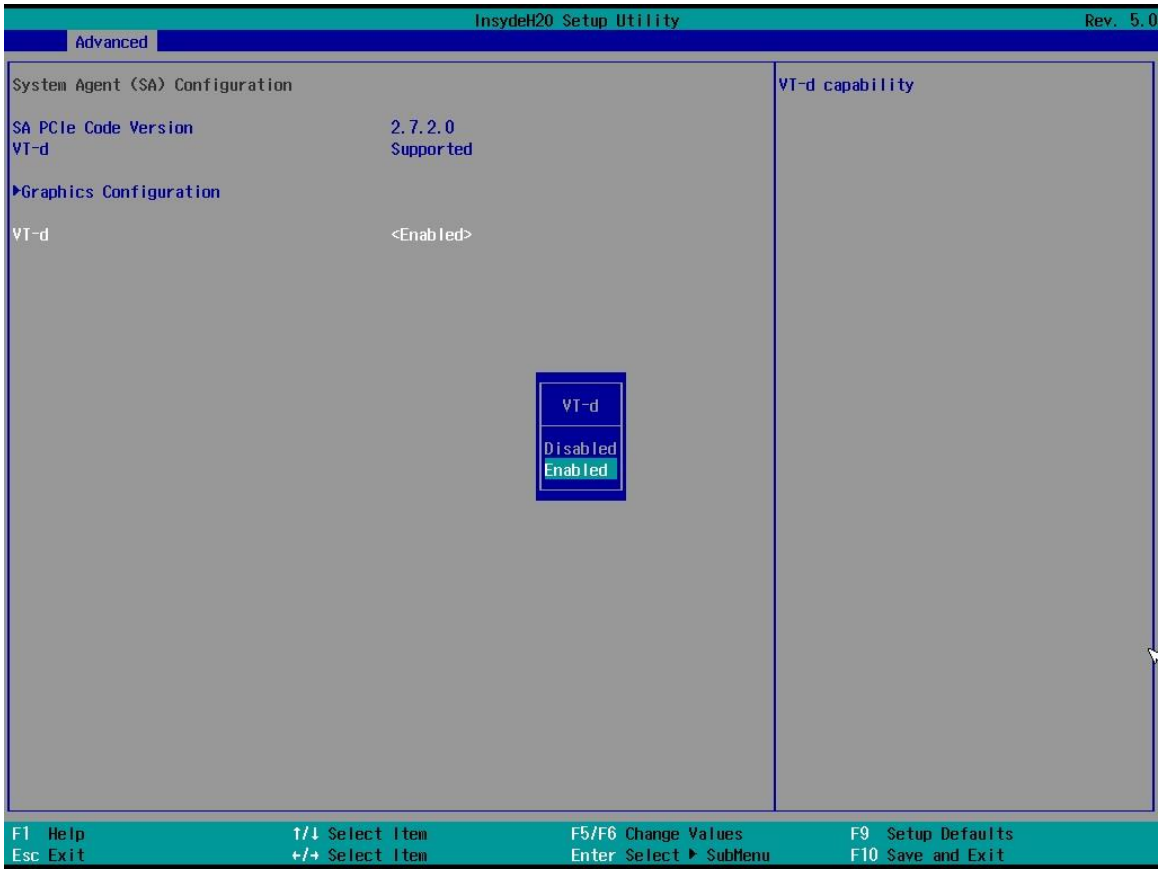
BIOS Setting	Description	Setting Option	Effect
Graphics Configuration	Configure Graphics Configuration parameters	Enter	Opens sub-menu
Vt-d	Intel® Virtualization Technology for Directed I/O	Enabled Disabled	Vt-d capability

4.2.2.11.1 Graphics Configuration



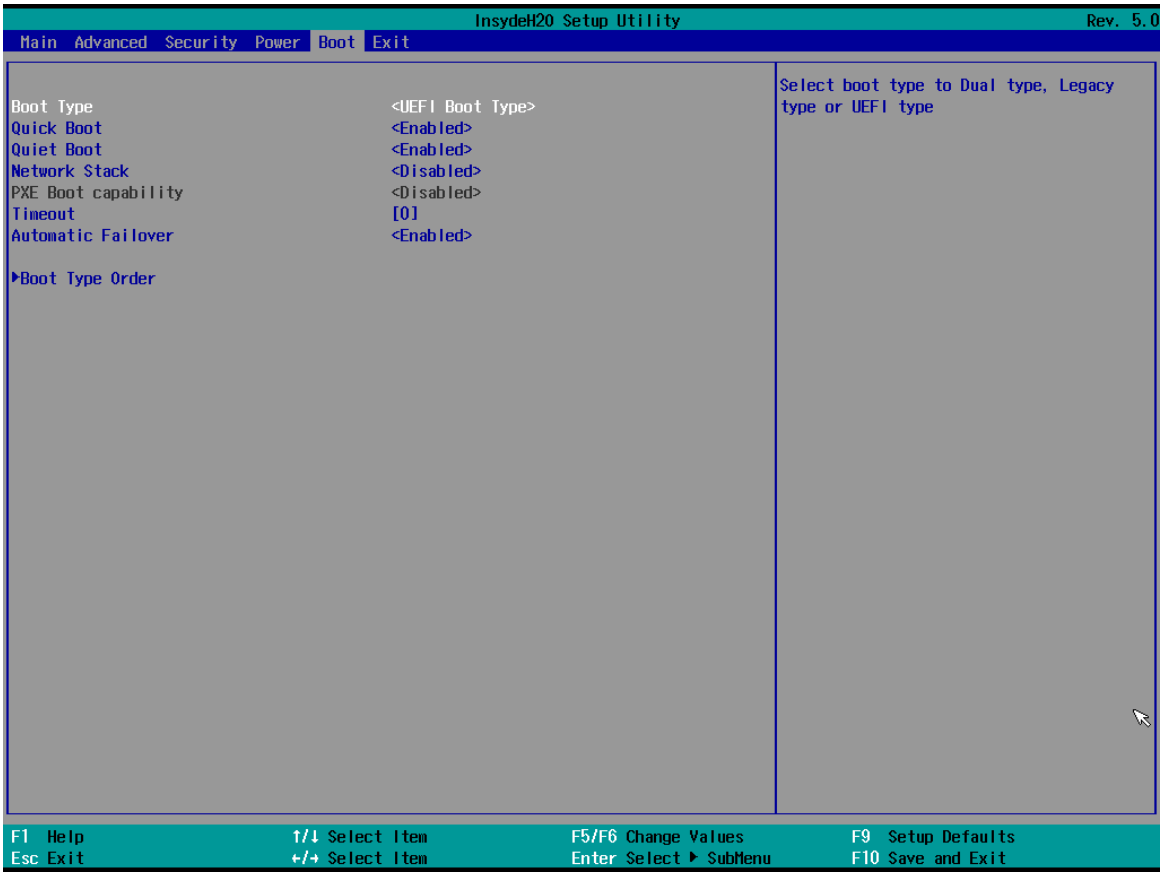
BIOS Setting	Description	Setting Option	Effect
Internal Graphics	Internal Graphics settings	Auto Enabled Disabled	Keep IGFX enabled based on the setup options
Aperture Size	Select the aperture size	128MB 256MB 512MB 1024MB 2048 MB	Select the aperture size *Note: Above 4MB MMIO BIOS assignment is automatically 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

4.2.2.11.2 Vt-d



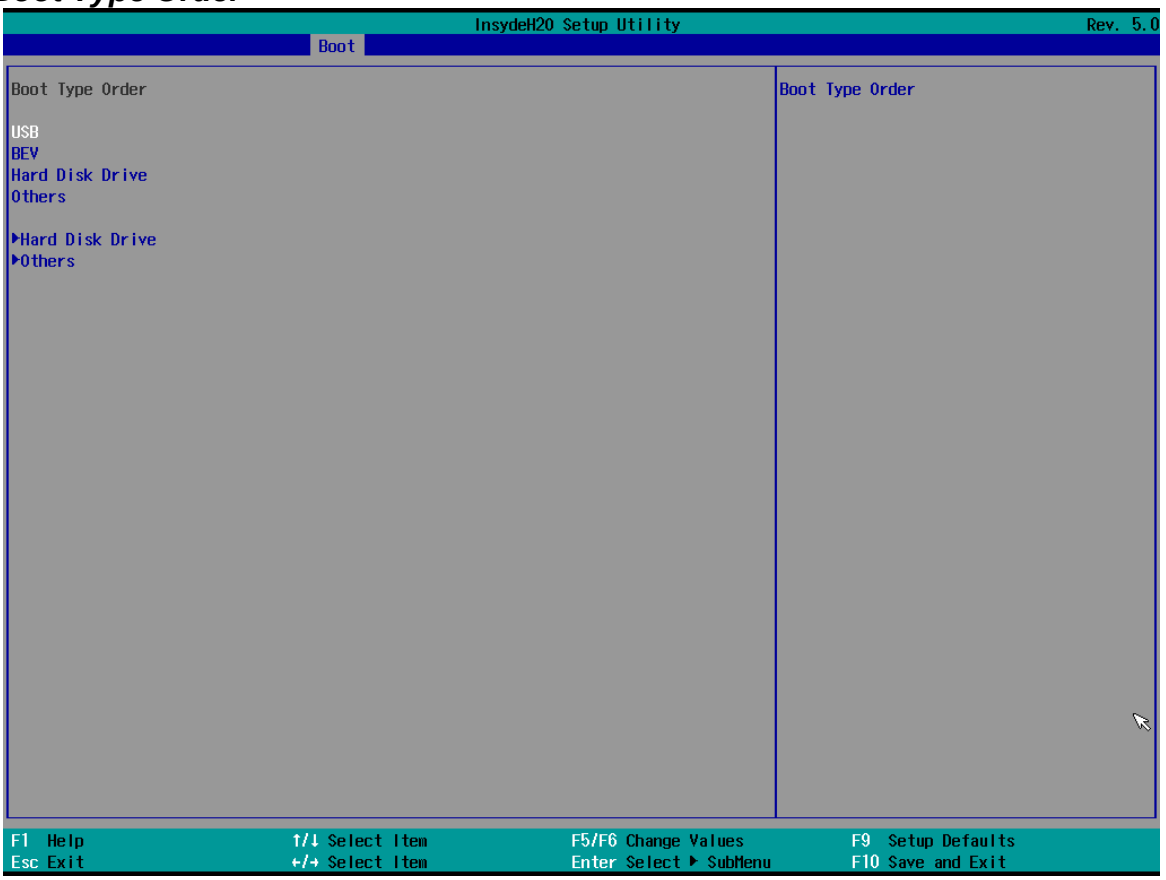
BIOS Setting	Description	Setting Option	Effect
Vt-d	Intel® Virtualization Technology for Directed I/O	Enabled Disabled	Vt-d capability

4.2.3 Boot



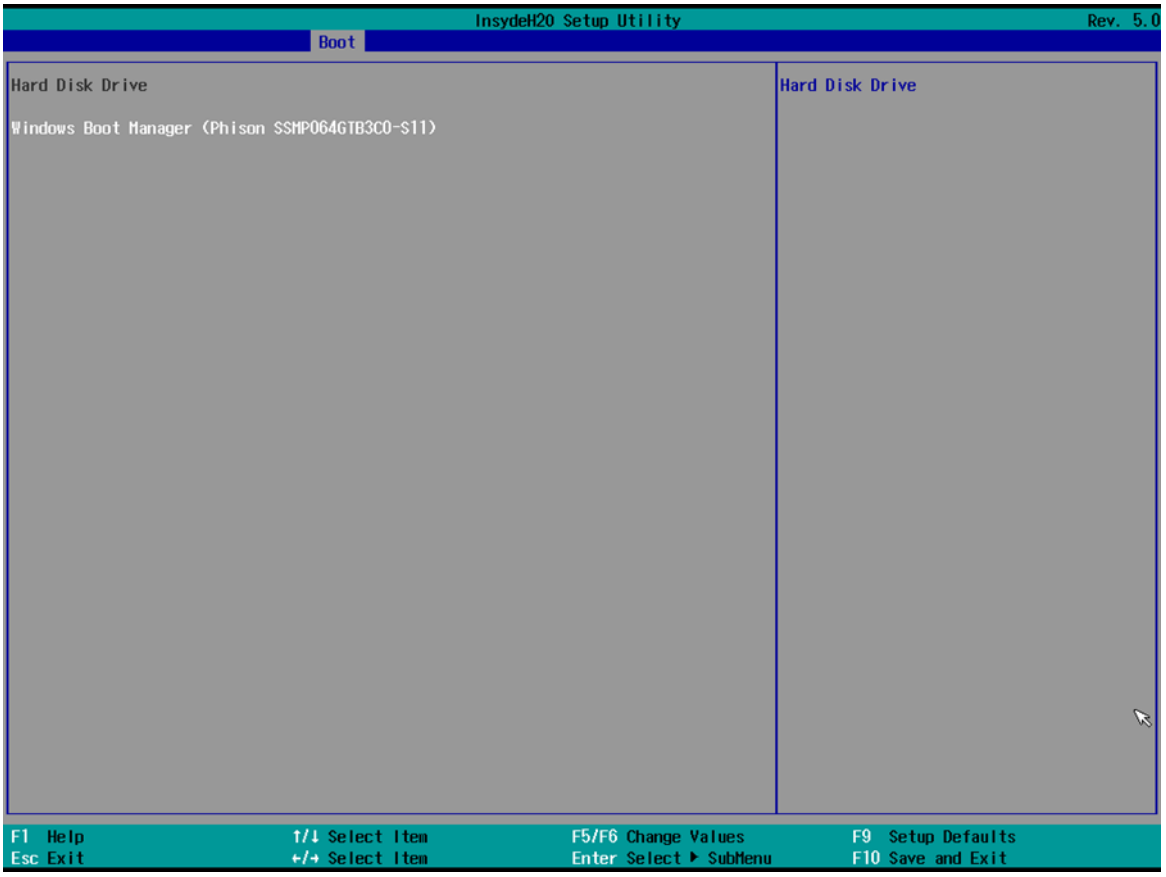
BIOS Setting	Description	Setting Option	Effect
Boot Type	Boot Type configuration	UEFI Boot Type	Select boot type to Dual type, Legacy type or UEFI type
Quick Boot	Quick Boot configuration	Enabled Disabled	Allows InsydeH20 to skip certain tests while booting. This will decrease the time needed to boot 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

4.2.3.1 Boot Type Order

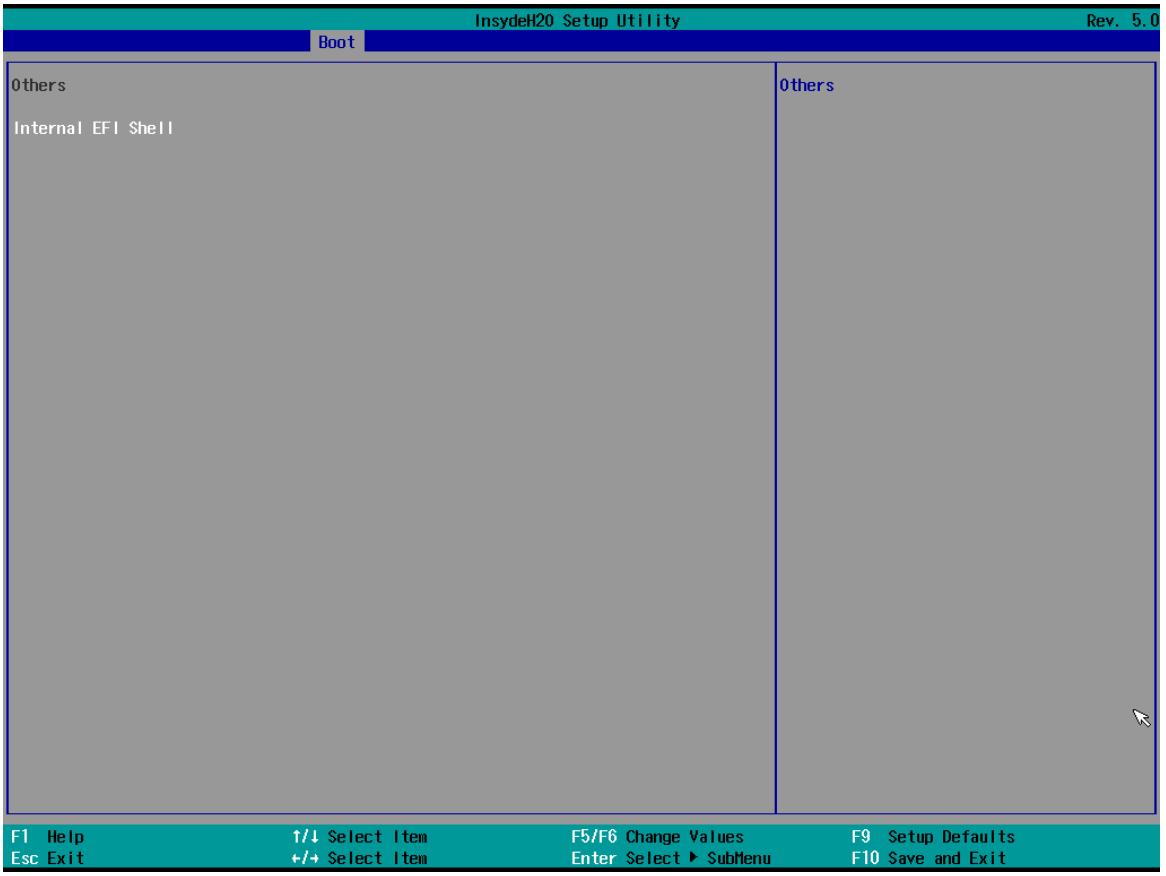


BIOS Setting	Description	Setting Option	Effect
Hard Disk Type	Hard Disk Type configuration	Enter	Opens Sub-menu
Others	Other configuration	Enter	Opens Sub-menu

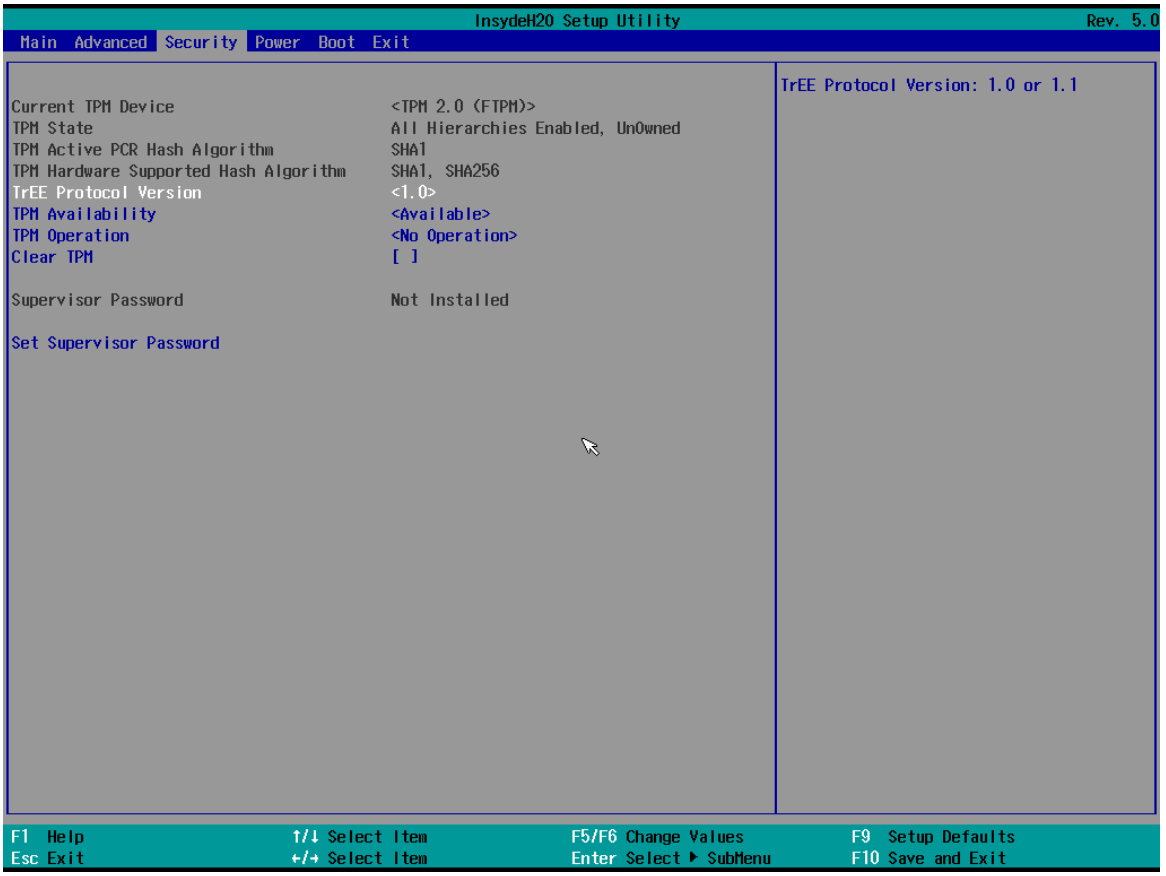
4.2.3.1.1 Hard Disk Type



4.2.3.1.2 Others

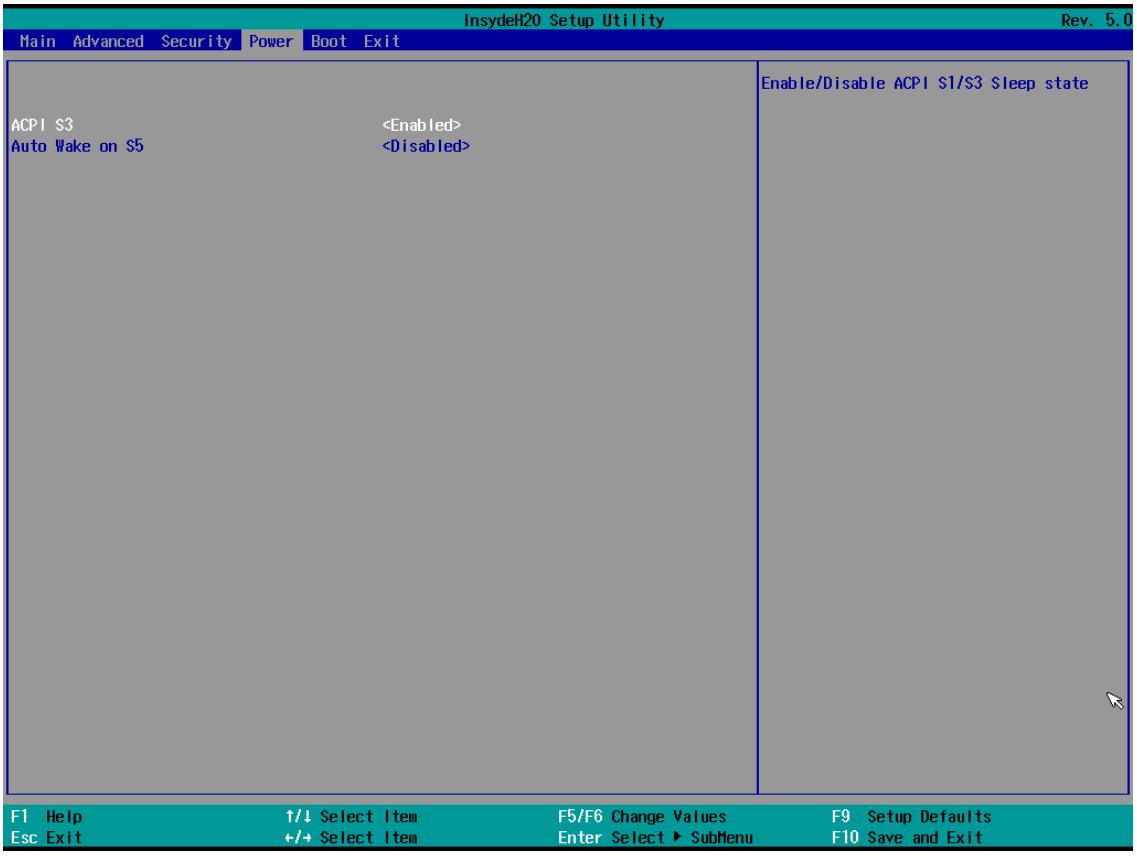


4.2.4 Security



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

4.2.5 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

4.2.5 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

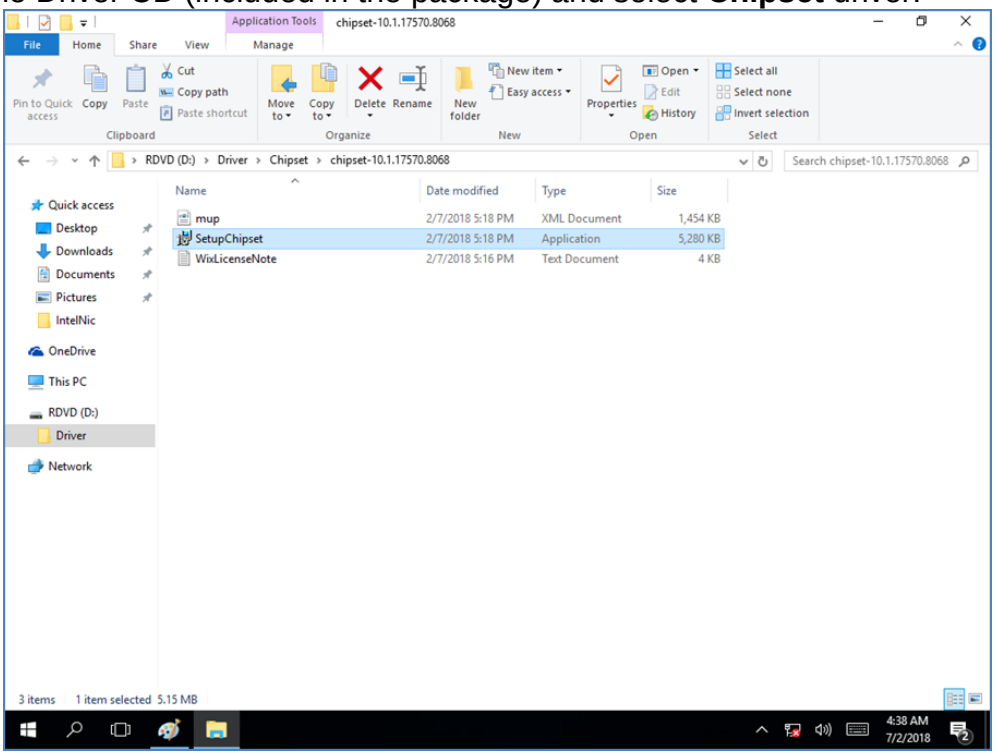
Chapter 5: Driver Installation

This chapter contains driver installation guide. Follow the instructions below to complete the installation. You will quickly complete the installation. This chapter provides instructions on how to install drivers on the I330EAC-IKW Box PC.

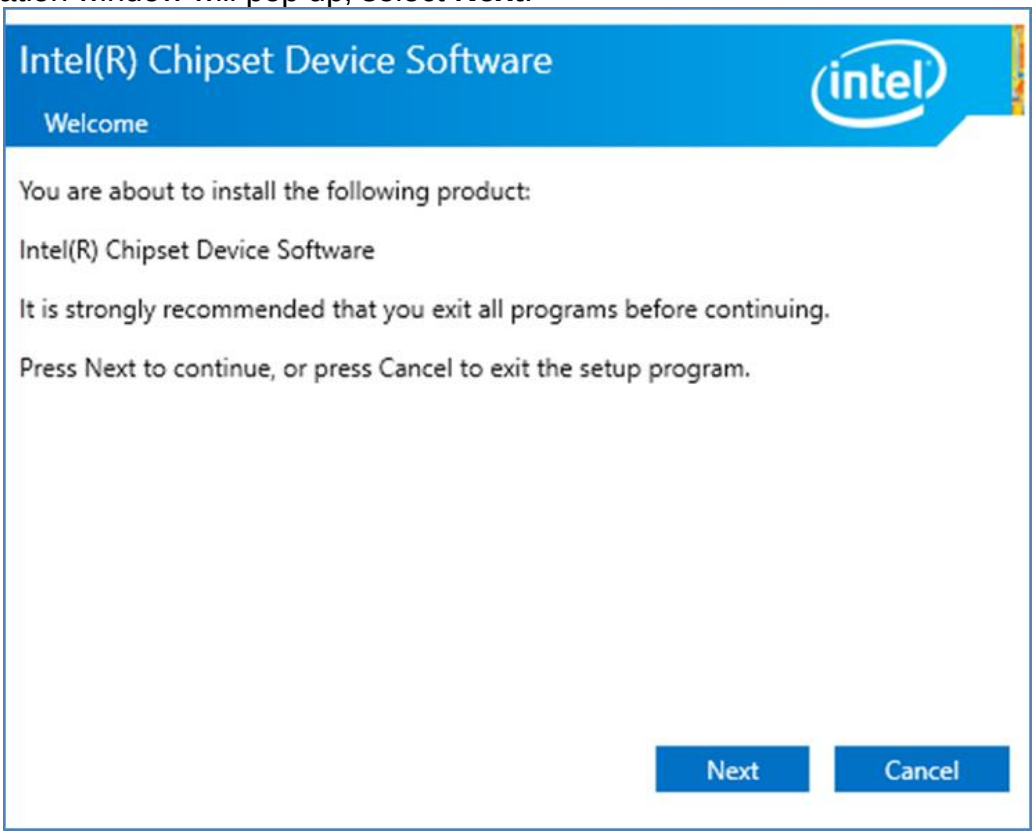
5.1 Chipset Driver

Follow instructions below to install Chipset driver.

1. Open the Driver CD (included in the package) and select **Chipset** driver.

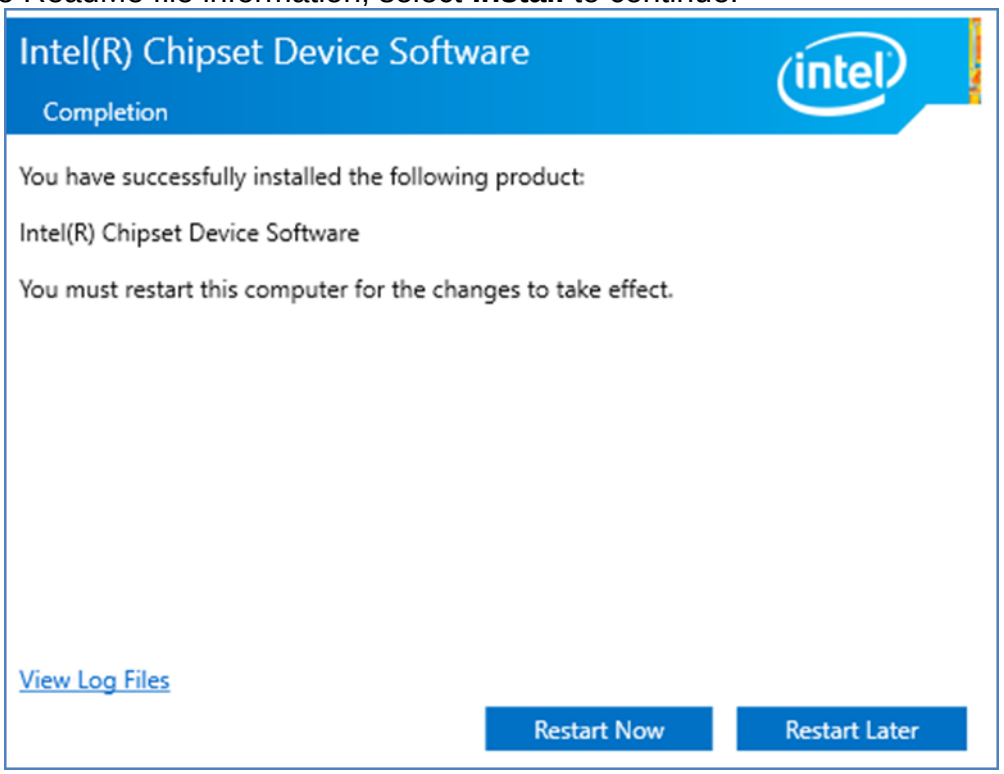


2. Installation window will pop up, select **Next**.



3. Select **Accept** to agree with the terms of license agreement.

4. Check the ReadMe file information, select **Install** to continue.

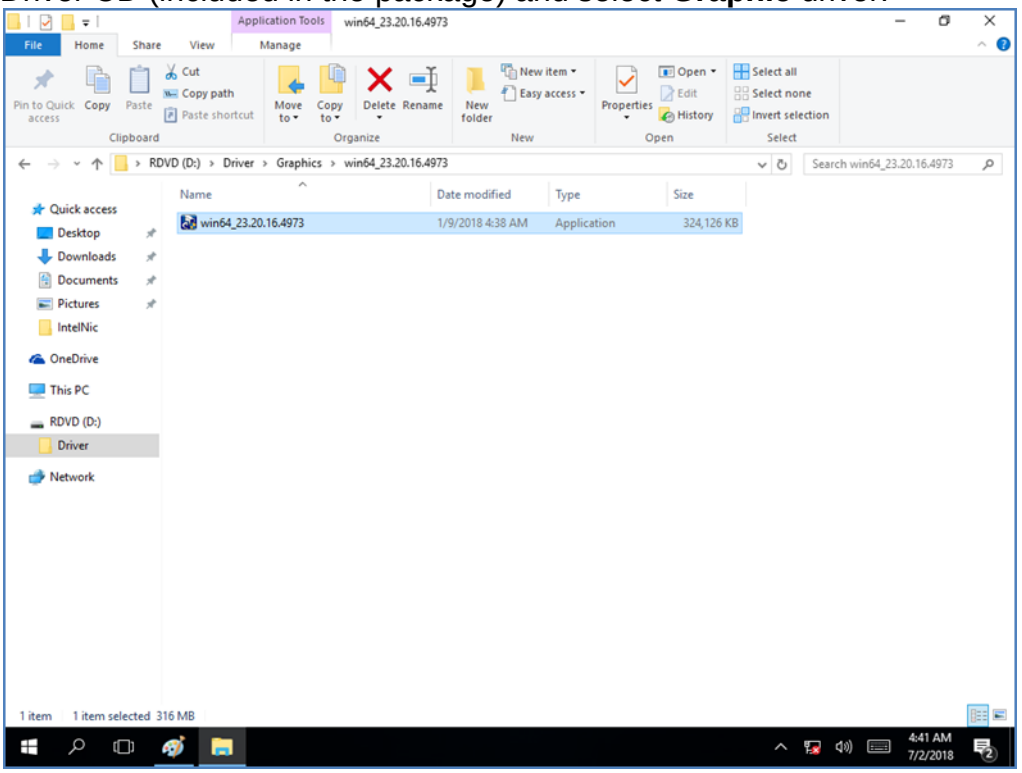


5. Wait for the driver to be installed. When installation completed, select **Restart Now** to restart your computer.

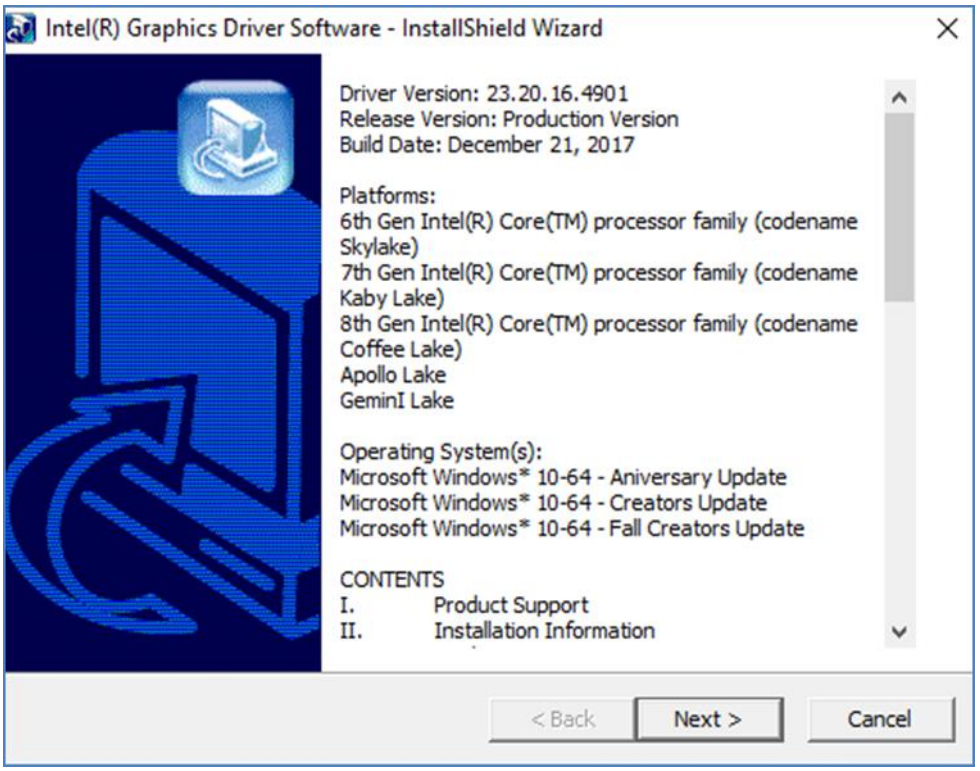
5.2 Graphic Driver

Follow instructions below to install Graphic driver.

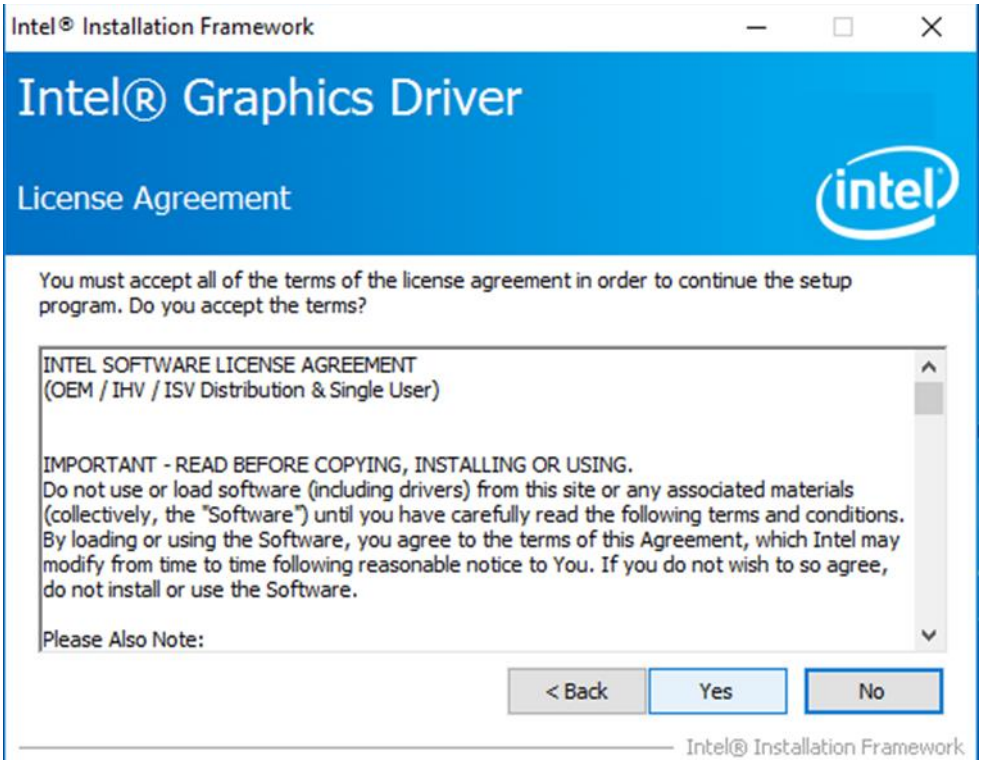
1. Open the Driver CD (included in the package) and select **Graphic** driver.



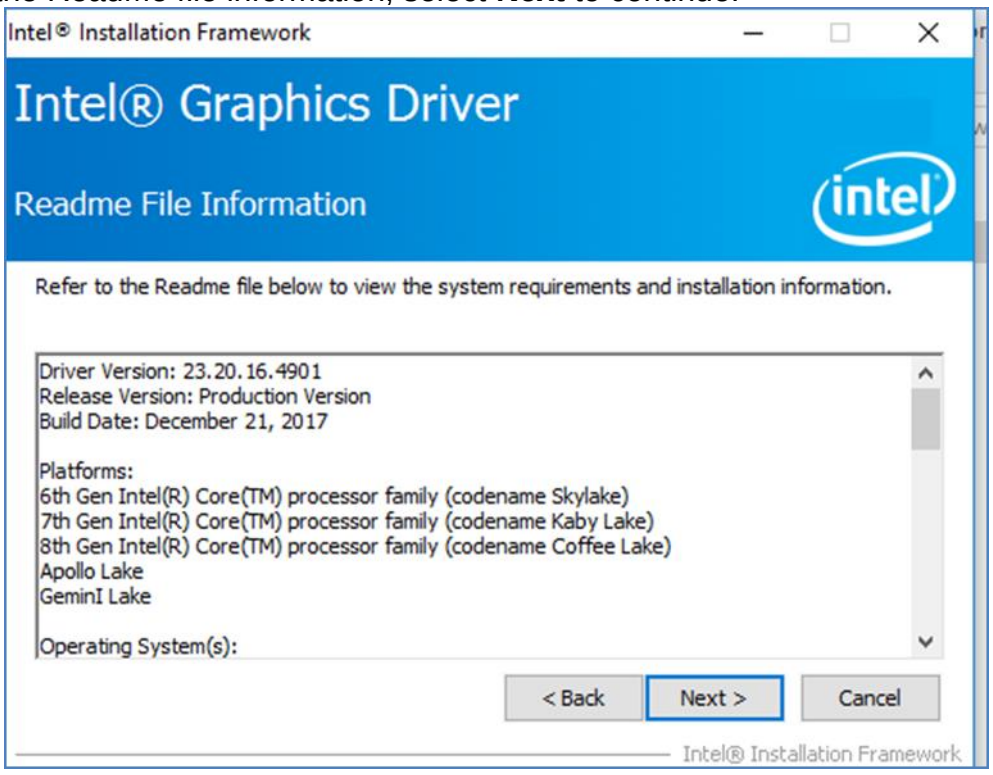
2. Installation window will pop up, select **Next**.



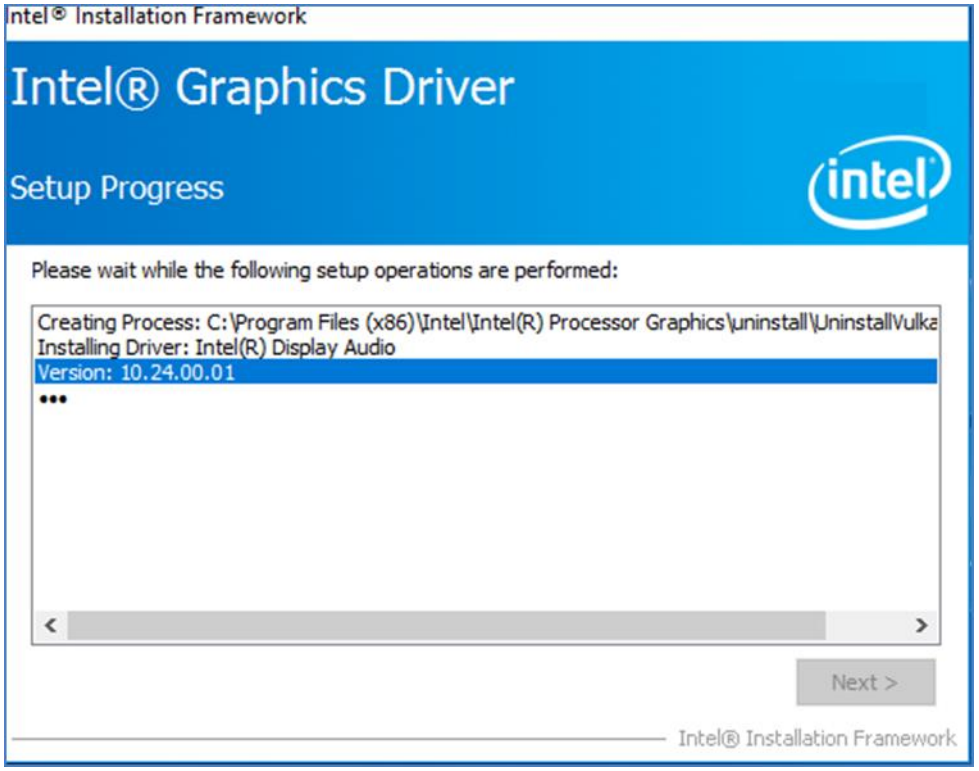
3. Select Accept to agree with the terms of license agreement.



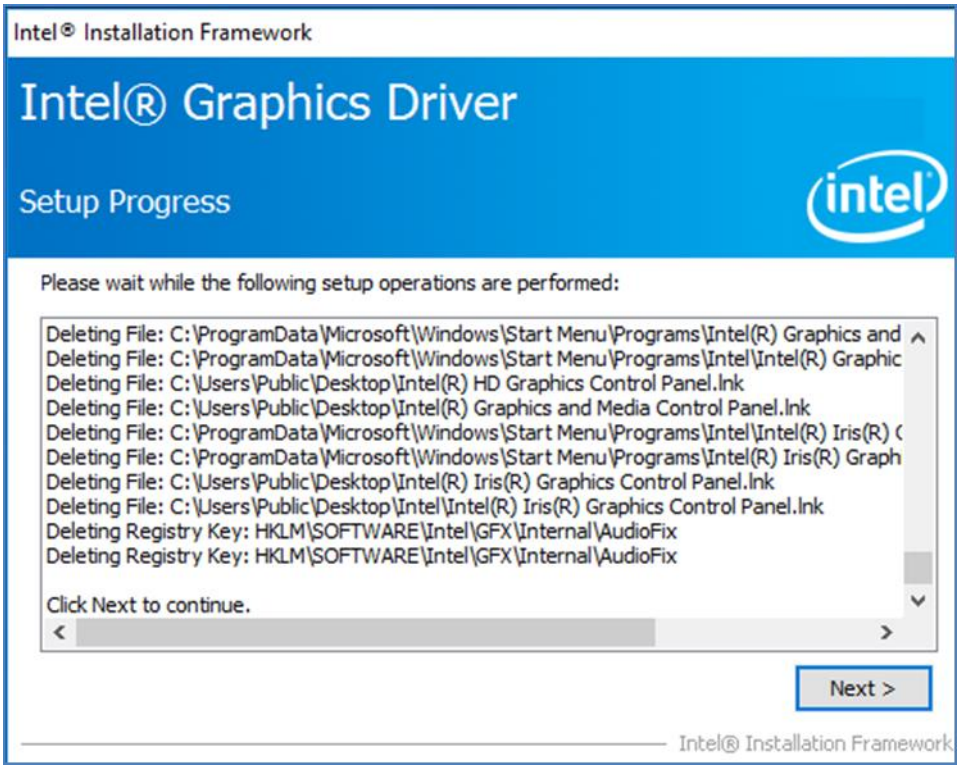
4. Check the ReadMe file information, select **Next** to continue.



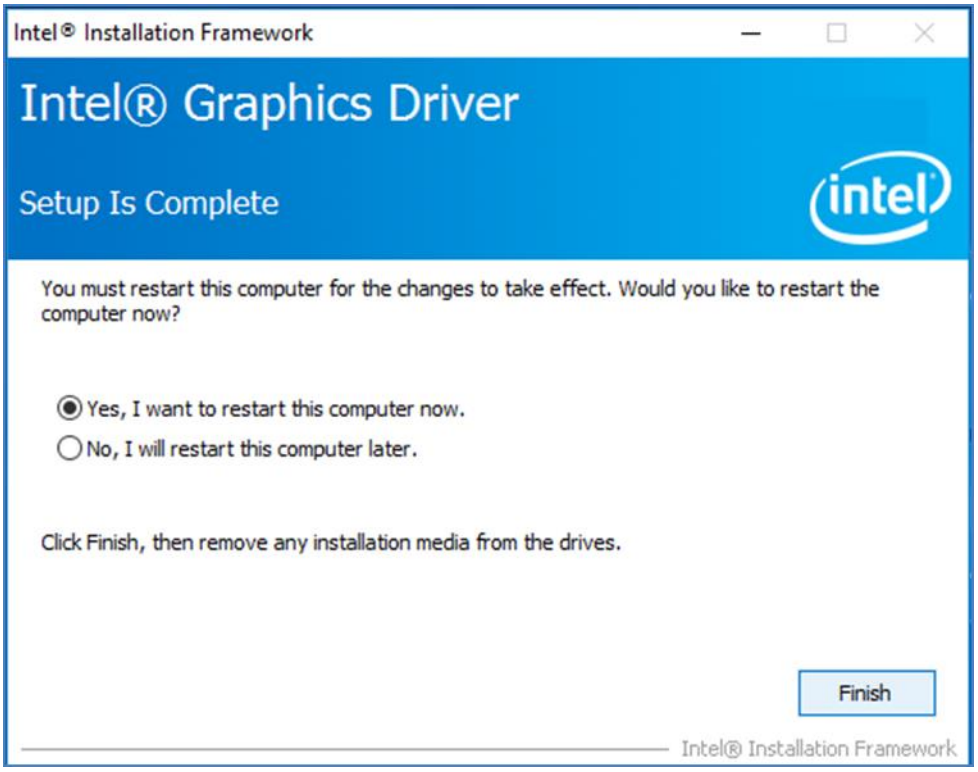
5. Wait for the driver to be installed.



6. Select **Next** to continue.



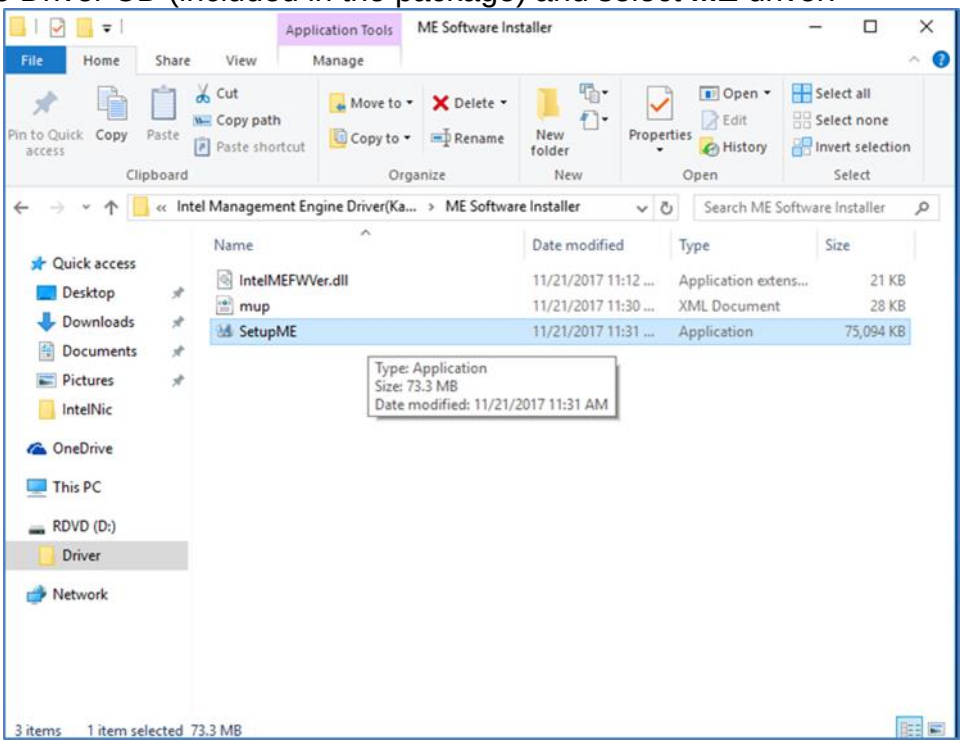
7. After installation is completed, select "**Yes, I want to restart this computer now**", and click **Finish**.



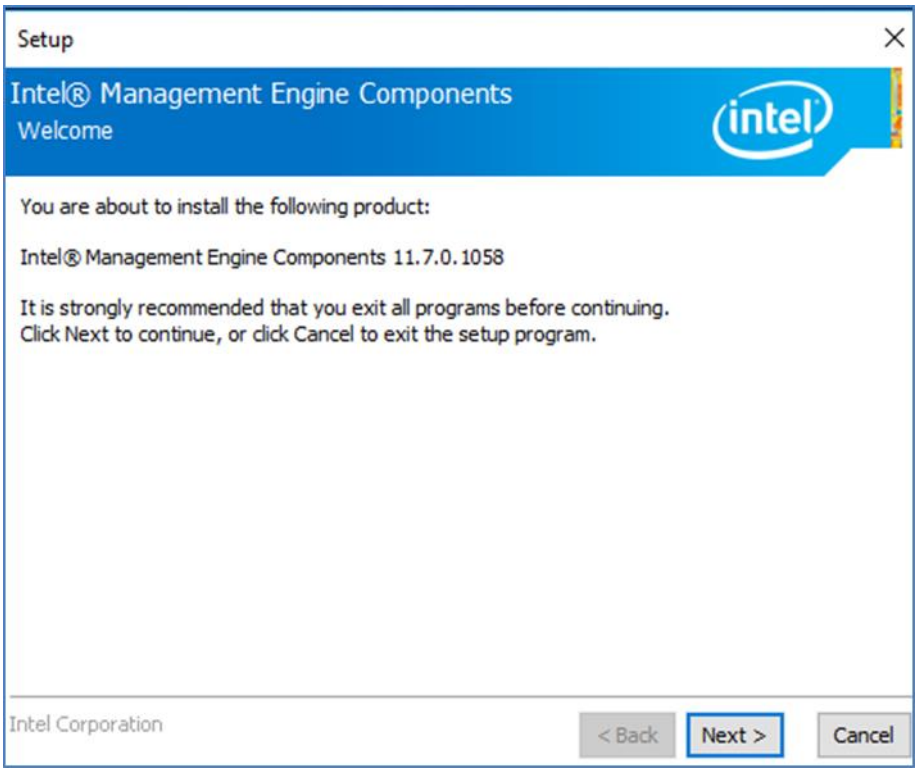
5.3 Management Engine (ME)

Follow instructions below to install Management Engine (ME) .

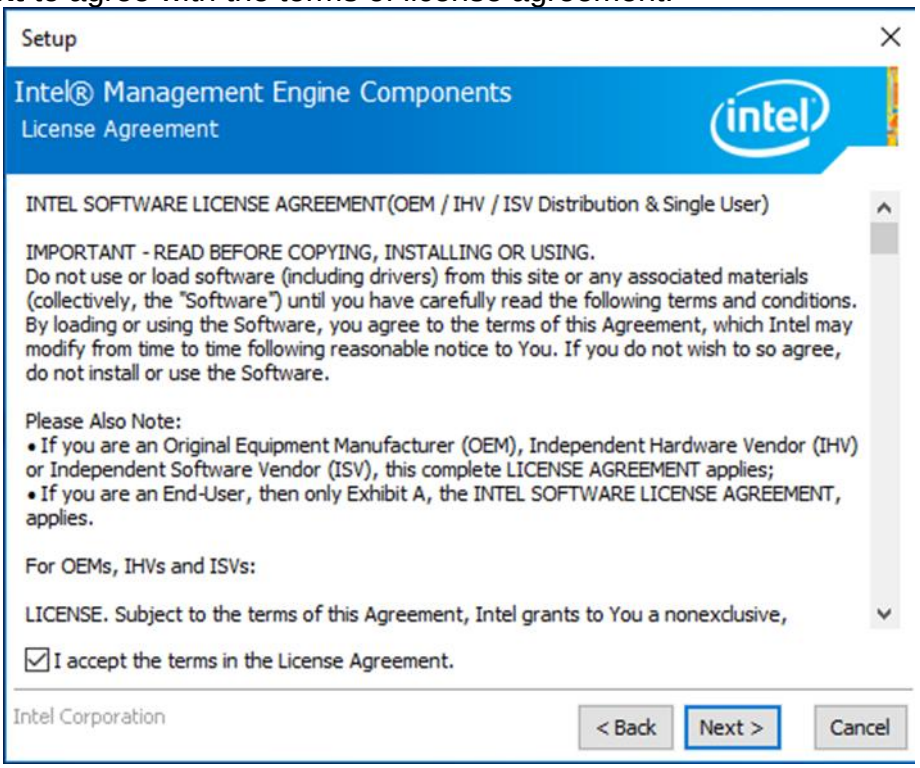
1. Open the Driver CD (included in the package) and select **ME** driver.



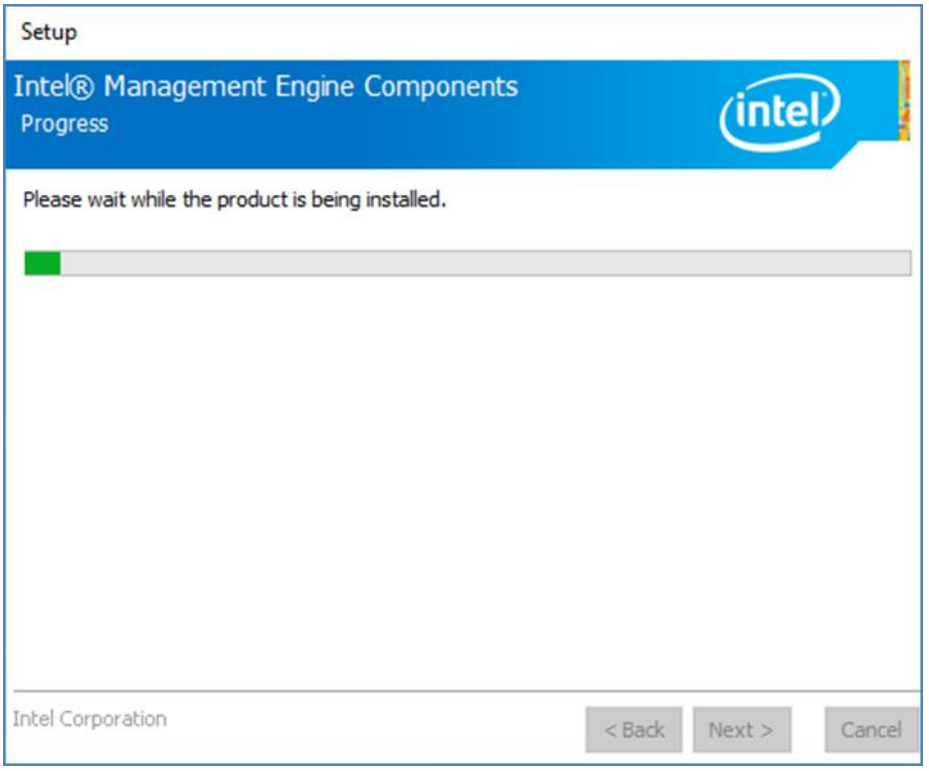
2. Select **Next** to start the installation.



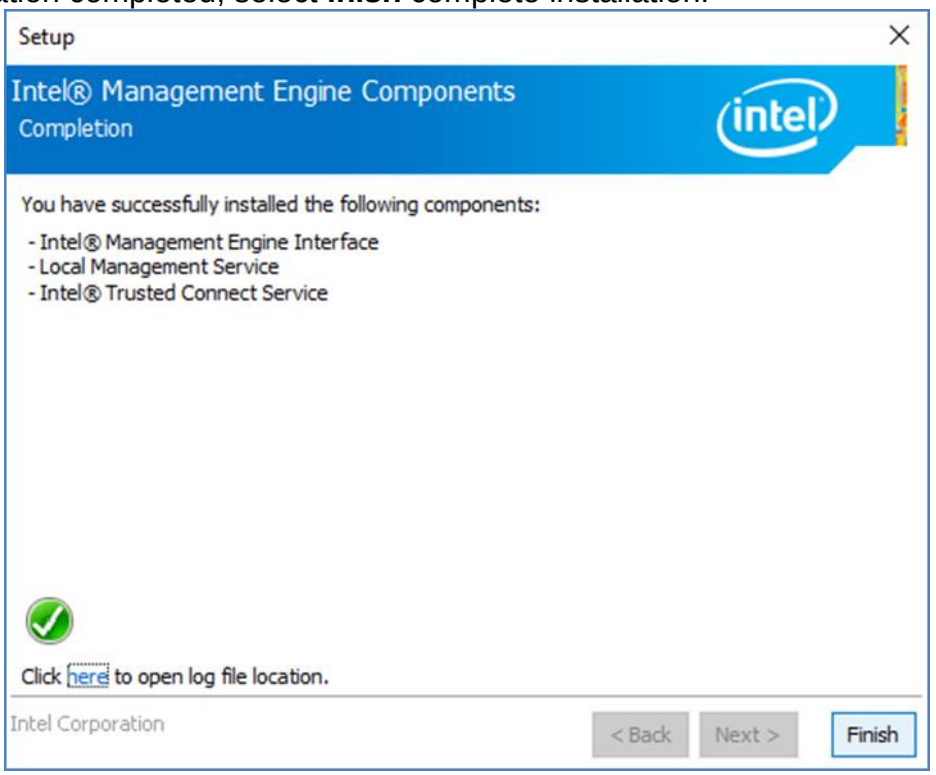
3. Select **Next** to agree with the terms of license agreement.



4. Wait for the driver to be installed.



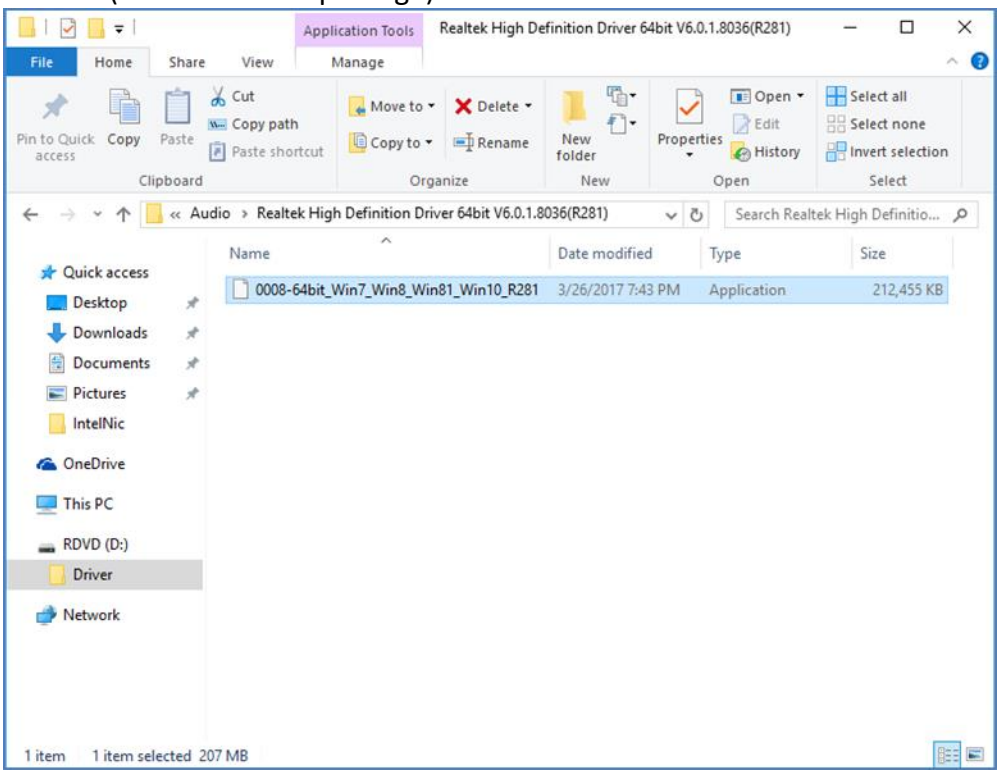
5. When installation completed, select **inish** complete installation.



5.4 Audio Driver

Follow instructions below to install Audio driver.

1. Open the Driver CD (included in the package) and select **Audio** driver.



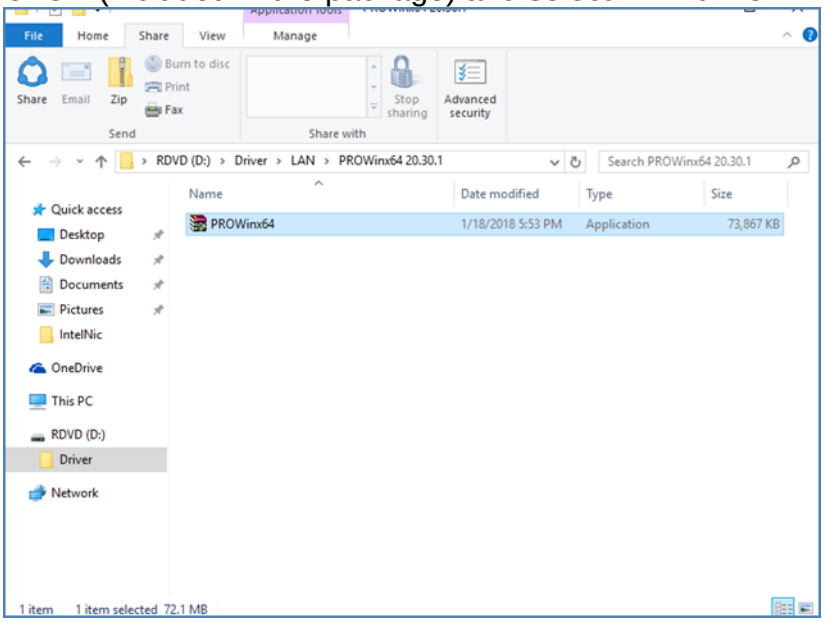
2. Select **Start** to continue.

3. When installation completed, select **Finish** complete installation.

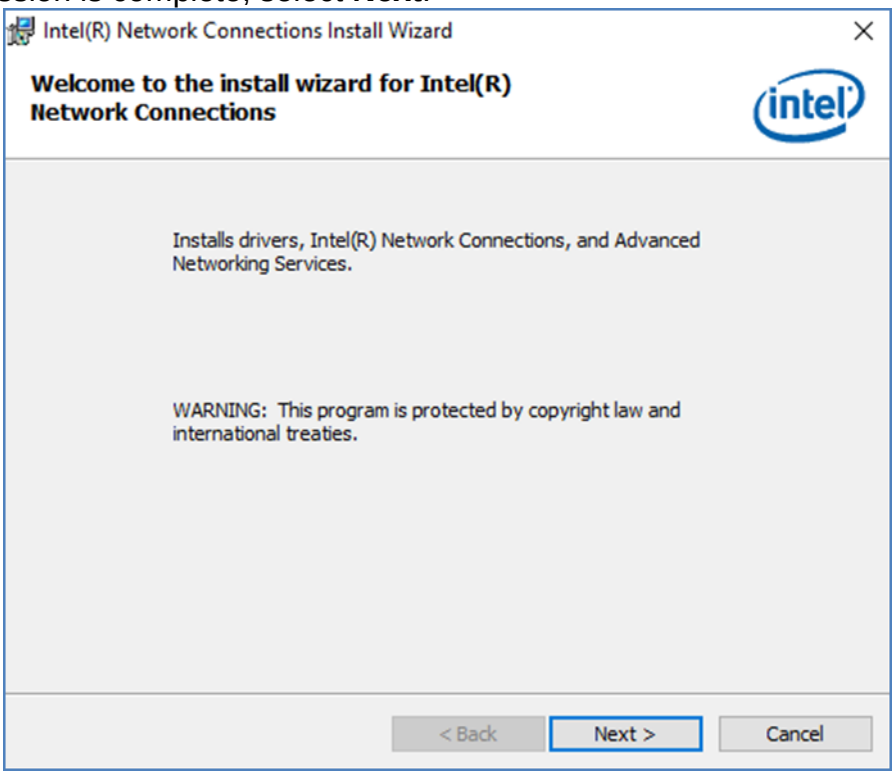
5.5 Ethernet Driver

Follow instructions below to install LAN driver.

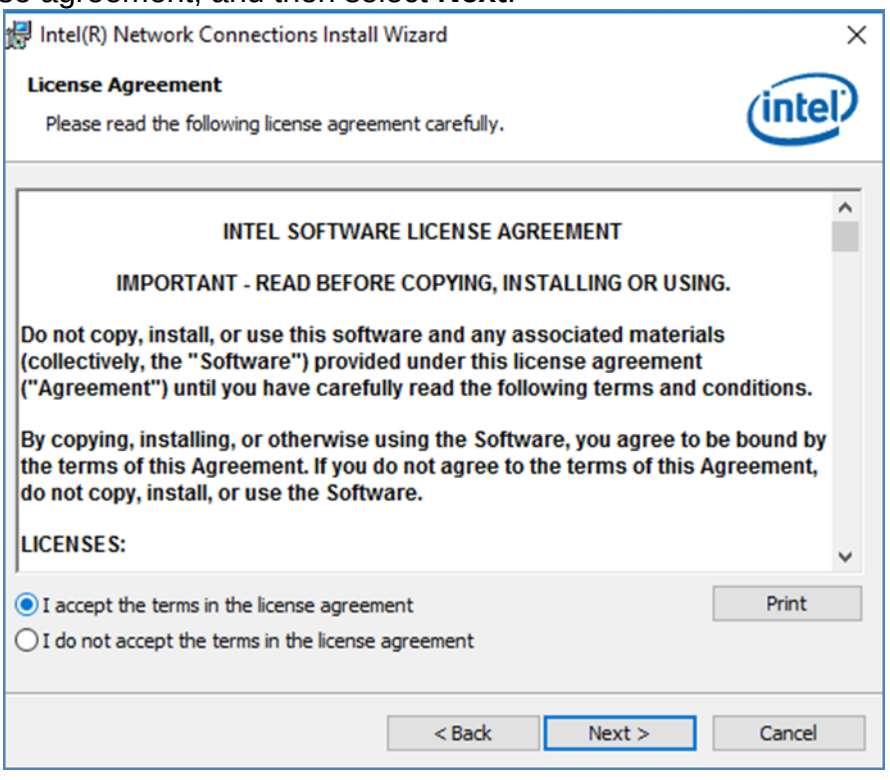
1. Open the Driver CD (included in the package) and select **LAN** driver.



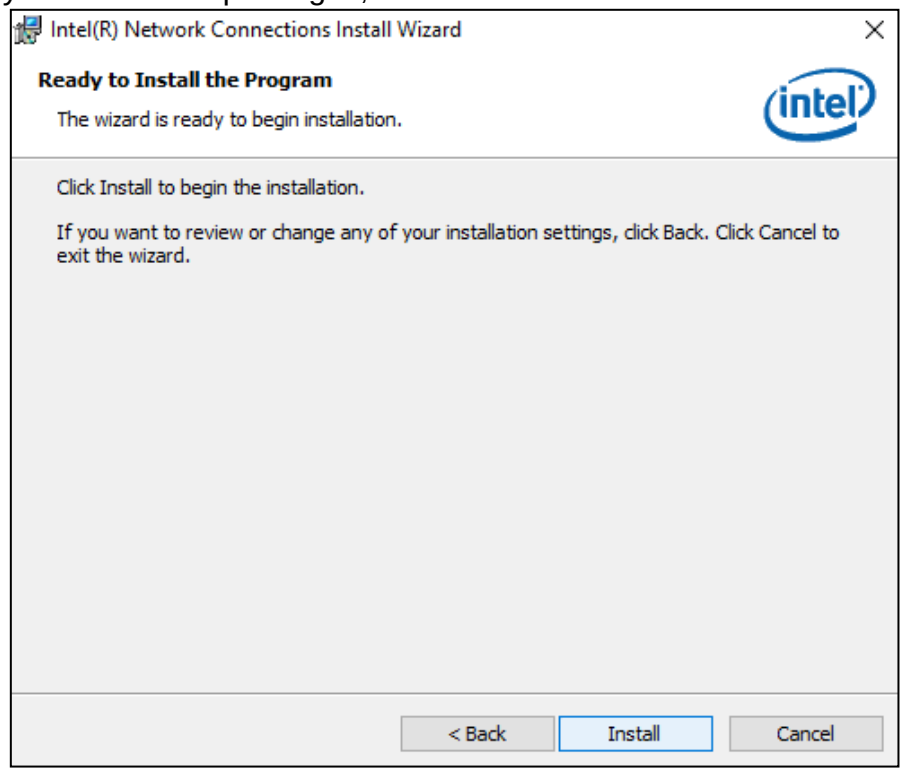
2. When compression is complete, select **Next**.



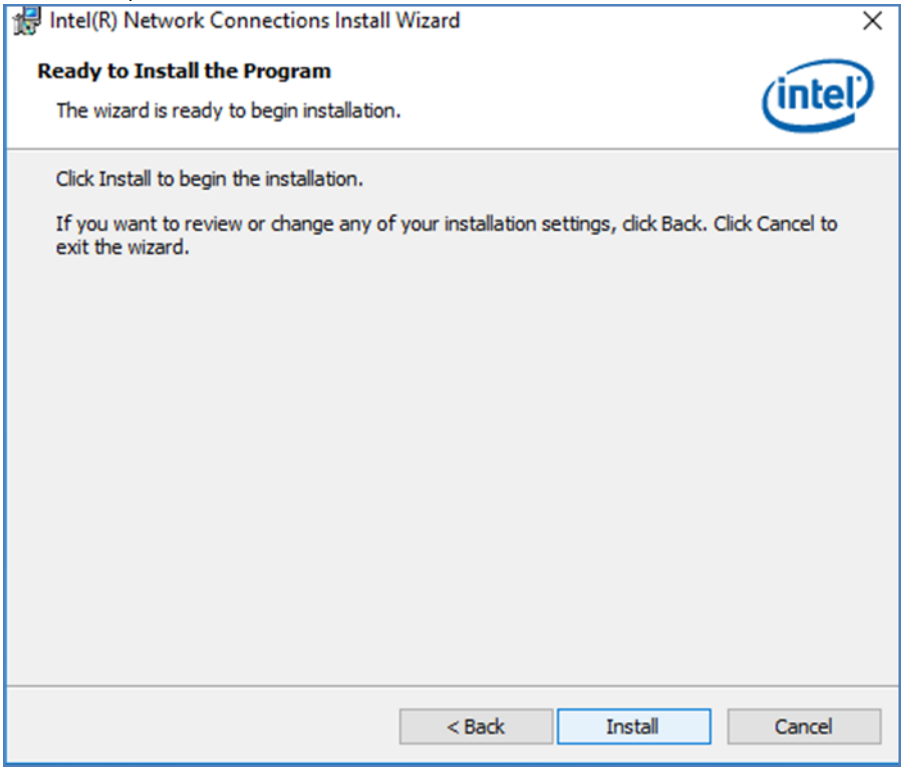
3. Read the license agreement, and then select **Next**.



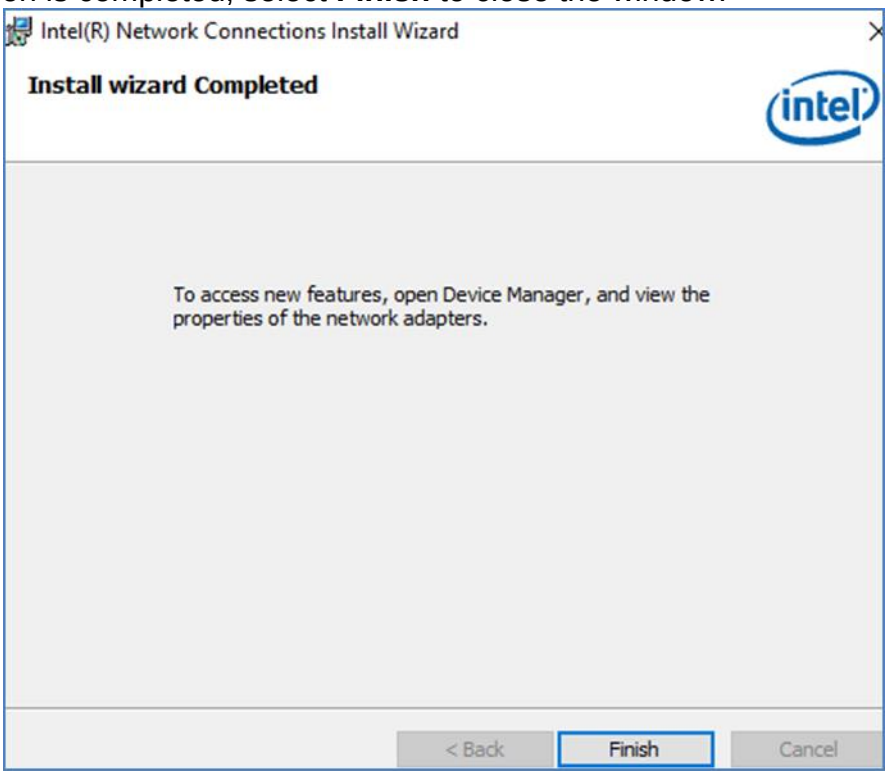
4. System displays the installed packages, select **Next**.



5. Confirm the installation, select **Install** to start the installation.



6. When installation is completed, select **Finish** to close the window.

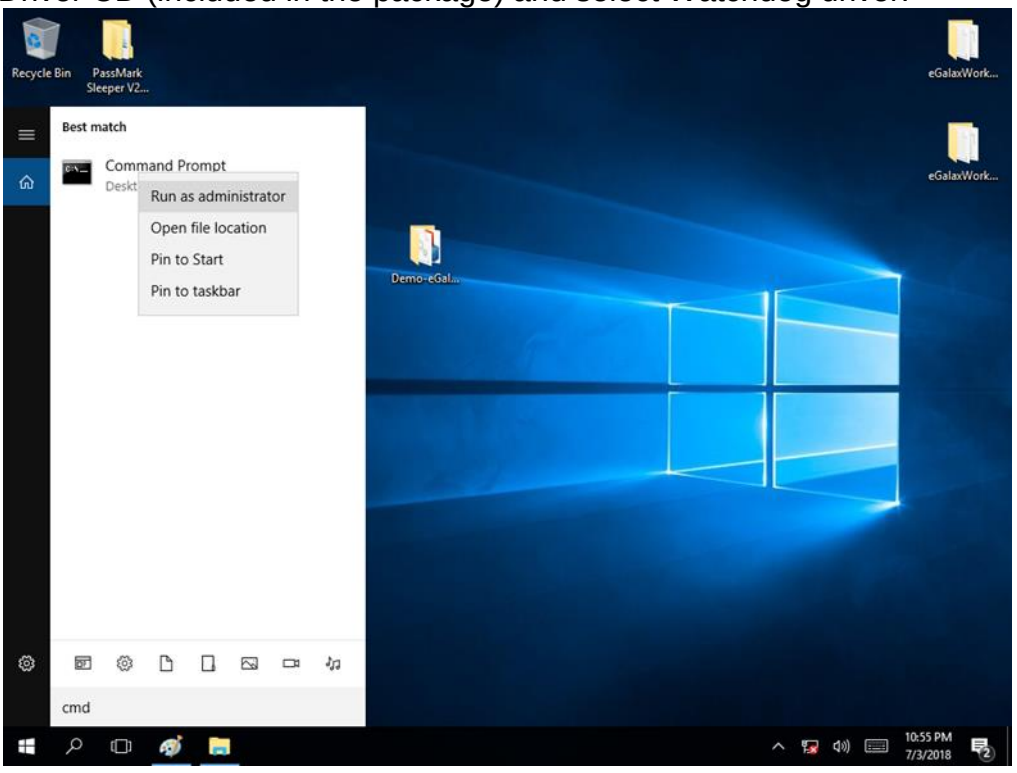


5.6 Watchdog Driver

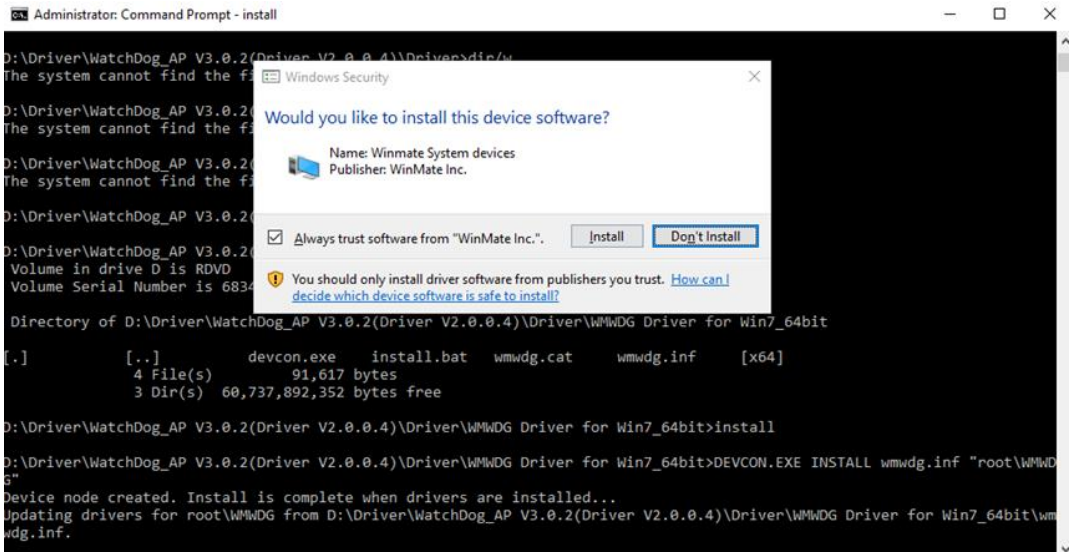
For more details about Winmate Watchdog, please download Watchdog Guide from Winmate Downloads Center: *http://dc.winmate.com.tw/_downloadCenter/2017/Embedded%20Computing/Watchdog%20Guide_IB_IH_IV_IK.pdf*

Follow instructions below to install **Watchdog** driver.

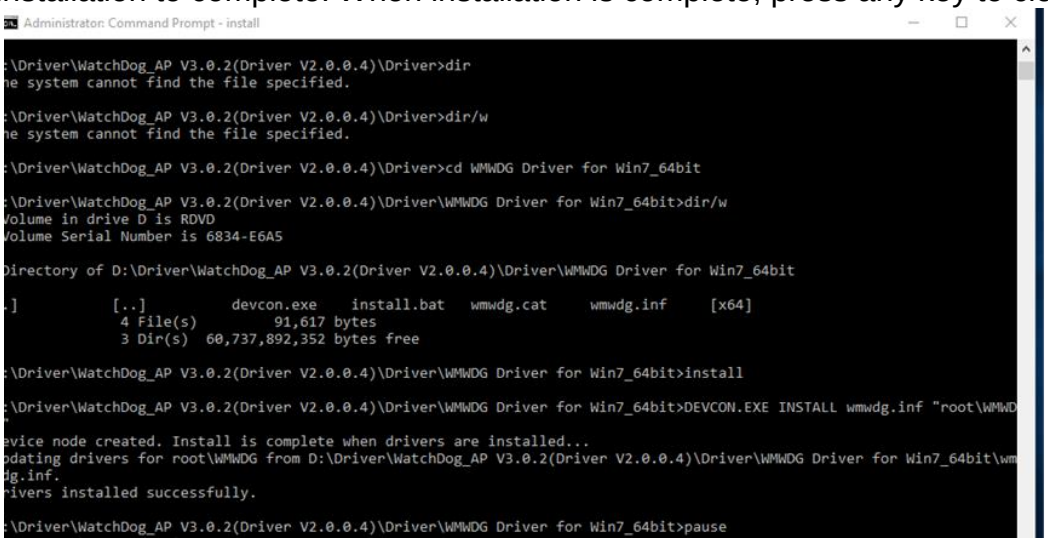
1. Type “cmd” in the run box then the cmd.exe will appear in programs.
2. Right click on the cmd.exe and click on “Run as administrator” to start
3. Open the Driver CD (included in the package) and select Watchdog driver.



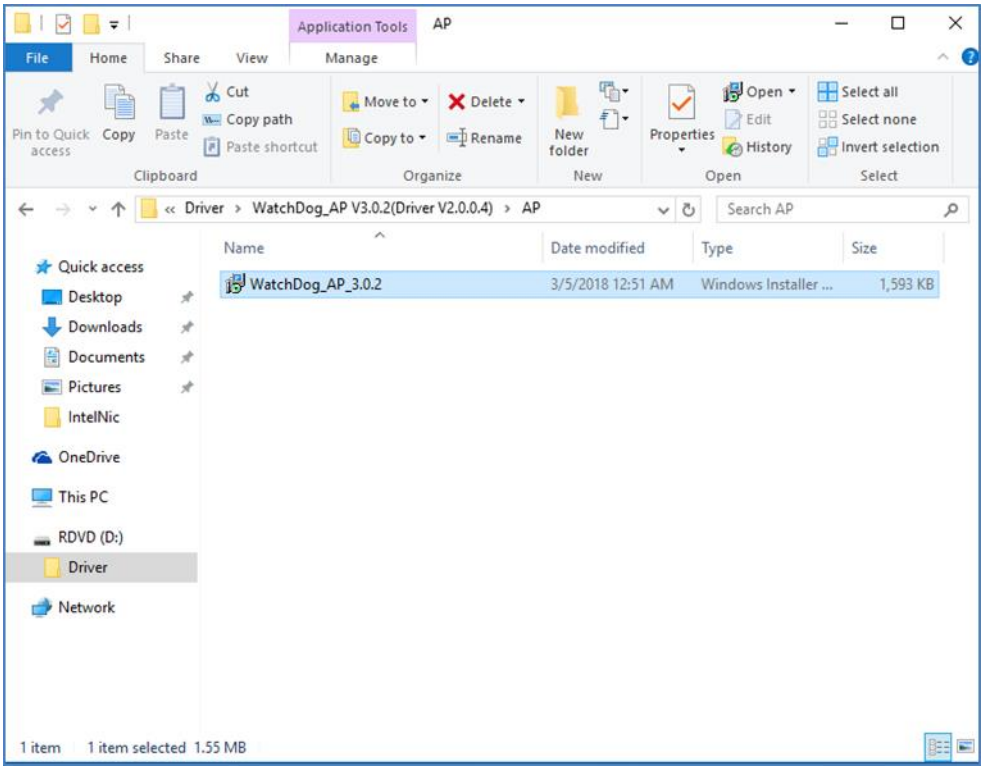
4. When Windows Security dialog appear, select **install** to continue the Installation.



5. Wait for installation to complete. When installation is complete, press any key to close.

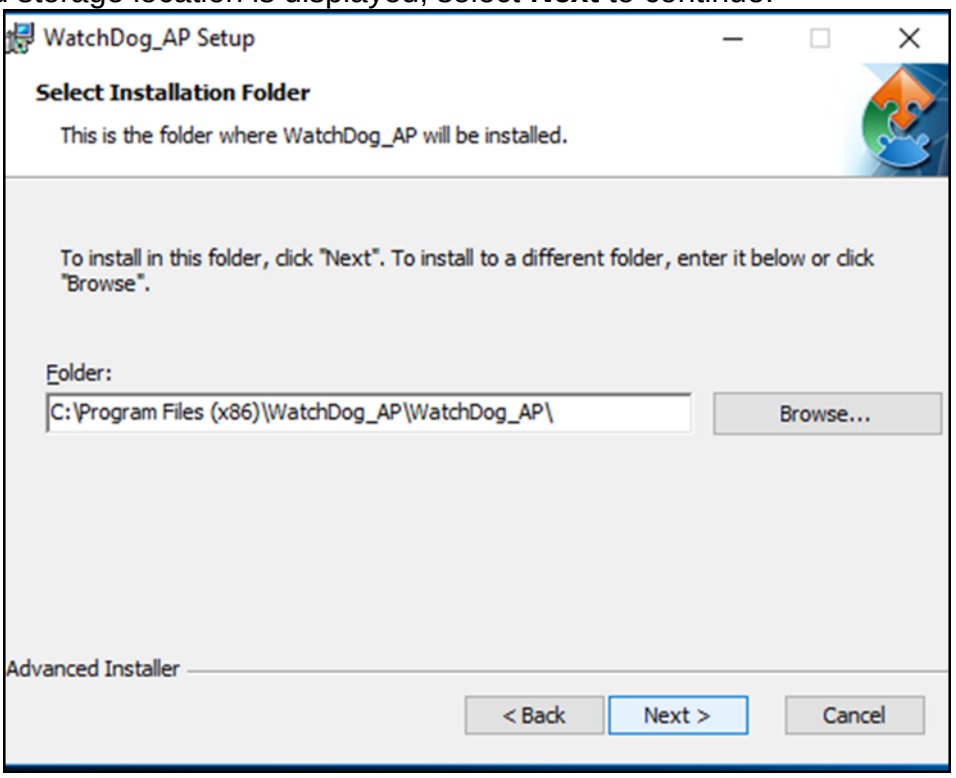


6. Open the Driver CD (included in the package) and select **Watchdog AP**.

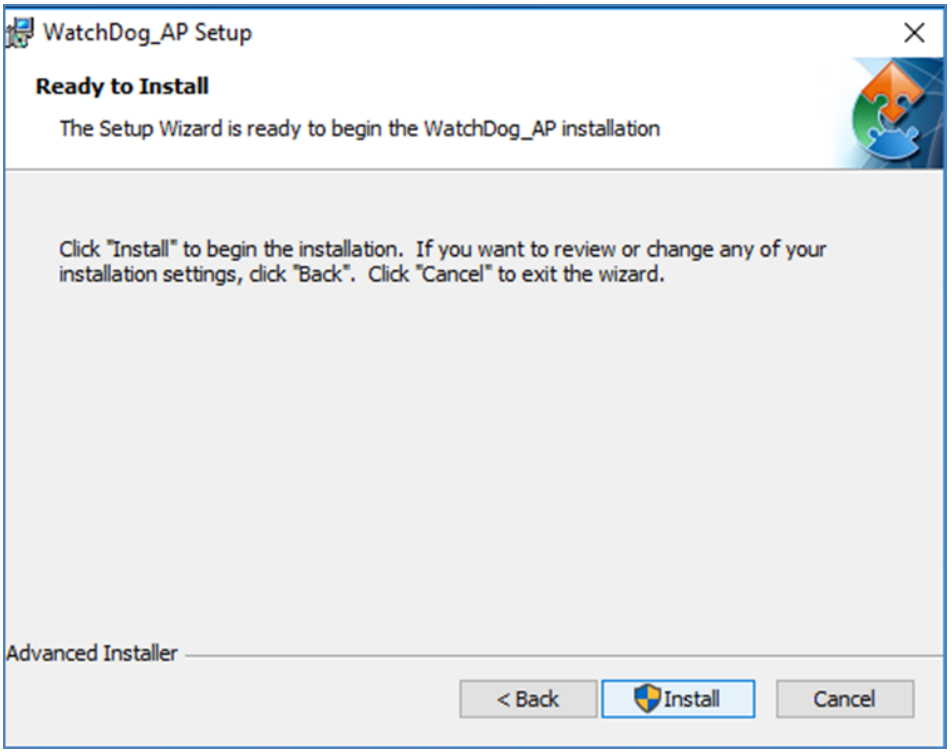


7. Select **Next**.

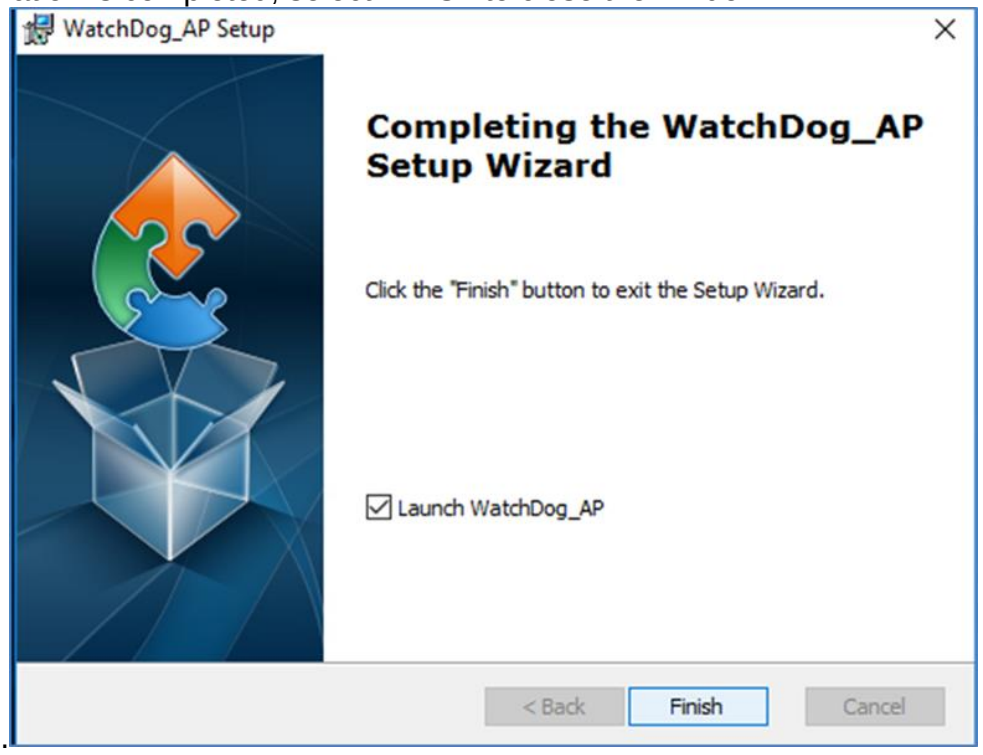
8. The installed storage location is displayed, select **Next** to continue.



9. Select **Next** to start the installation.



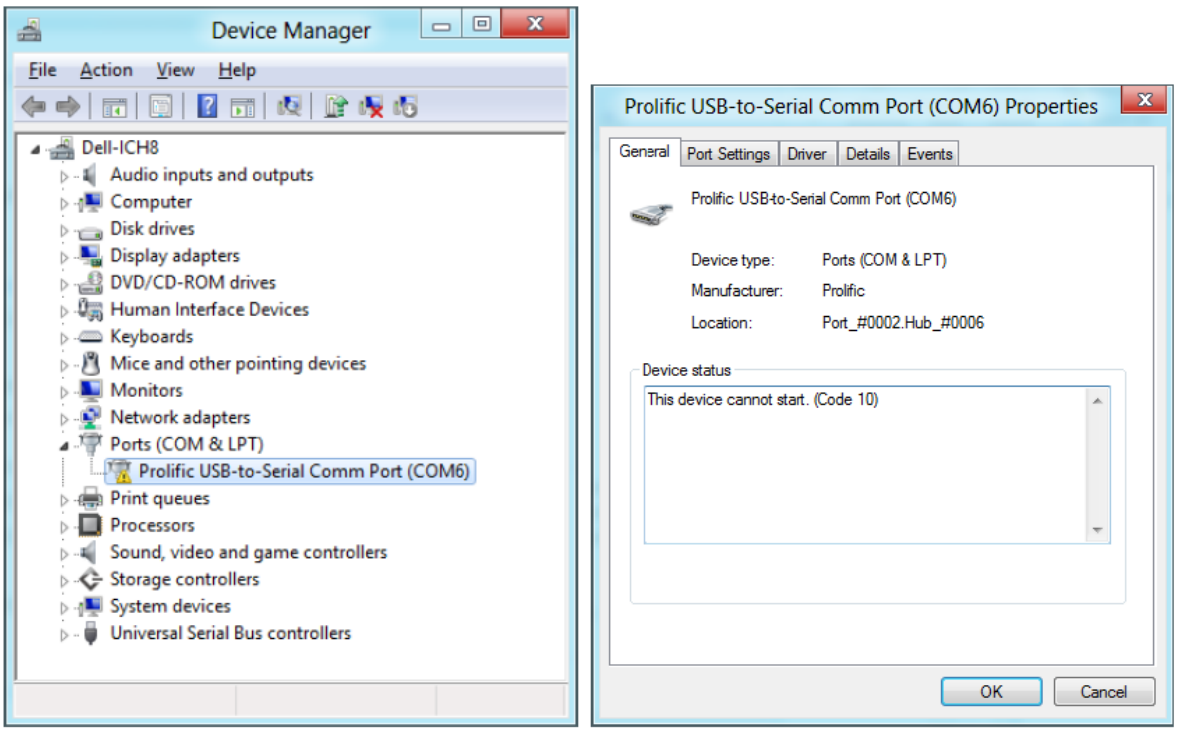
10. When installation is completed, select **Finish** to close the window.



5.9 Option Devices Driver Installation

5.9.1 WIDOM Driver

Important: Please be warned that counterfeit/fake PL-2303HX Rev A (or PL-2303HXA) USB-to-Serial Controller ICs using Prolific's trademark logo, brandname, and drivers, are being sold in the China market. Counterfeit IC products show exactly the same outside chip markings but generally are of poor quality
and causes Windows driver compatibility issues (Yellow Mark Error Code 10 in Device Manager under WinXP, Vista, and 7). This warning is issued to all customers and consumers to avoid confusion and false purchase. Please purchase only from stores or vendors providing technical and RMA support.



5.9.1.1 Windows 7 Driver Installation

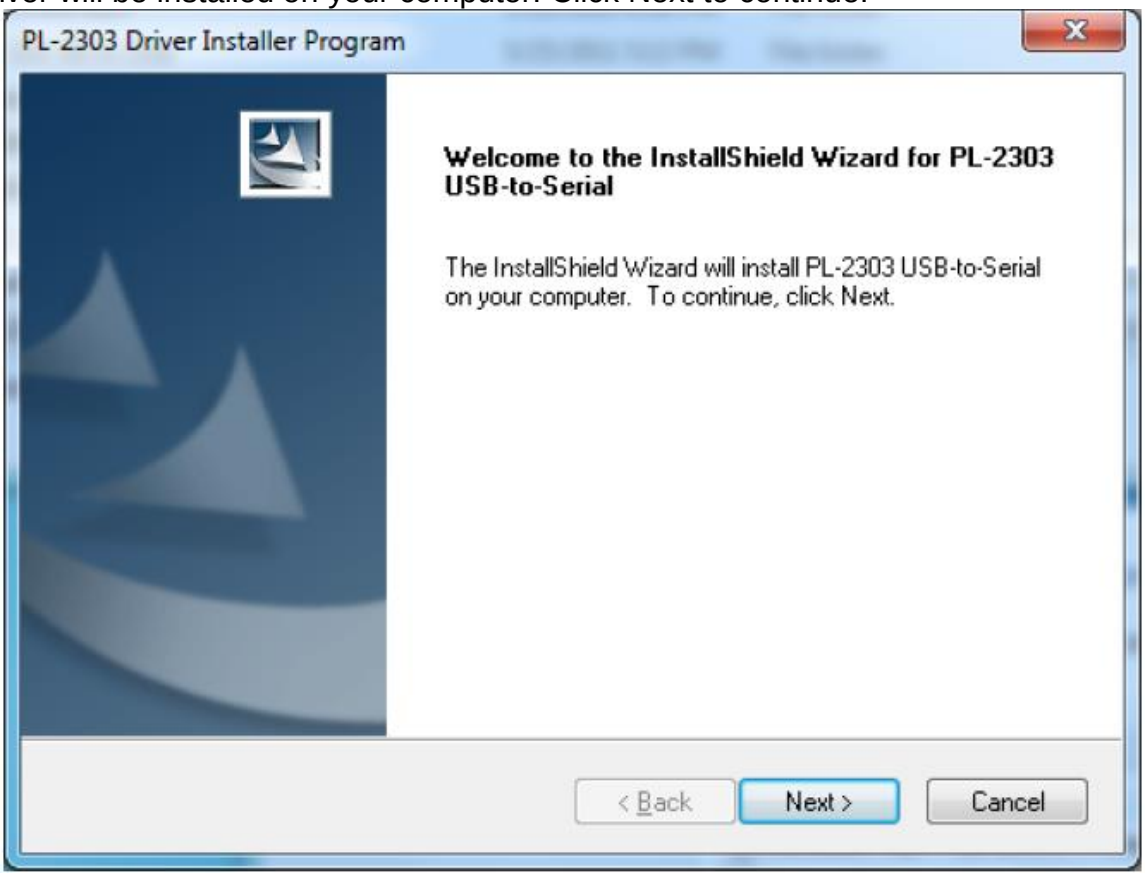
This section will guide you on how to install the PL-2303 Windows Driver. You can download the latest Driver Installer program from Prolific Support website:

http://www.prolific.com.tw/US/ShowProduct.aspx?p_id=225&pcid=41

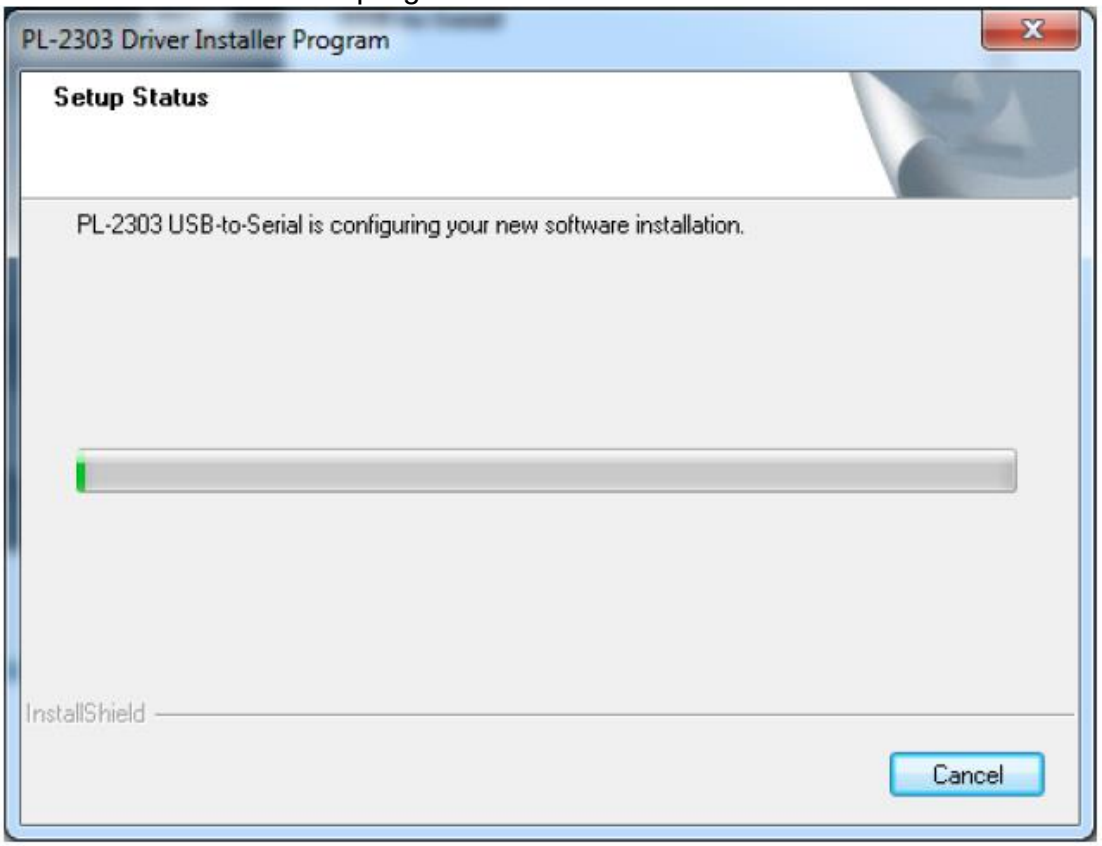
Note: Please take notice of the installation order. First, run the Driver Installer Program before plugging in the USB to Serial adapter. If you already plug the device during the driver installation, you need to re-plug the device for Windows to enumerate the device and load the drivers installed. If your device is embedded to the system, you might need to restart the system (or click rescan hardware changes in Device Manager) to reload and install the driver.

The following steps will show how to install the device under Windows 7 (64-bit) OS as this is the most inquired driver installation support received by Prolific. The procedures are the same and straight-forward for all other supported Windows operating system versions.

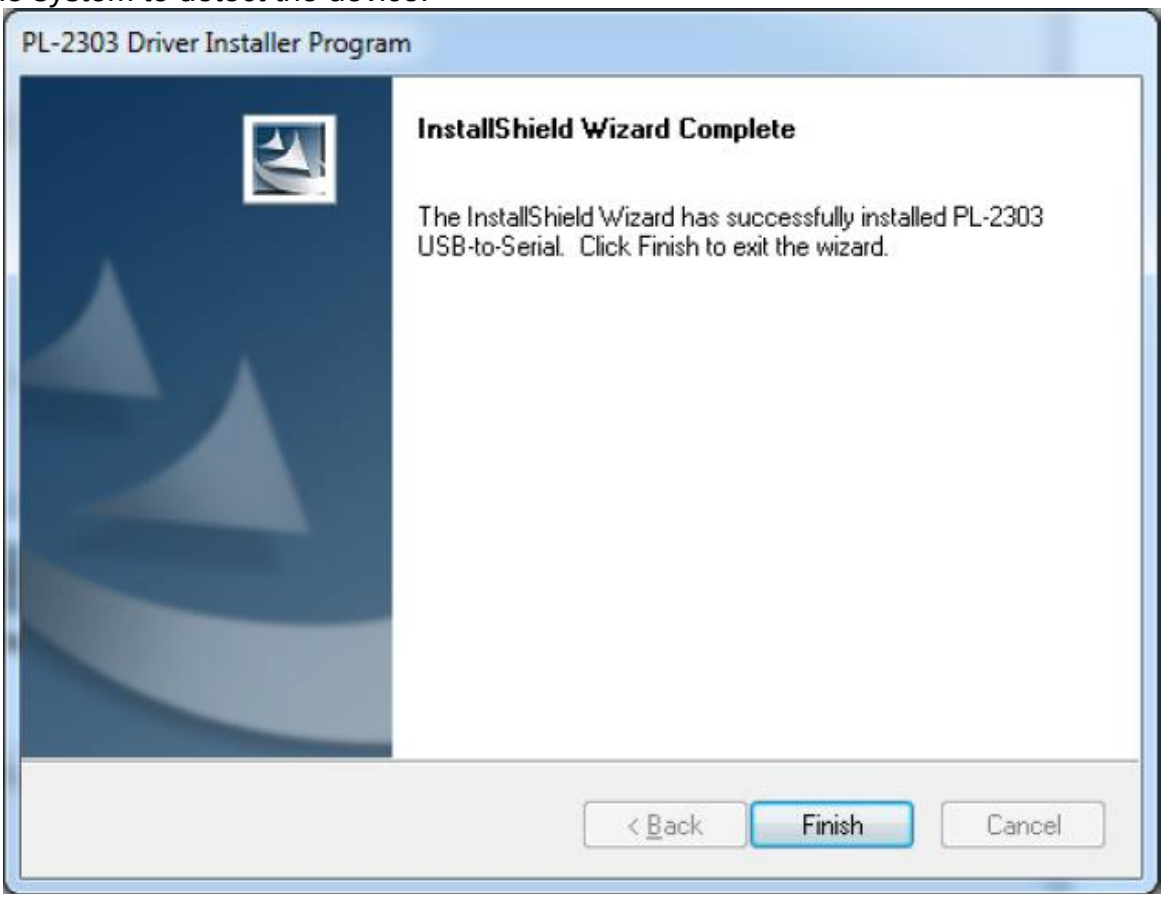
1. Power on your computer and boot to Windows. Run or double-click the PL-2303 Windows Driver Installer program.
2. The InstallShield Wizard will be displayed to inform you that the PL-2303 USB-to-Serial driver will be installed on your computer. Click Next to continue.



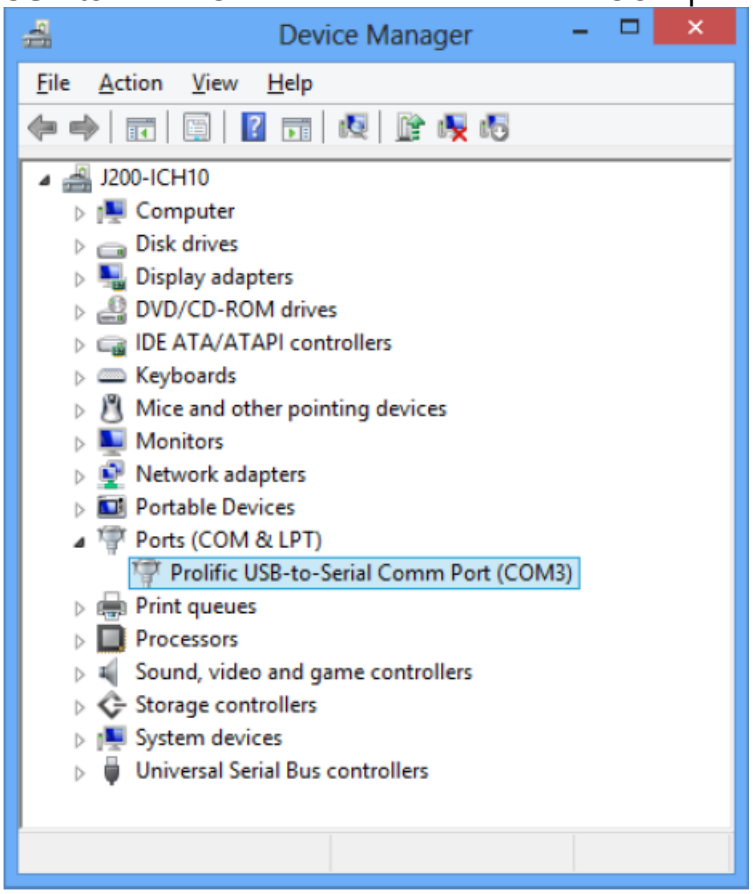
3. The PL-2303 Driver Installer program will then start to install the drivers needed.



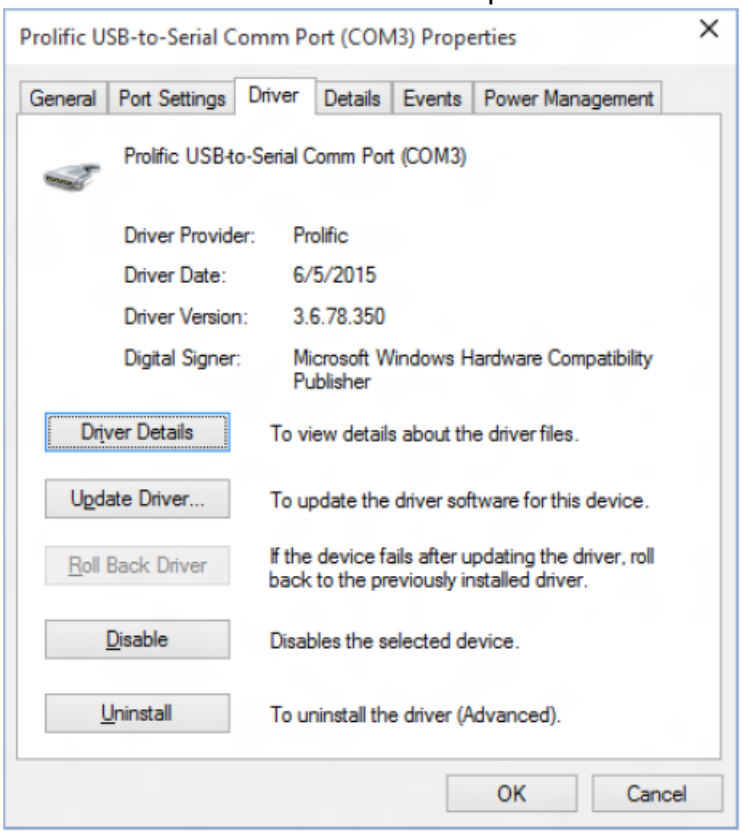
4. Click the Finish button to close the InstallShield program. If you have plugged the cable into the PC while running the setup installation, please unplug and replug the cable for the system to detect the device.



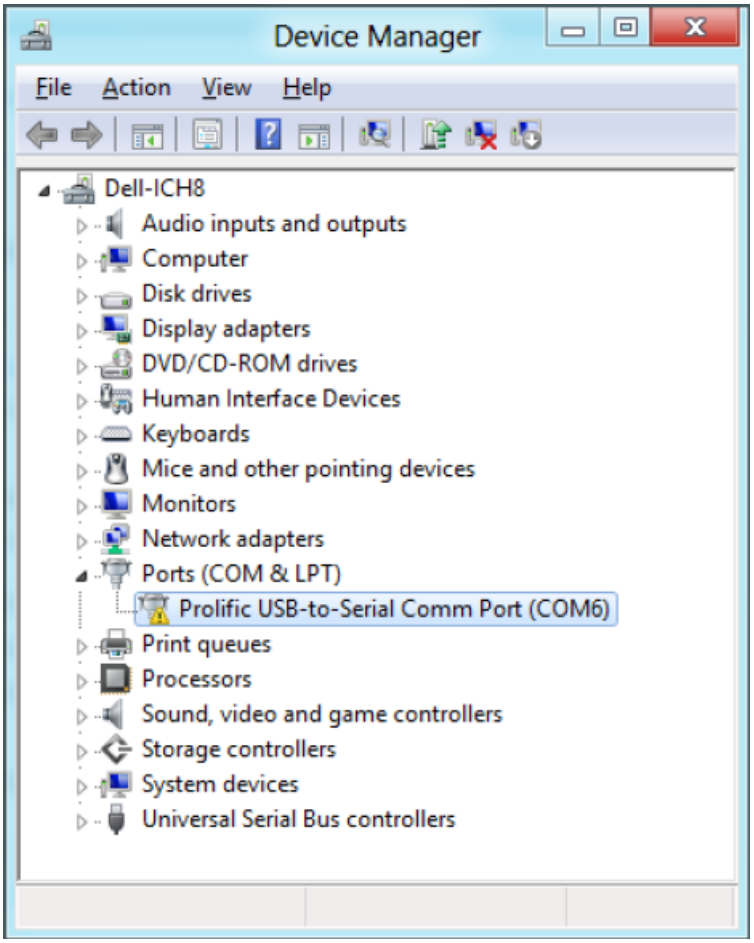
5. Plug in the USB to Serial adapter to the PC USB port. Windows should detect the driver as Prolific USB-to-Serial Comm Port. Go to Device Manager and check for the “Prolific USB-to-Serial Comm Port” device and the COM port number assigned by Windows.

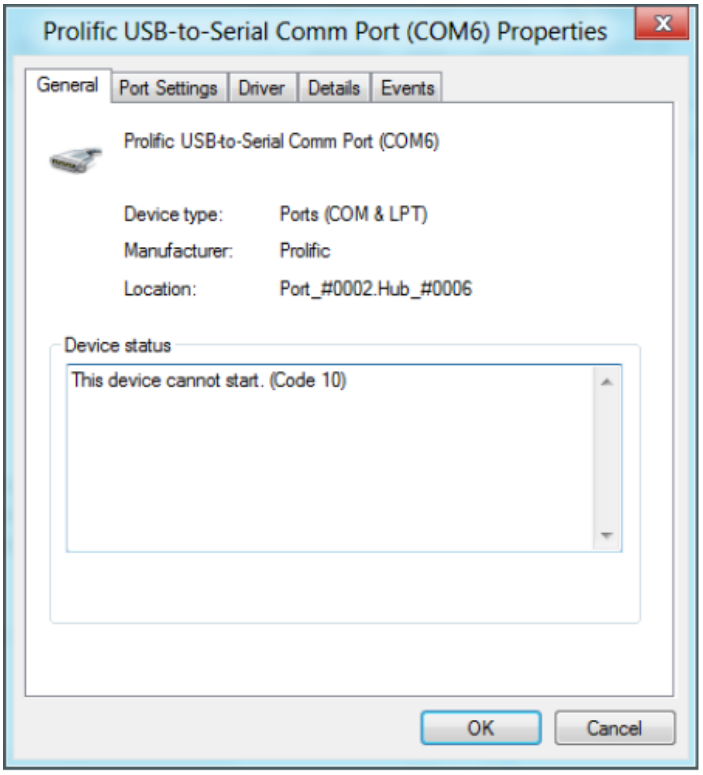


6. You can also check the driver version by right-clicking on the “Prolific USB-to-Serial Comm Port” device and select Properties and Driver tab.



Warning!!! If you are encountering yellow mark (Error Code 10) for device in Device Manager under Windows XP, Vista, or Windows 7, you need to contact the cable vendor or manufacturer for possible counterfeit chip. Prolific does not manufacture or sell any end-user market products and will not provide or be responsible for direct support to end-users.



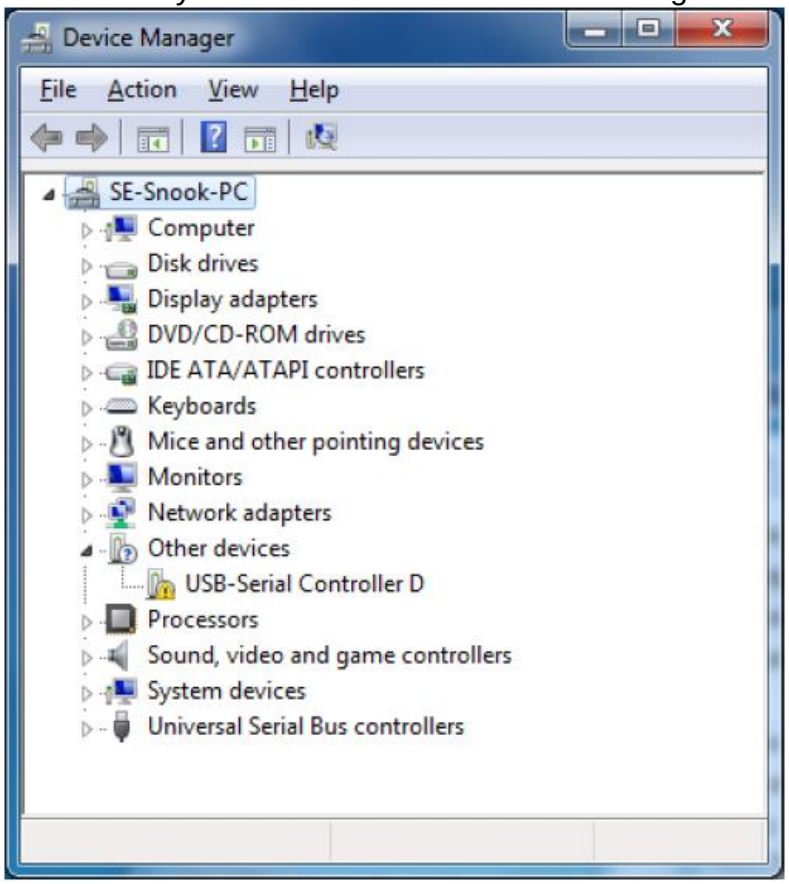


5.9.1.2 Windows Driver Installation (via Windows Update)

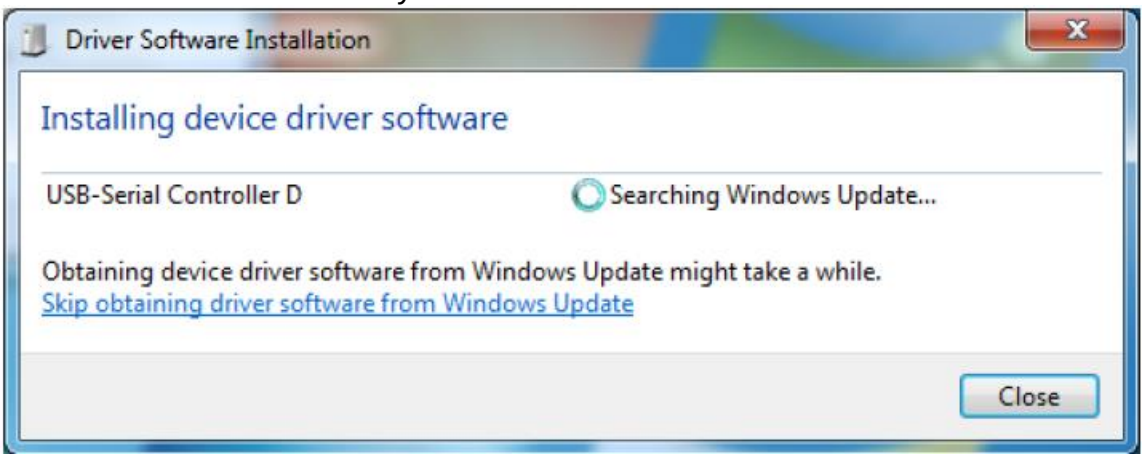
This section guides you on how to install the PL-2303 Windows Driver via Windows Update. You will need an Internet connection to automatically download and install the drivers via Windows Update:

Operating Systems	Windows 7 (32 & 64 bit)	Windows 8 / 8.1 (32 & 64 bit)	Windows 10 (32 & 64 bit)
Windows Update	V	V	V

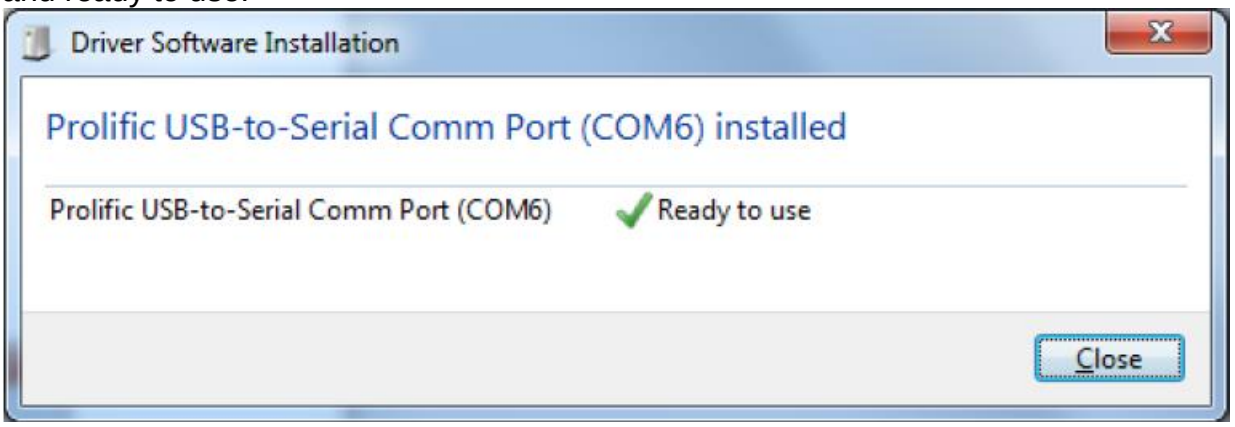
1. Check if your Internet connection is OK. Plug in PL-2303 USB to Serial cable.

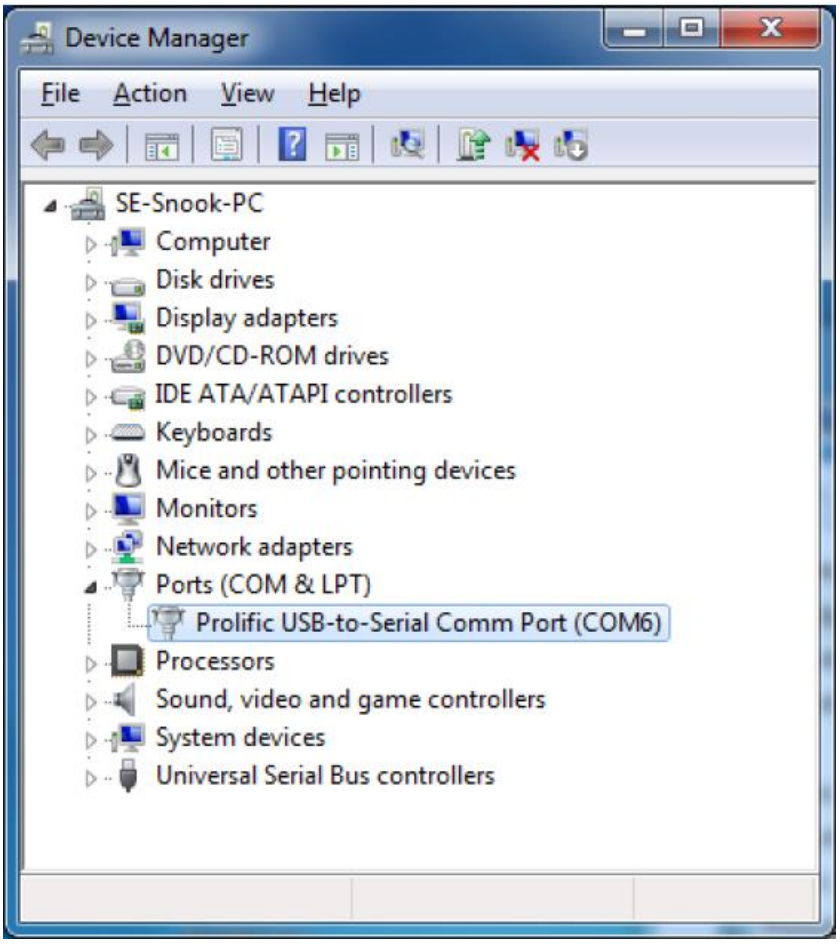


2. Windows will automatically check Windows Update if driver is available and will download and install the driver instantly

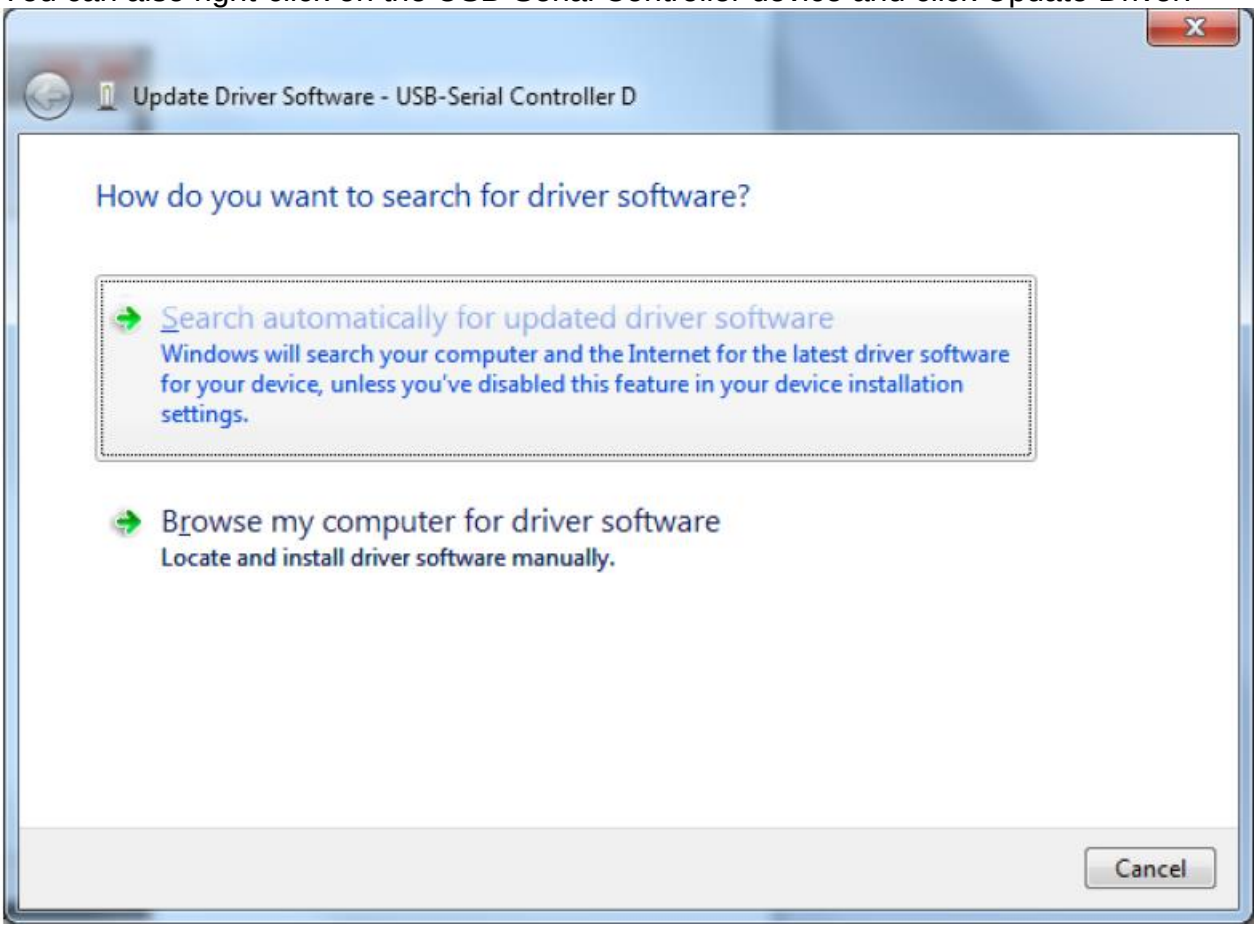


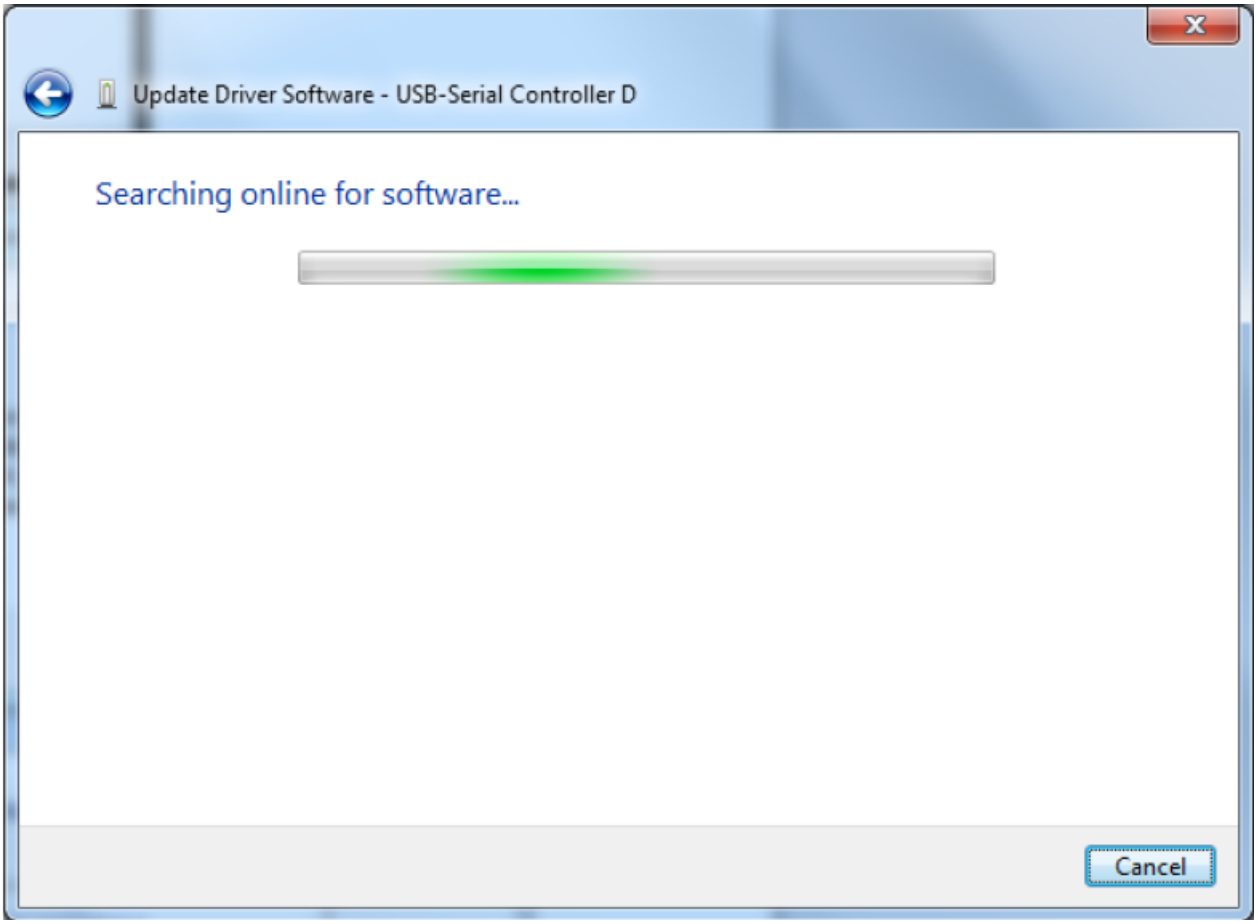
3. Windows will then prompt you that Prolific USB-to-Serial Comm Port (COMx) is installed and ready to use.

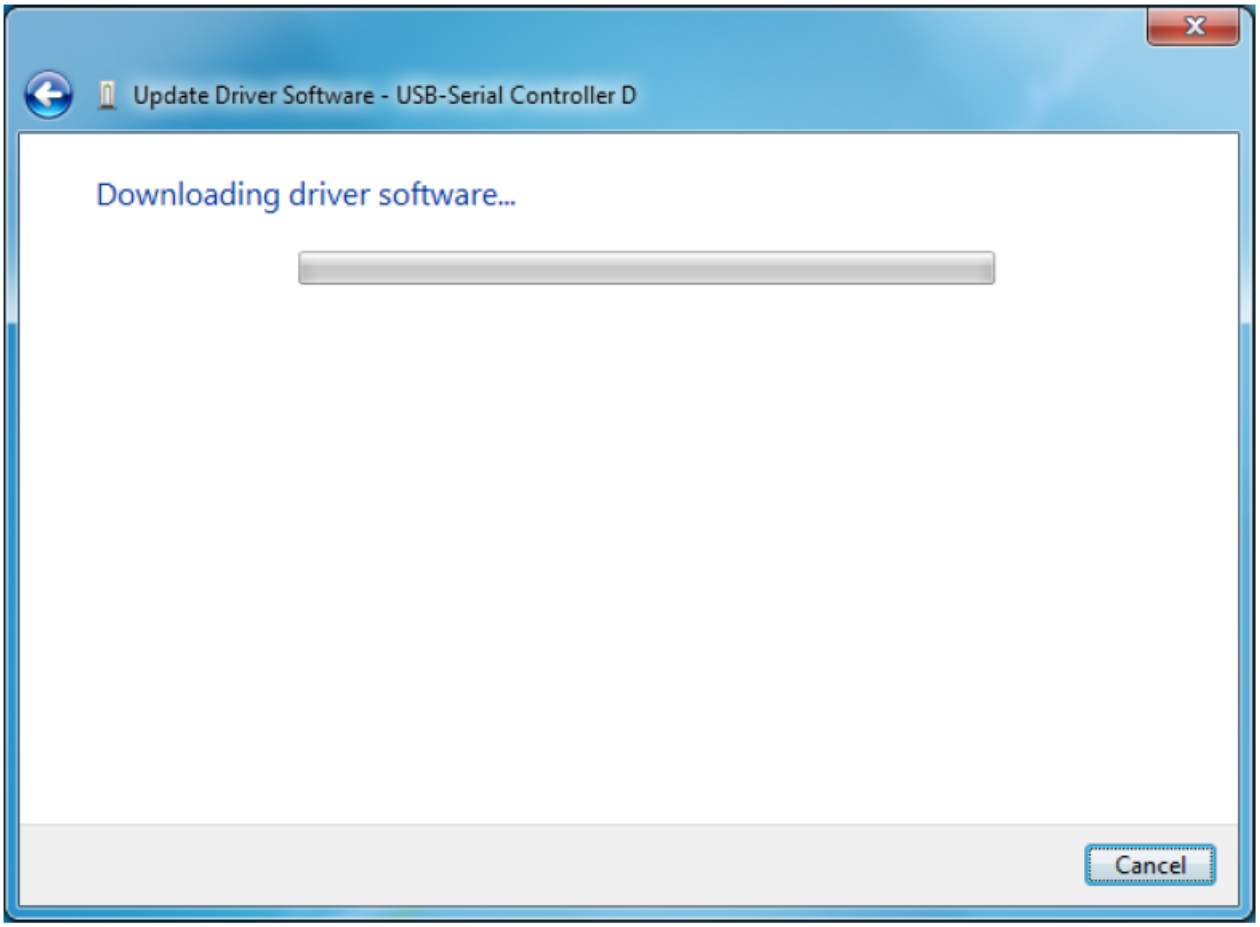




4. You can also right-click on the USB-Serial Controller device and click Update Driver.



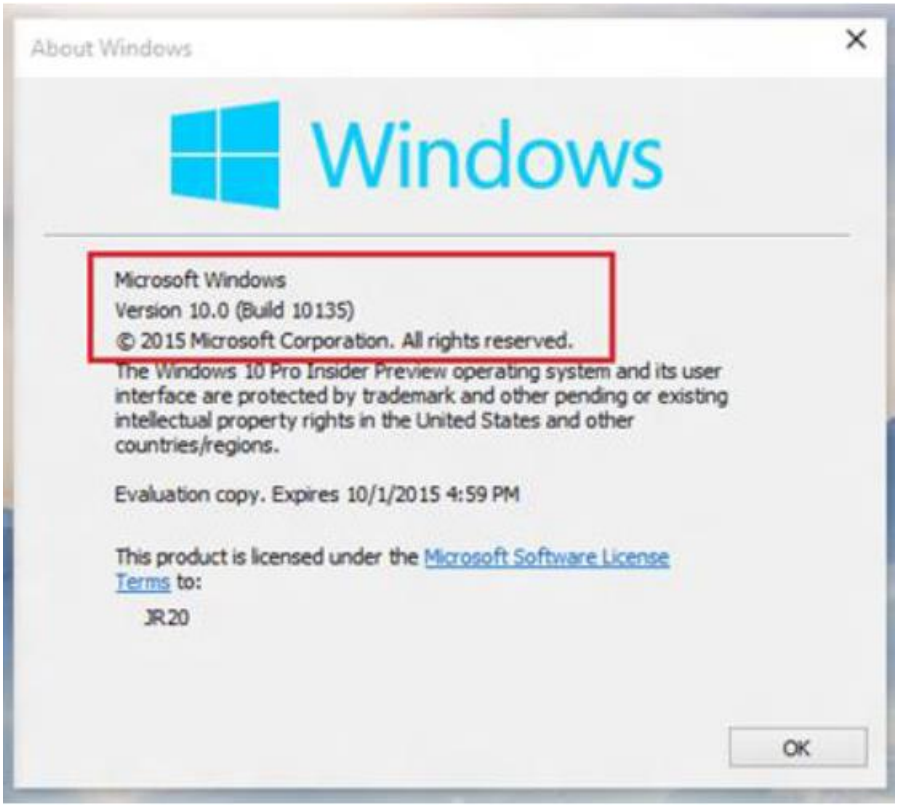



Update Driver Software - USB-Serial Controller D
Downloading driver software...
Cancel

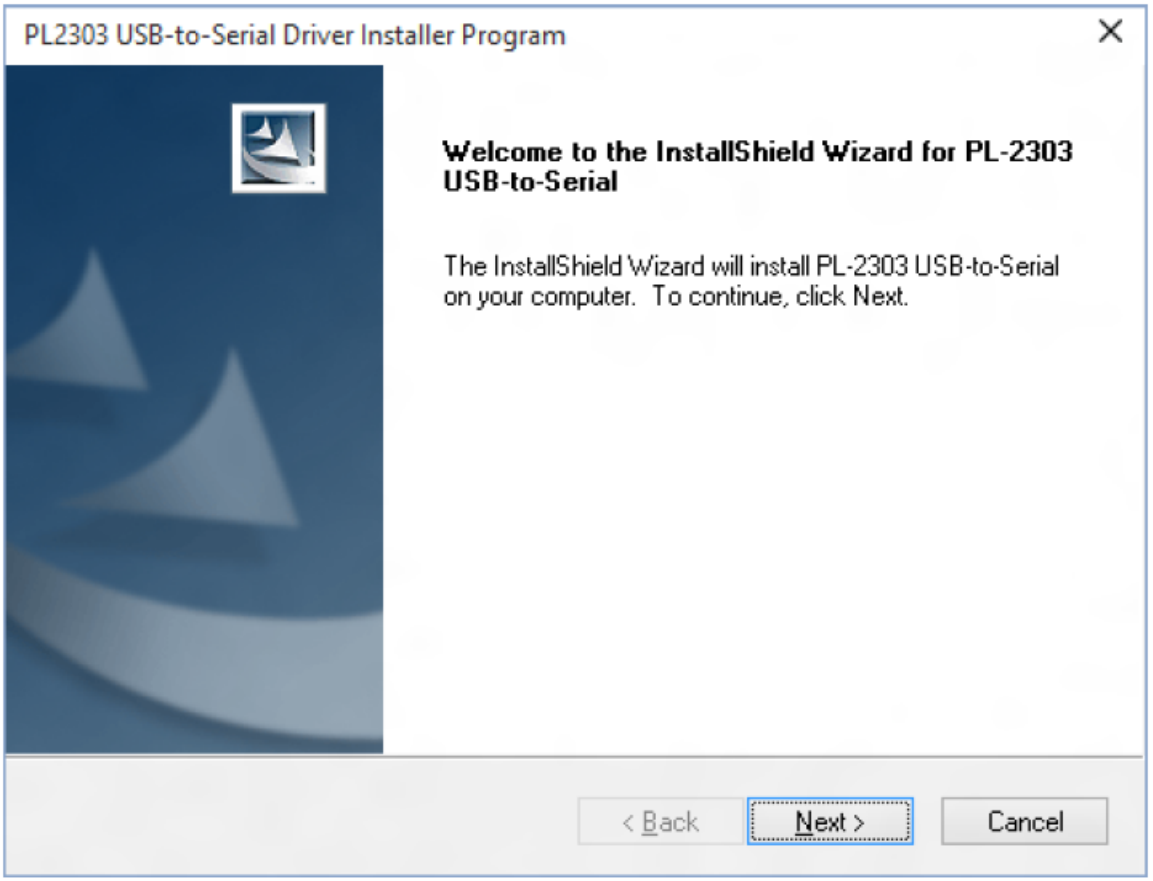

Update Driver Software - Prolific USB-to-Serial Comm Port (COM6)
Windows has successfully updated your driver software
Windows has finished installing the driver software for this device:
Prolific USB-to-Serial Comm Port
Close

5.9.1.3 Windows 8/8.1/10 Driver Installation

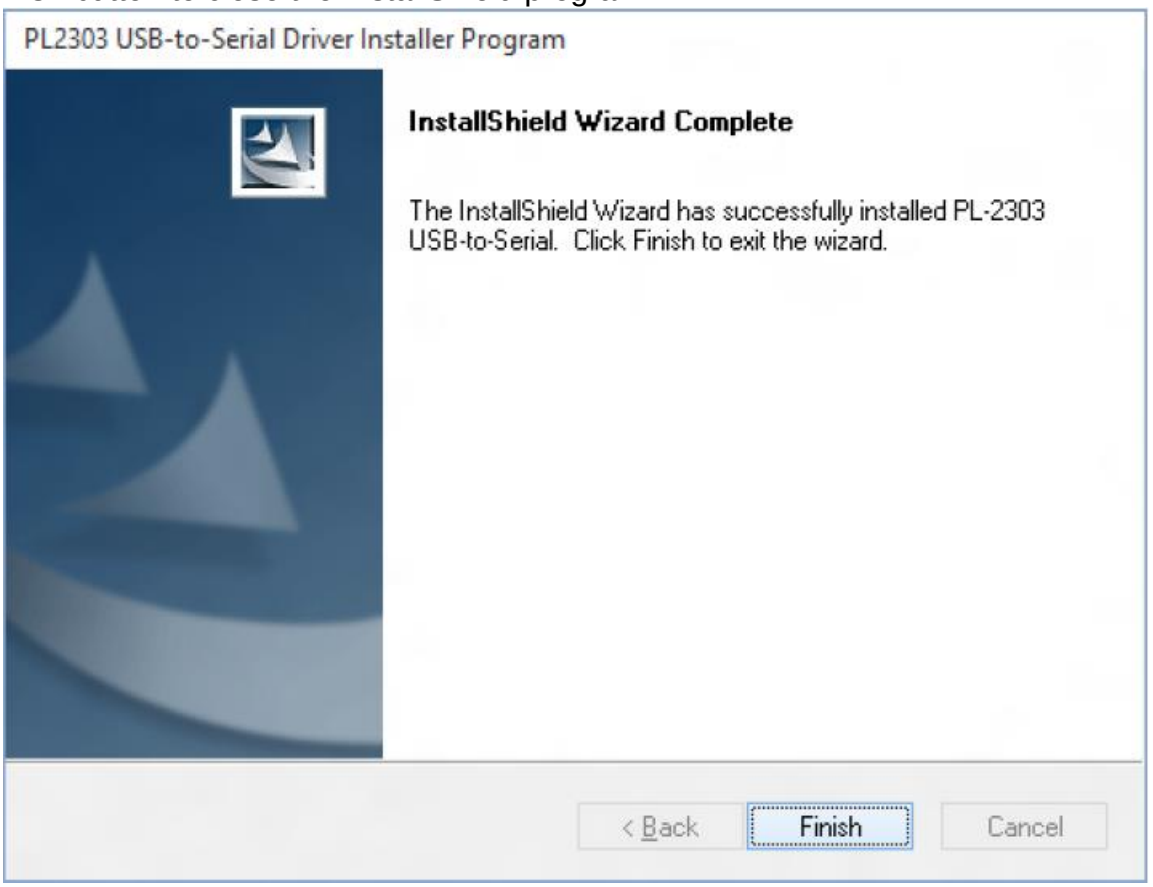
This section shows how to install the PL-2303 device in Windows 8 or 8.1 or 10 Operating System. You can download the latest Driver Installer program from Prolific Support website: http://www.prolific.com.tw/US/ShowProduct.aspx?p_id=225&pcid=41



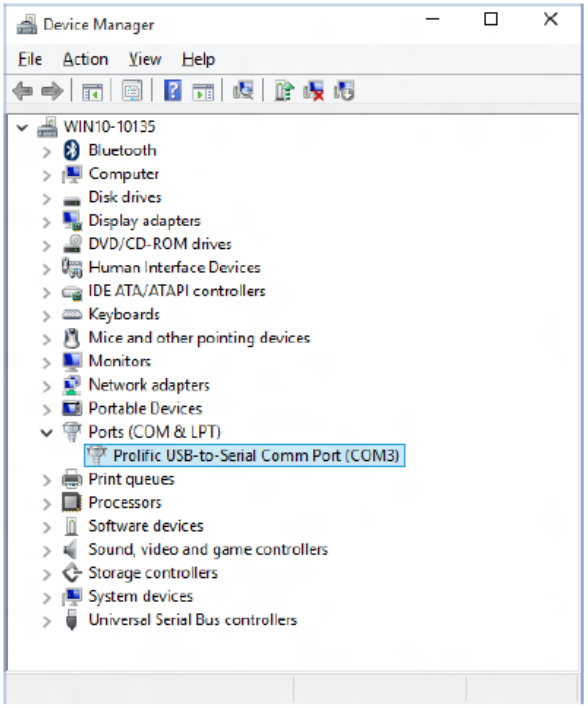
1. Power on your computer and boot to Windows. Run or double-click the PL-2303 Windows Driver Installer program. The InstallShield Wizard will be displayed to inform you that the PL-2303 USB-to-Serial driver will be installed on your computer. Click Next to continue.

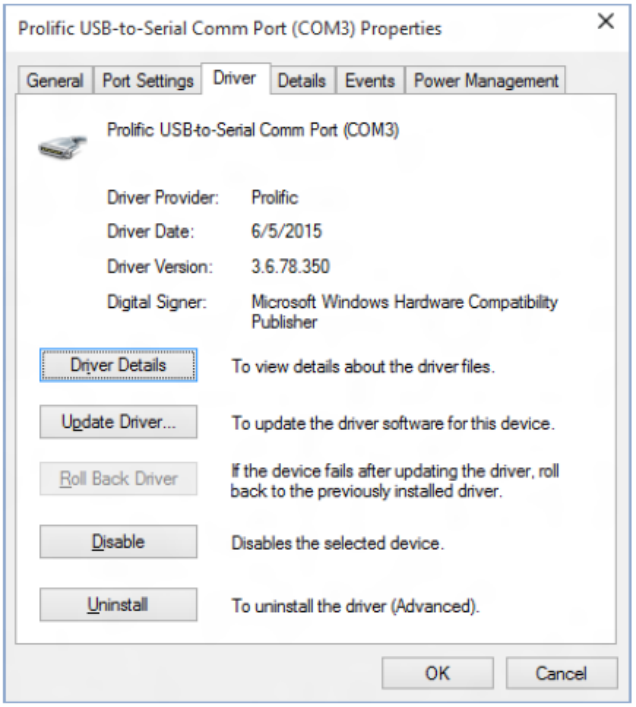


2. The PL-2303 Driver Installer program will then start to install the drivers needed. Click the Finish button to close the InstallShield program.

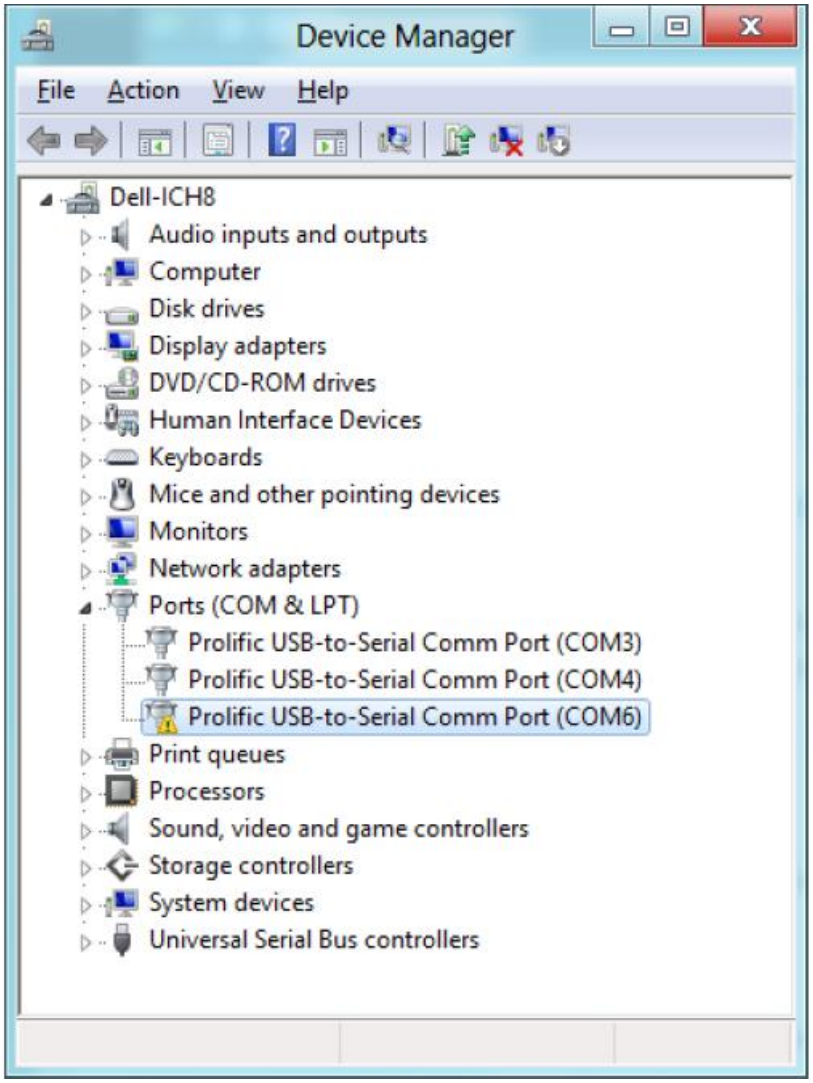


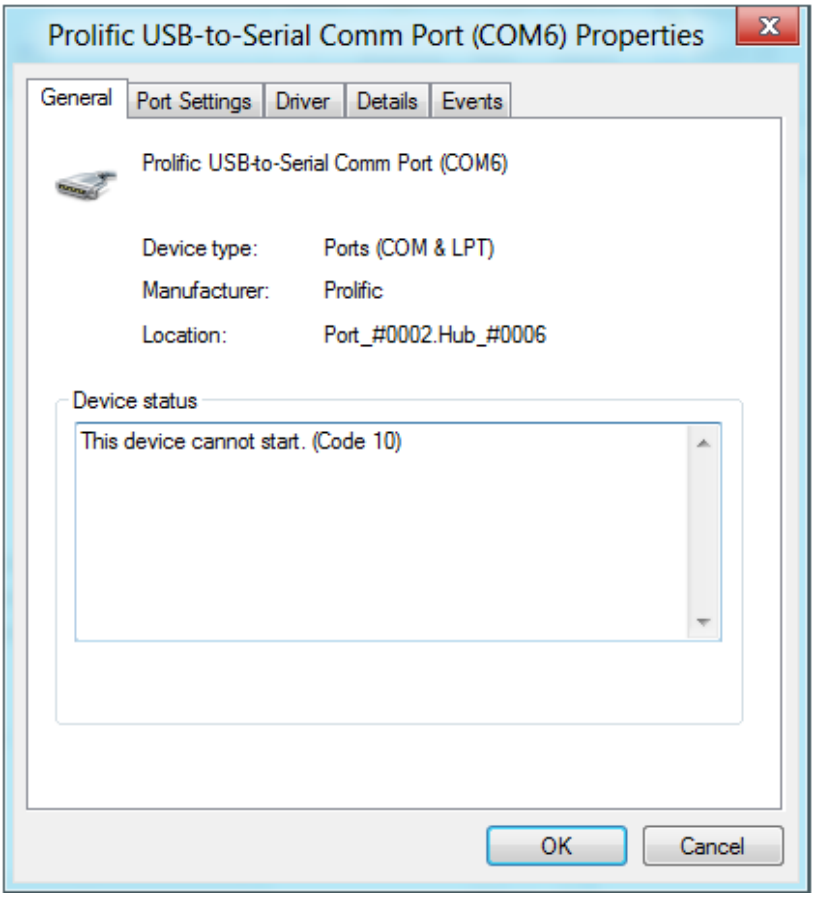
3. Plug in the USB to Serial adapter to the PC USB port. Windows should detect the driver as “Prolific USB-to-Serial Comm Port”. Go to Device Manager and check for the device and the COM port number assigned by Windows. You can also check the driver version by right-clicking on the “Prolific USB-to-Serial Comm Port” device and select Properties and Driver tab.





4. The COM Port number for the PL-2303 is assigned by the Windows Operating System. If you encounter a device that shows a yellow mark (Error Code 10), you need to check if that device is using an old version Prolific chip (PL-2303HXA or PL-2303XA) or a counterfeit chip. As mentioned in the previous sections, Prolific does not support old version chips in Windows 8.

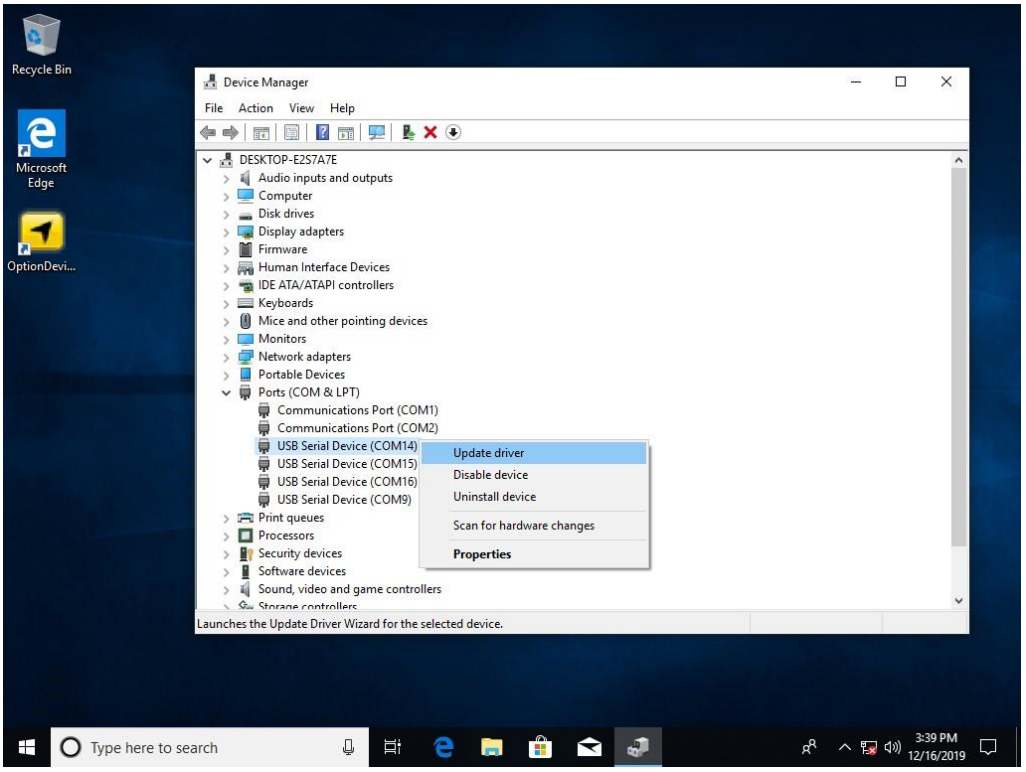

Device Manager
File Action View Help
Dell-ICH8
Audio inputs and outputs
Computer
Disk drives
Display adapters
DVD/CD-ROM drives
Human Interface Devices
Keyboards
Mice and other pointing devices
Monitors
Network adapters
Ports (COM & LPT)
Prolific USB-to-Serial Comm Port (COM3)
Prolific USB-to-Serial Comm Port (COM4)
Prolific USB-to-Serial Comm Port (COM6)
Print queues
Processors
Sound, video and game controllers
Storage controllers
System devices
Universal Serial Bus controllers


Prolific USB-to-Serial Comm Port (COM6) Properties
General
Port Settings
Driver
Details
Events
Prolific USB-to-Serial Comm Port (COM6)
Device type: Ports (COM & LPT)
Manufacturer: Prolific
Location: Port_#0002.Hub_#0006
Device status
This device cannot start. (Code 10)
OK
Cancel

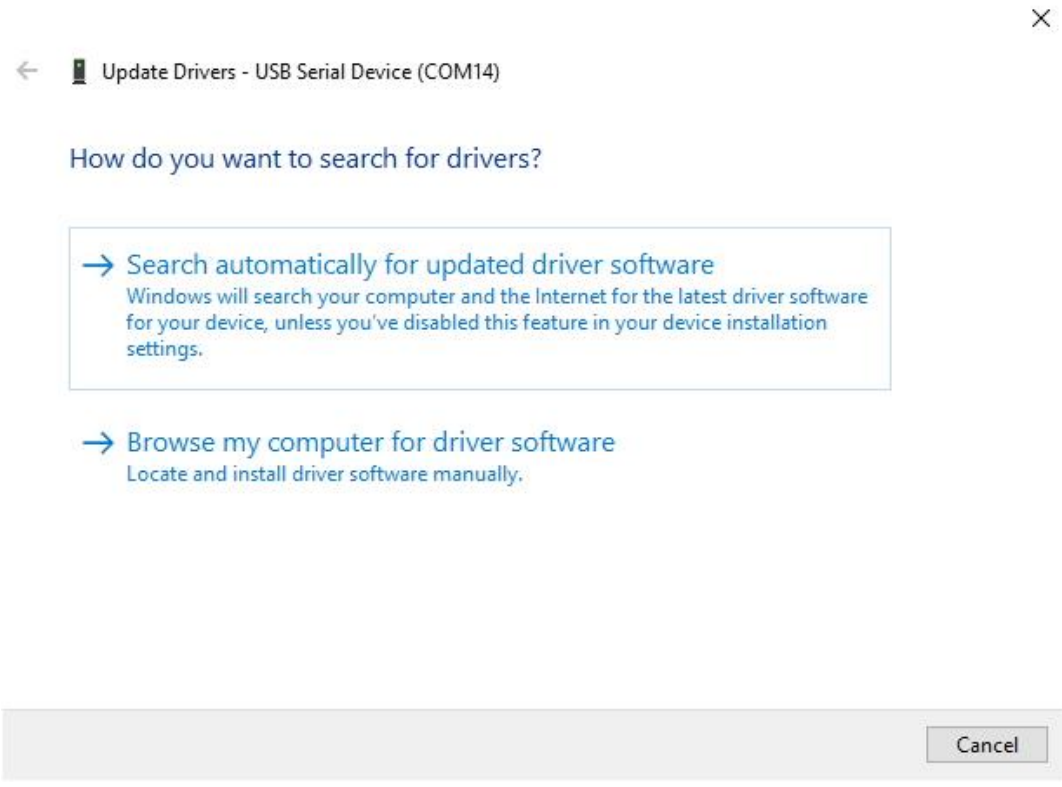
5.9.2 U2RS4 Driver

Follow instructions below to install U2RS4.

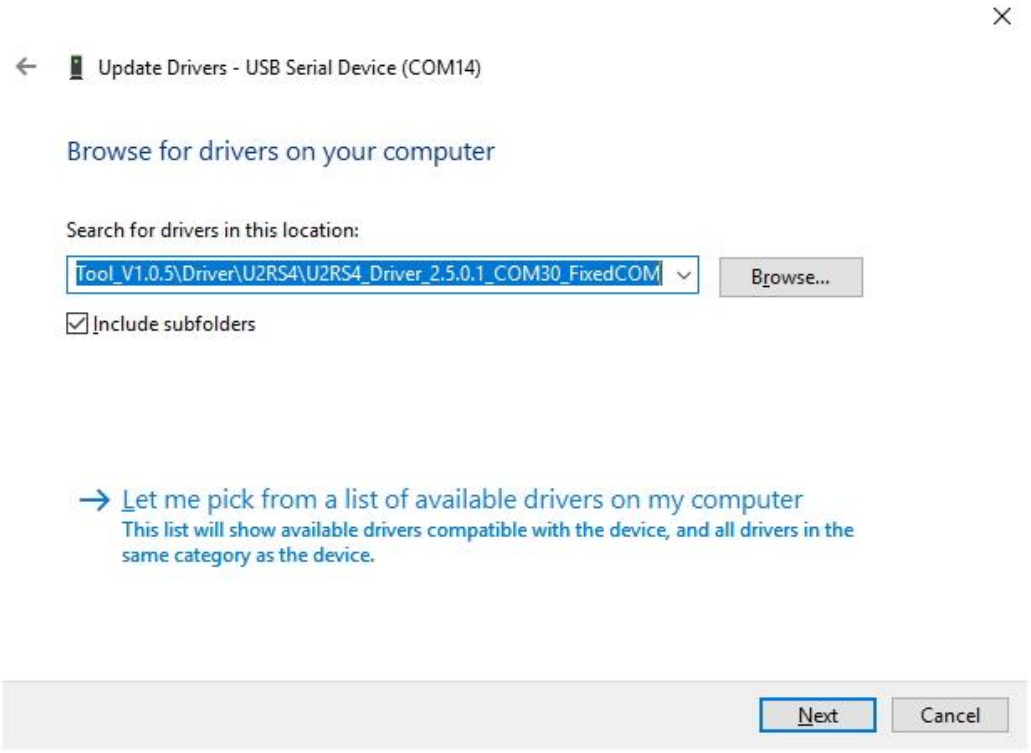
1. Open the Driver CD (included in the package) and select USB Serial Device (COM14) driver.



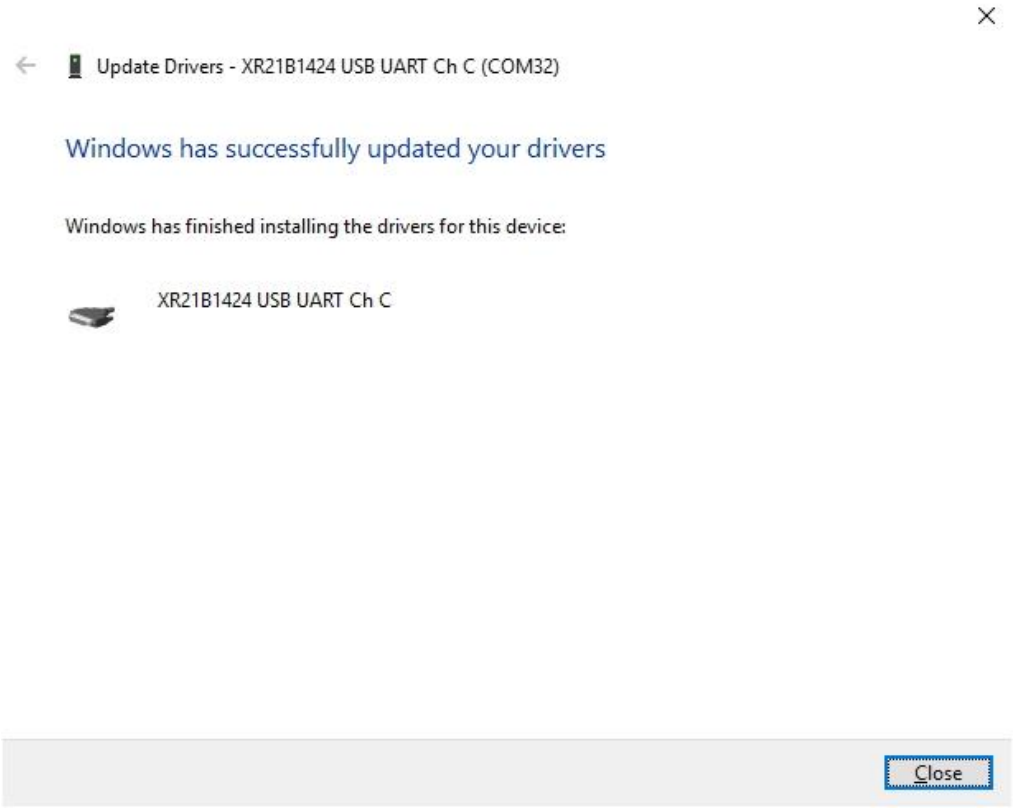
2. Select “Search automatically for updated driver software.”



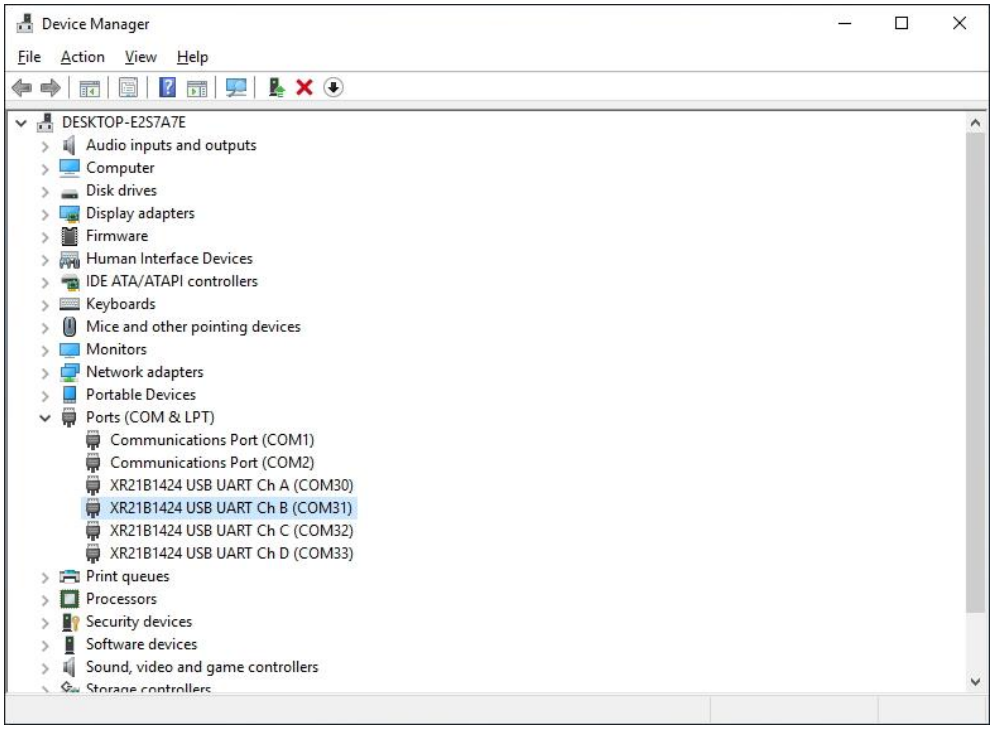
3. Press **Next** to continue.



4. Installation complete. Press **Close** to exit installation program.



5. Open Device Manager and check the tool being added.

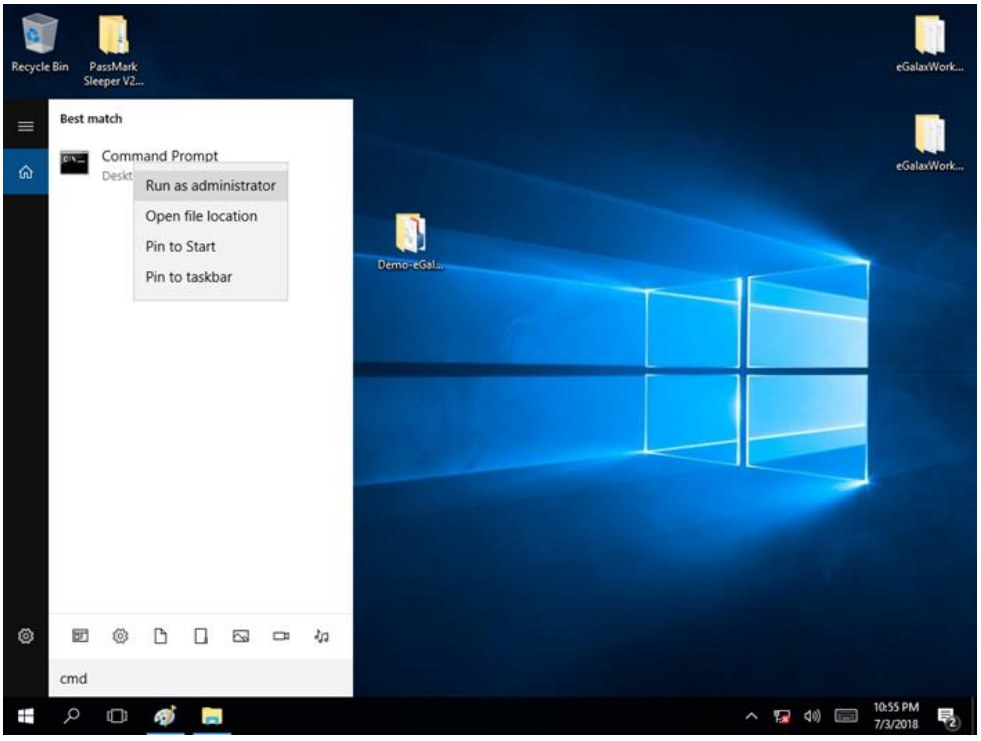


5.9.3 DIDO Driver

For more details about Winmate Watchdog, please download Digital IO Guide from Winmate Downloads Center:

Follow instructions below to install **Digital IO** driver.

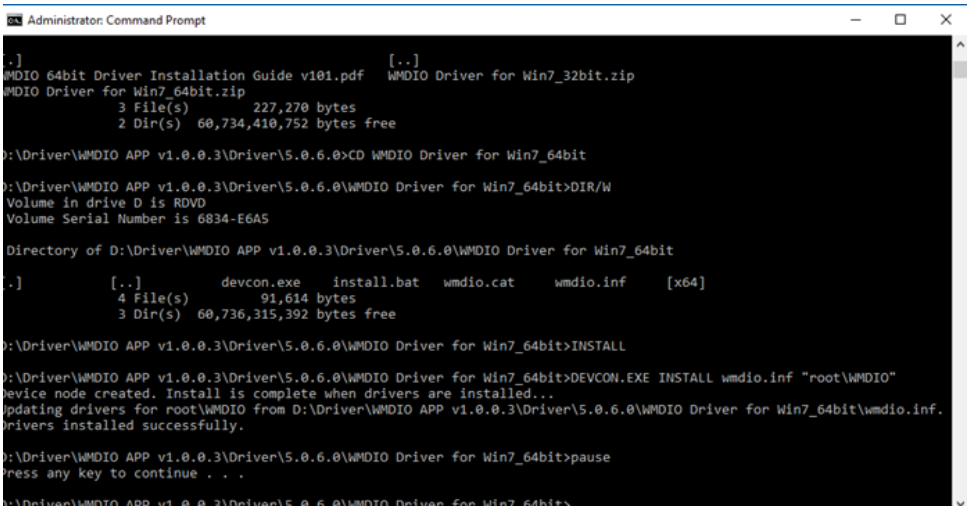
1. Type “cmd” in the run box then the cmd.exe will appear in programs.
2. Right click on the cmd.exe and click on “Run as administrator” to start.



3. Open the Driver CD (included in the package) and select Digital IO driver.
4. When Windows Security dialog appear, select **install** to continue the

Installation.

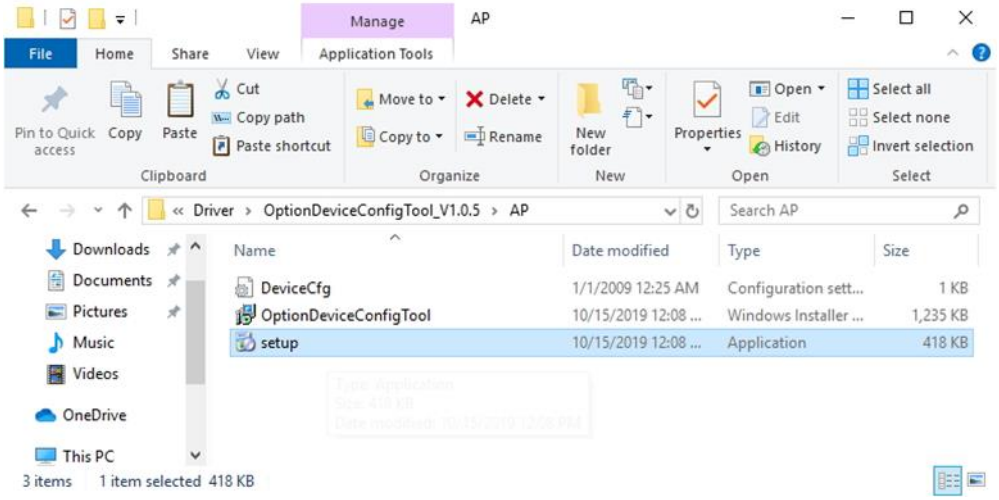
5. Wait for installation to complete. When installation is complete, press any key to close.



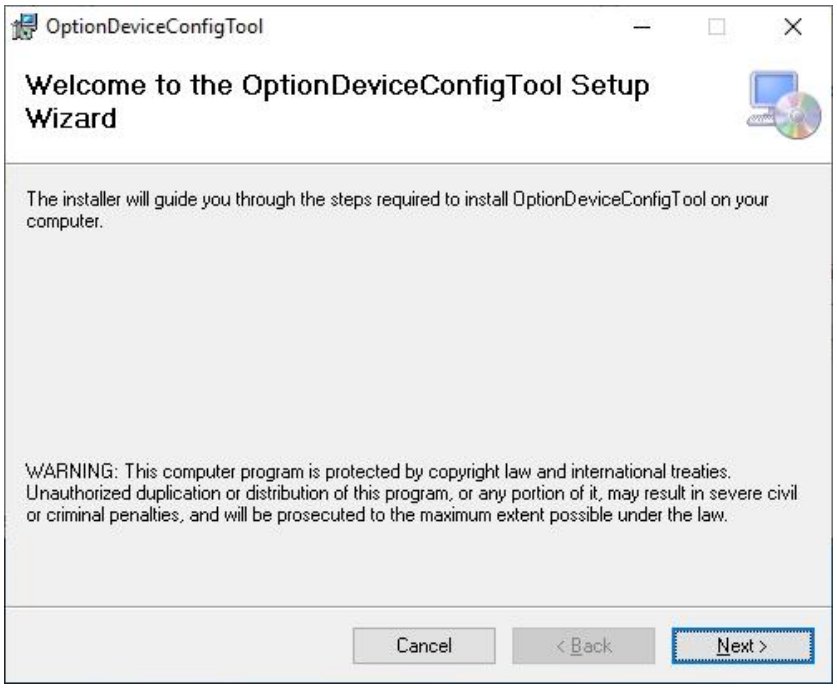
5.10 Option Device Configuration Tool Installation

Follow instructions below to install Option Device Configuration Tool:

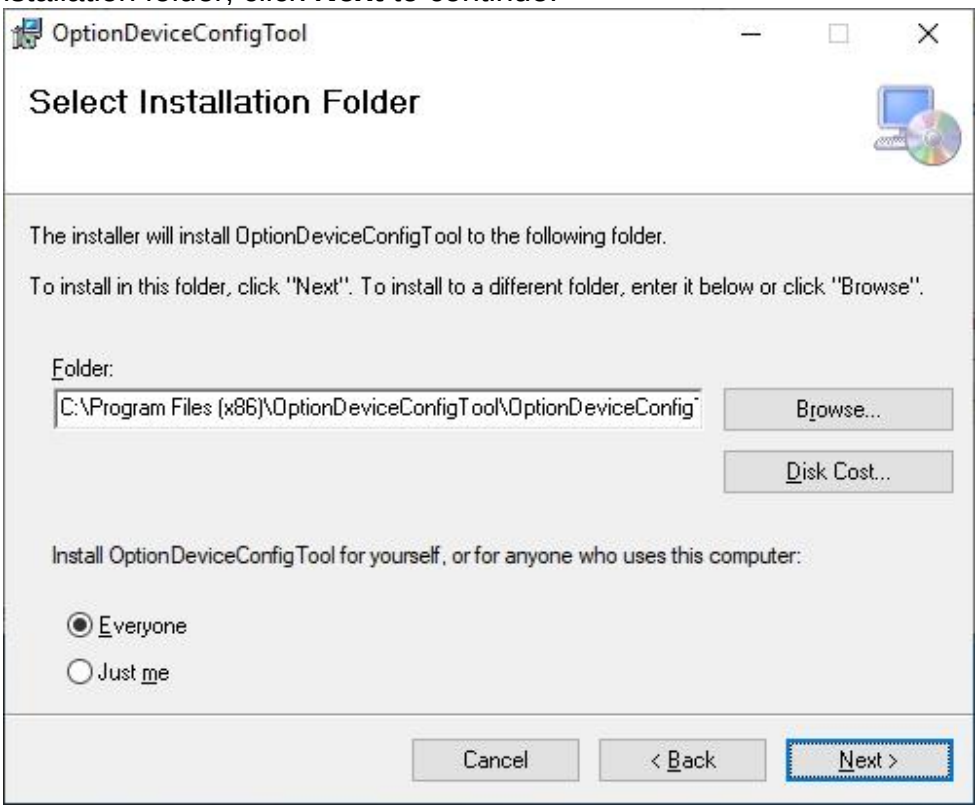
1. Open the Driver CD (included in the package) and select O**penDeviceConfigTool**.



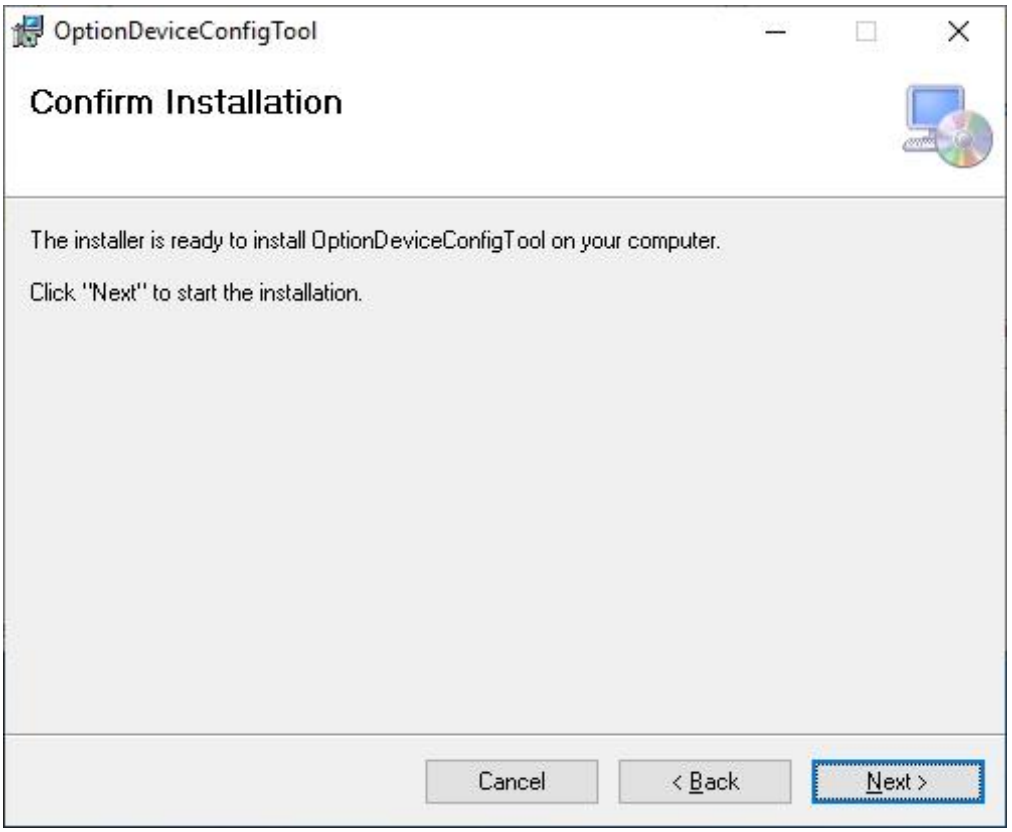
2. Click **Next**.



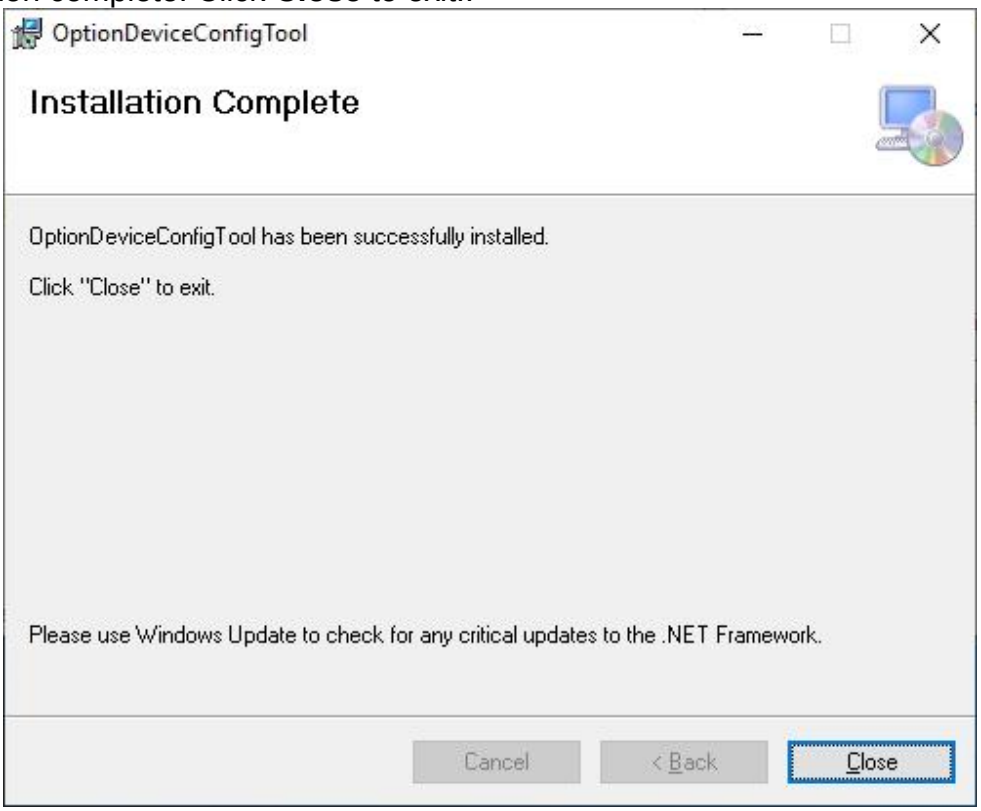
3. Select installation folder, click **Next** to continue.



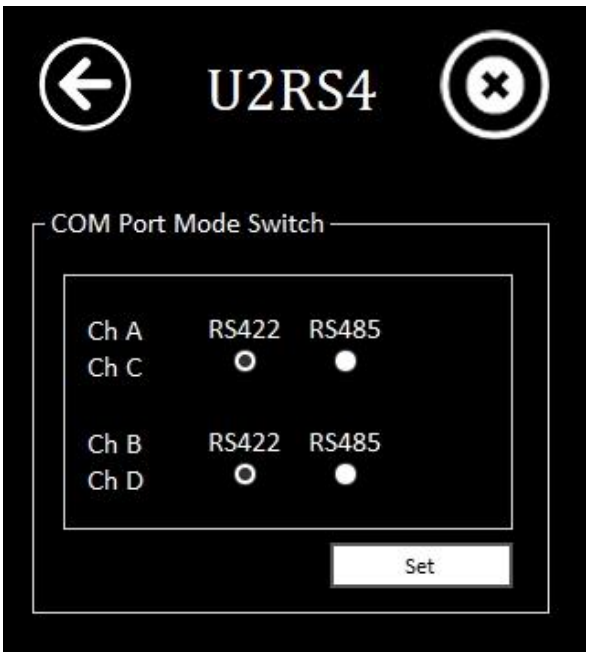
4. Click **Next** to start the installation.



5. Installation complete. Click **Close** to exit..



6. Open Option Device Config Tool. You will see DI4DO4 and U2RS4 options available.

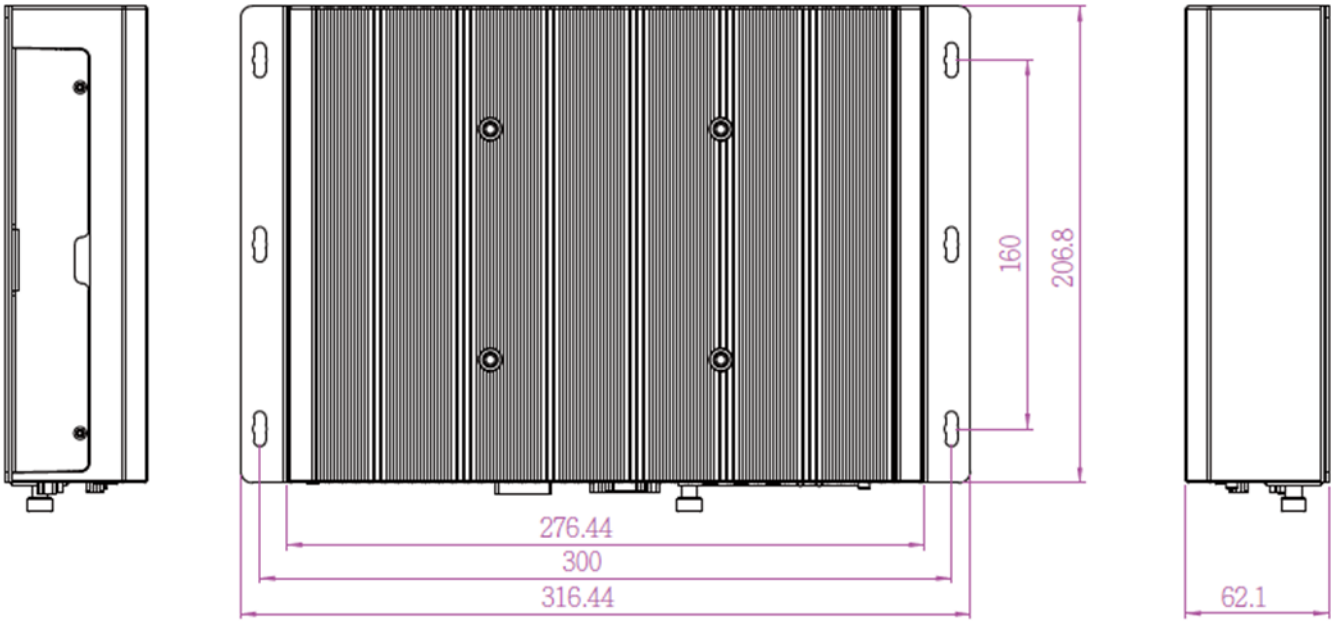


Appendix

Appendix A: Hardware Specifications

Model Name		
I330EAC-IKW		
System Specifications	CPU	Intel® Core i5-7200U, 2.5 GHz (Turbo to 3.1 GHz) Intel® Core i5-6200U, 2.3 GHz (Turbo to 2.8 GHz) (Optional)
	BIOS	Insyde BIOS
	System Chipset	Intel® SoC Integrated
	System Memory	DDR4-2133 SO-DIMM (Max 16 GB)
	Ethernet Controller	1000 Base-Tx Gigabit Ethernet Compatible
	Storage	1 x mSATA SSD 64 GB (Default)
	Second Storage	2.5” Removable SSD/HDD (Optional)
Front External I/O	DC	1 x DC Input (Terminal Block 3pin)
	LAN	2 x LAN
	USB	4 x USB3.0
	HDMI	1 x HDMI Output
	VGA	1 x D-Sub15 (VGA) Output
	DVI	1 x DVI Output
	COM	1 x RS-232/422/485 port (Selectable by BIOS)
	Audio	1 x Audio in, 1 x Audio out
	Power Button	1 x Power Button
	Reset	1 x Reset Button
Rear External I/O	DIDO	8 x Isolated DIDO, 4 In/ 4out (Optional) (Programmable by S/W AP Jumper)
	NMEA Port	8 x NMEA 0183 (Optional) (RS422/485 programmable by S/W AP)
Power Management	Power Input	9~36V DC Input with 1.5KV isolation (only 24V DC Acceptable by IEC60945)
	Power Consumption	Typical 40W power consumption
Mechanical Specifications	Construction	Aluminum housing
	Color	Black
	Mounting	VESA, wall-mount, desktop
	Dimensions	316.44 x 206.8 x 62.1 mm
Environment	Operating Temp.	-15 to +55 deg. C
	Operating Humidity	5% to 95% (non-condensing)
	Storage Temp.	-20 to +60 deg. C
	Vibration	5Hz~500Hz / 1Grms/3 Axis
	Shock	15G, 11ms duration
Standards & Certificates	Safety	IEC 60945 4th Edition (Test Report Available), CE / FCC

Appendix B: System Dimensions



Appendix C: Software Developer Support

You can download drivers and Software Development Kit (SDK) and Drivers from Winmate Download Center.

Winmate Download Center

http://www.winmate.com />Support > Download Center > Embedded Computing > I330EAC-IKW

Or follow the link below:
http://www.winmate.com/DownCenter/DownLoadCenter.asp?DownType=29

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