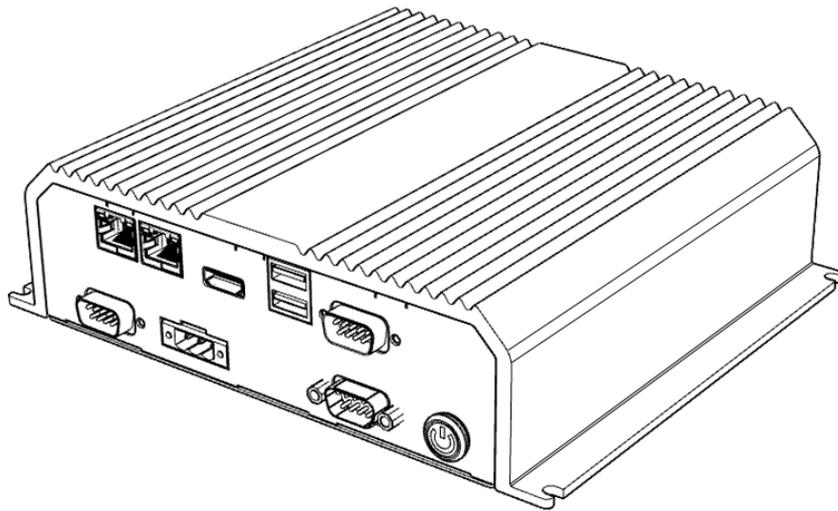


Embedded Computer

Intel® Pentium® N6415 (1.5M Cache, up to 3.0GHz)



I330EAC-IE3

User Manual

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Preface

Copyright Notice

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Trademark Acknowledgement

Brand and product names are trademarks or registered trademarks of their respective owners.

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 1W22Axxxxxxx means October of year 2022.

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 potentiel 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 connexions 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 vérifier 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 his 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 IE3 Embedded Computer. EAC IE3 Intel® Pentium® N6415 offers suitable for Factory Automation, Machine Vision, Surveillance, and Machine Automation.

1.1 Features

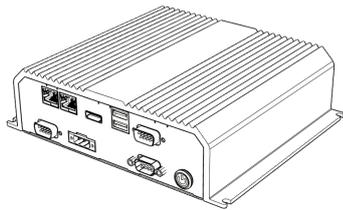
Winmate® I330EAC-IE3 Embedded Computer offers the following features:

- Intel® Pentium® N6415
- RAM 4G DDR4L (Up to 32G)
- SSD 256GB (Up to 512TB)
- Isolation Power Protection

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:



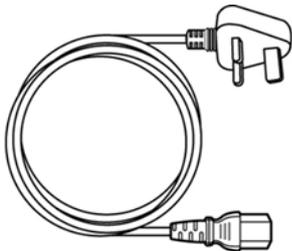
- **I330EAC-IE3 Embedded Computer**



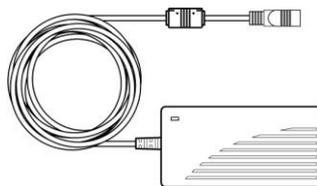
- **Quick Start Guide (Hardcopy)**



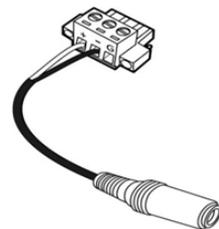
- **Driver CD & User Manual**



- **Power Cord**



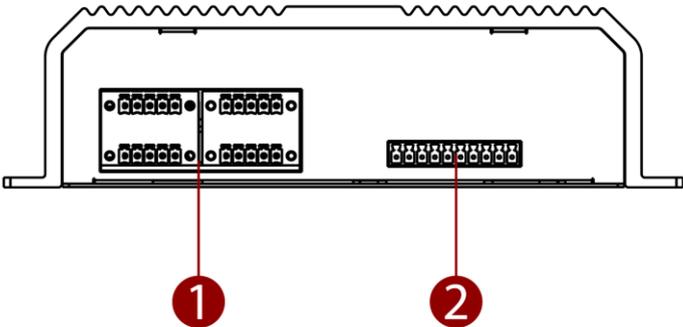
- **AC Adapter
12V/ 84W**



- **3-pin Terminal Block
(Phoenix type)**

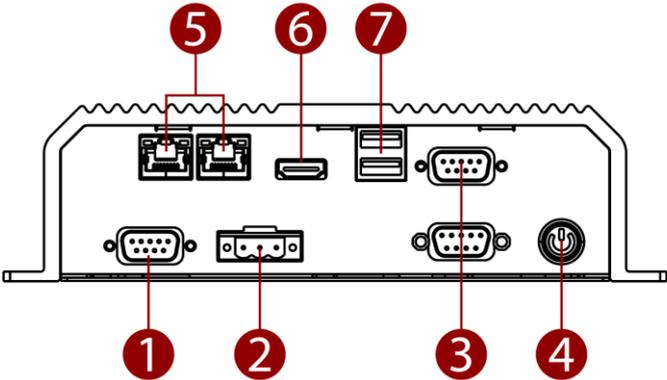
1.3 Product Overview

Front Side I/O Connectors



No	Description	No	Description
1	NMEA Port 0183	2	Digital IO

Rear Side I/O Connectors



No	Description	No	Description
1	COM	2	Power Input
3	COM	4	Power Switch
5	LAN	6	HDMI
7	USB Type-A		

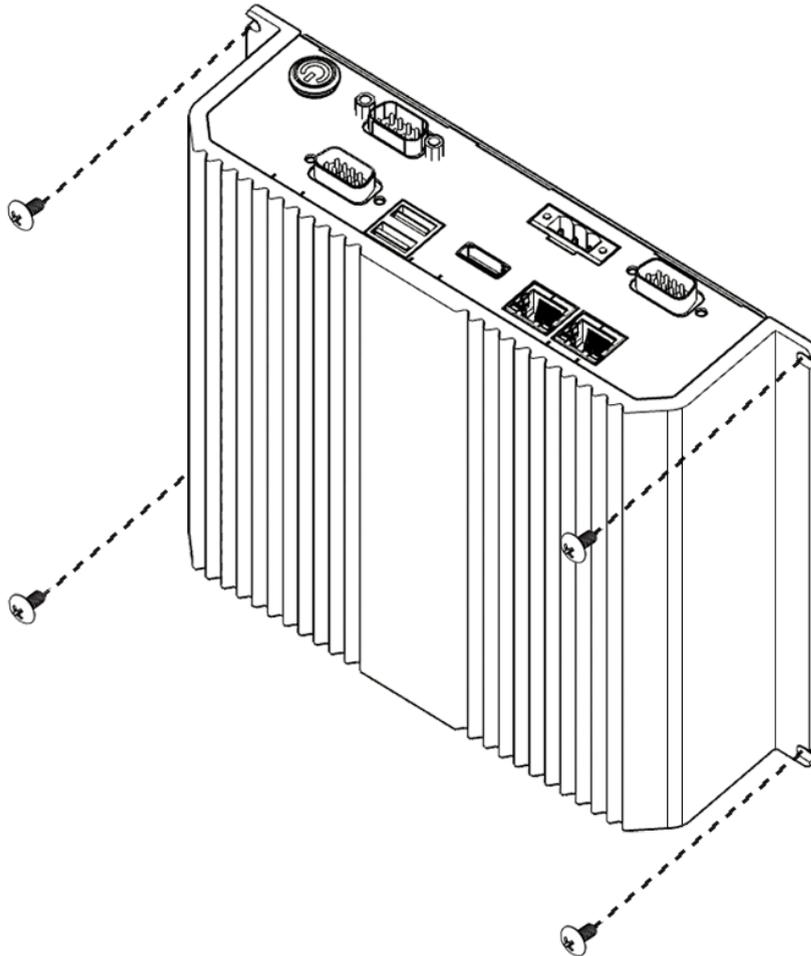
Chapter 2: Hardware Installation

2.1 Mounting

I330EAC-IE3 Embedded Computer supports table mounting.

Mounting Instruction:

1. Fasten screws to secure L-shape mounting brackets to the I330EAC-IE3.
2. Insert the I330EAC-IE3 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- IE3 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-IE3 either to AC power or DC power. Do not perform both connections at the same time.



Avertissement! Connectez l'I330EAC-IE3 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.

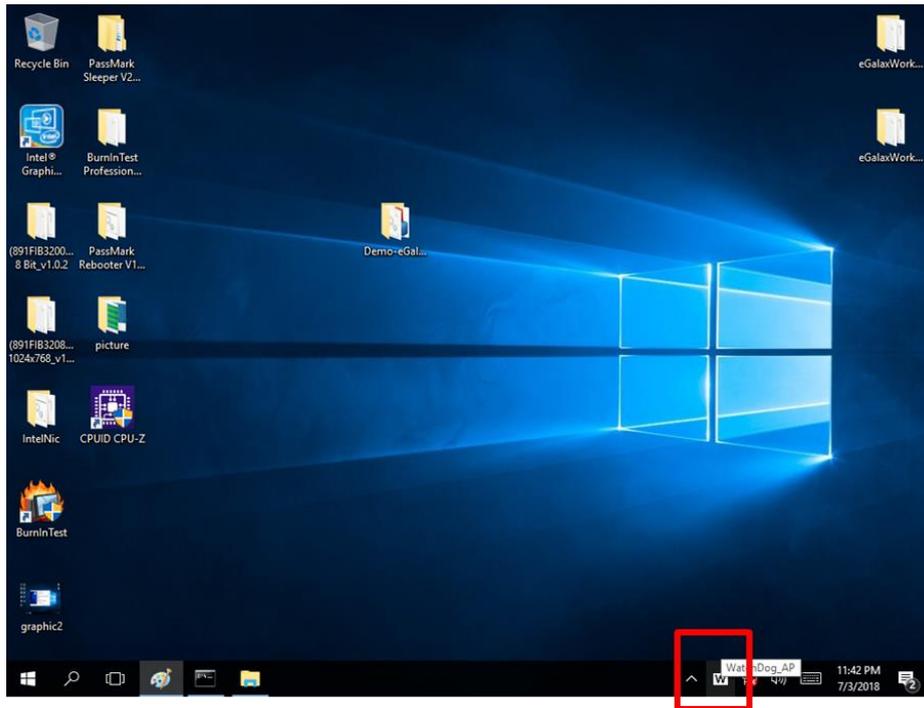
Chapter 3: Operating the Device

3.1 How to Enable Watchdog

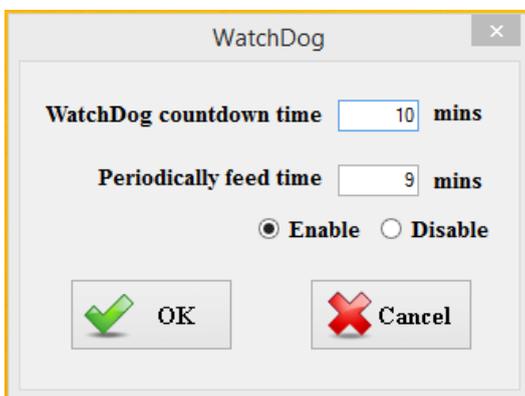
Download Winmate Watchdog utility to enable Watchdog. Find more information in “Watchdog Guide” that you can download from Download Center.

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. <i>Default: 10 min</i>
Periodically Feed Time	To set a cycle time to automatically reset watchdog timer. <i>Default: 9 min</i>
Enable / Disable	Enable or disable watchdog. <i>Default: Enable</i>

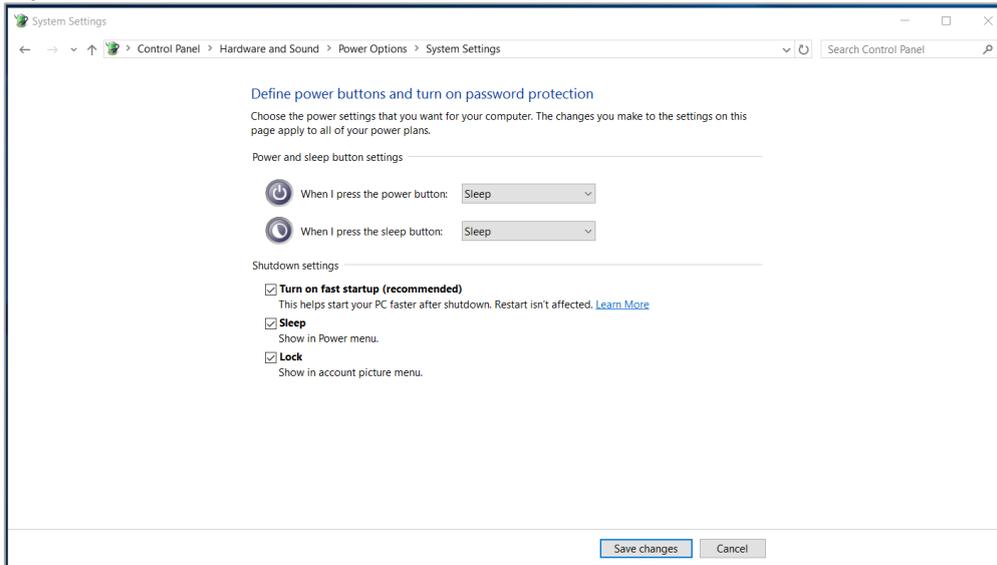
3.2 S4 Wake on LAN

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

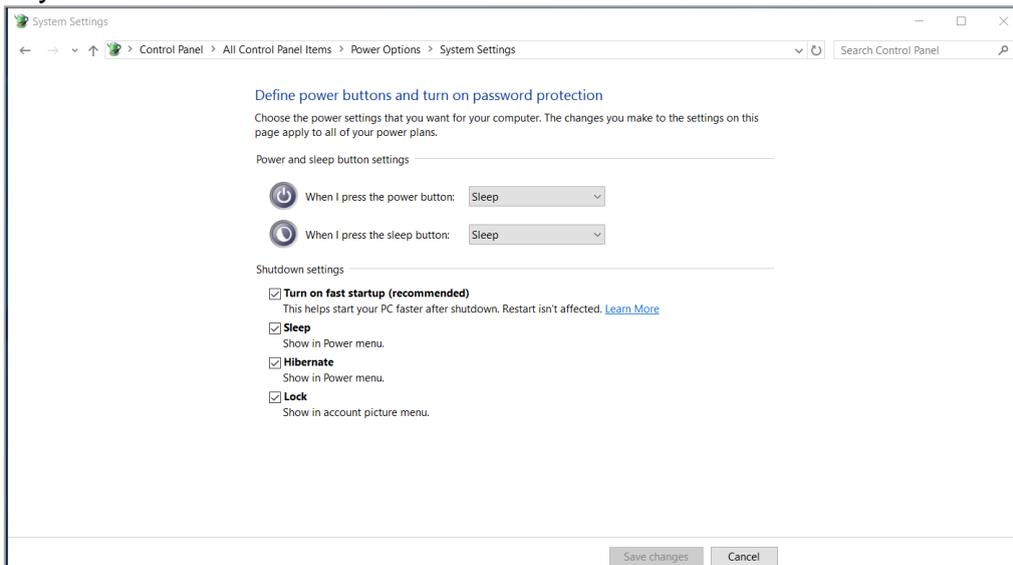


Caution Check if your system storage capacity is 32 GB before entering Hibernation mode.
Attention Vérifiez si la capacité de stockage de votre système est de 32 Go avant de passer en mode Veille prolongée.

Storage capacity below 32 GB:



Storage capacity above 32 GB

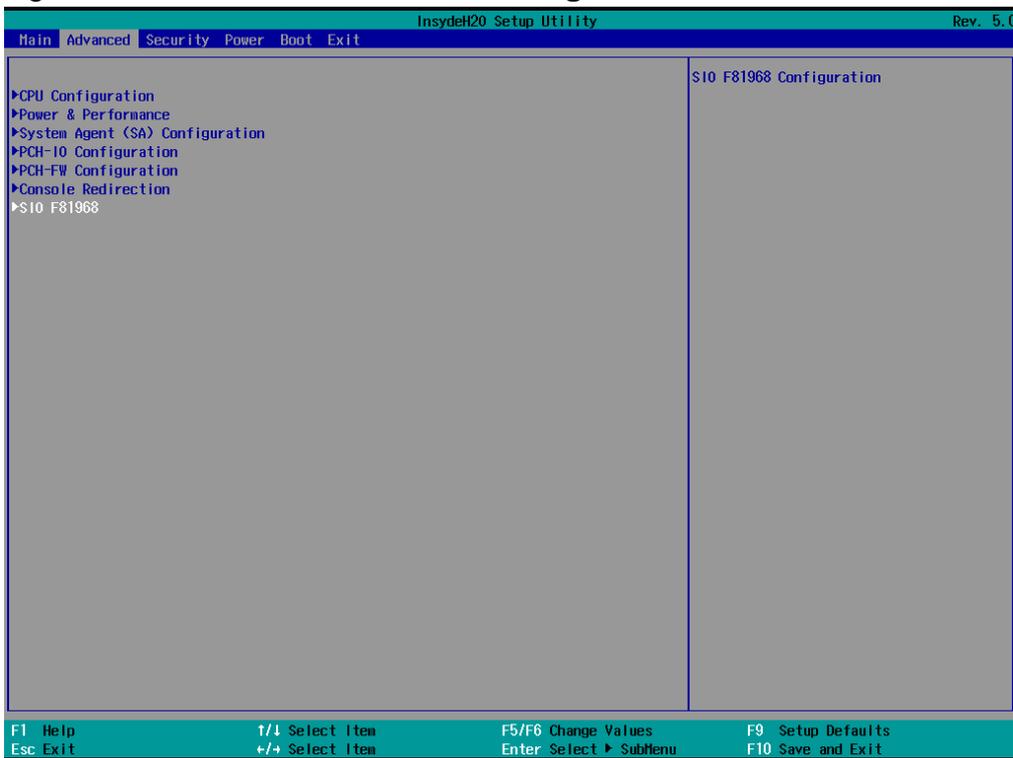


3.3 Changing Serial Port Settings

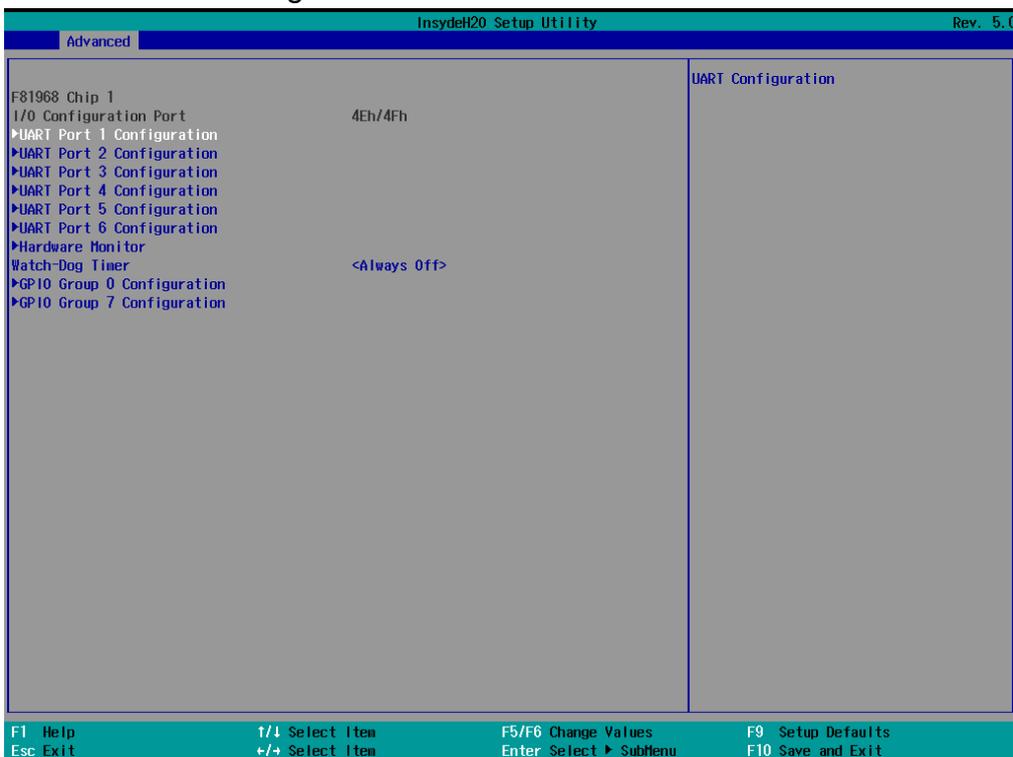
You can change serial port settings in BIOS.

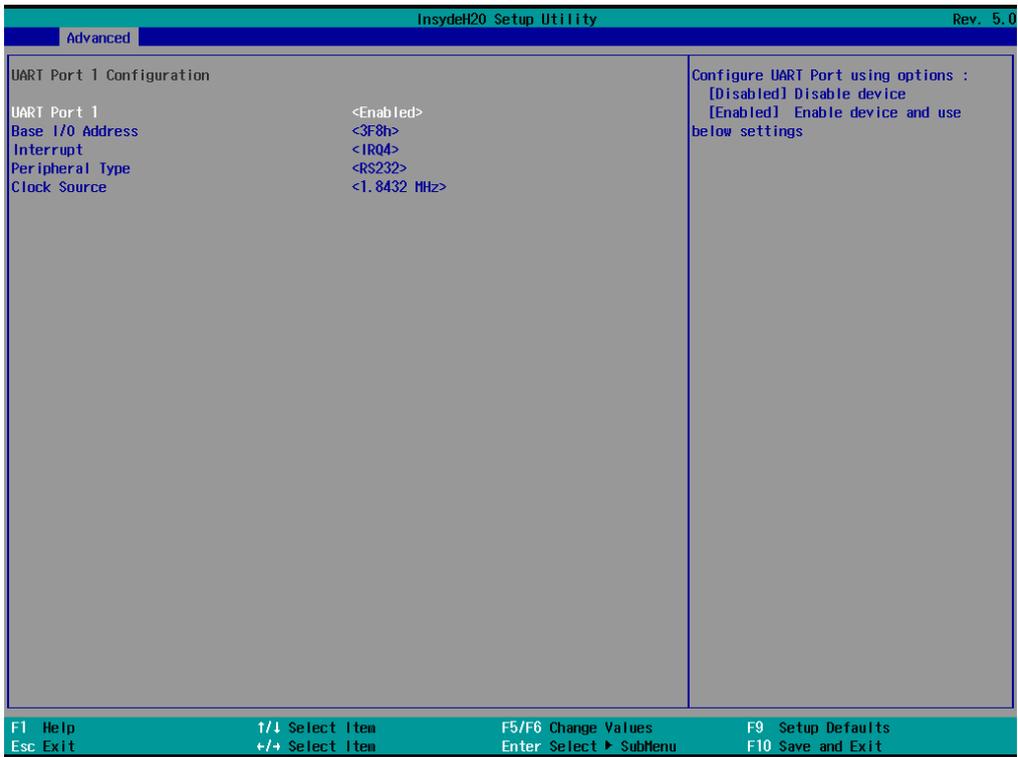
To change serial port settings:

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 > S10 F81968 Configuration**.



3. Click to UART Port 1 Configuration.





4. Change Setting from UART mode to RS232/422/485.



5. Exit BIOS utility.

3.4 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.

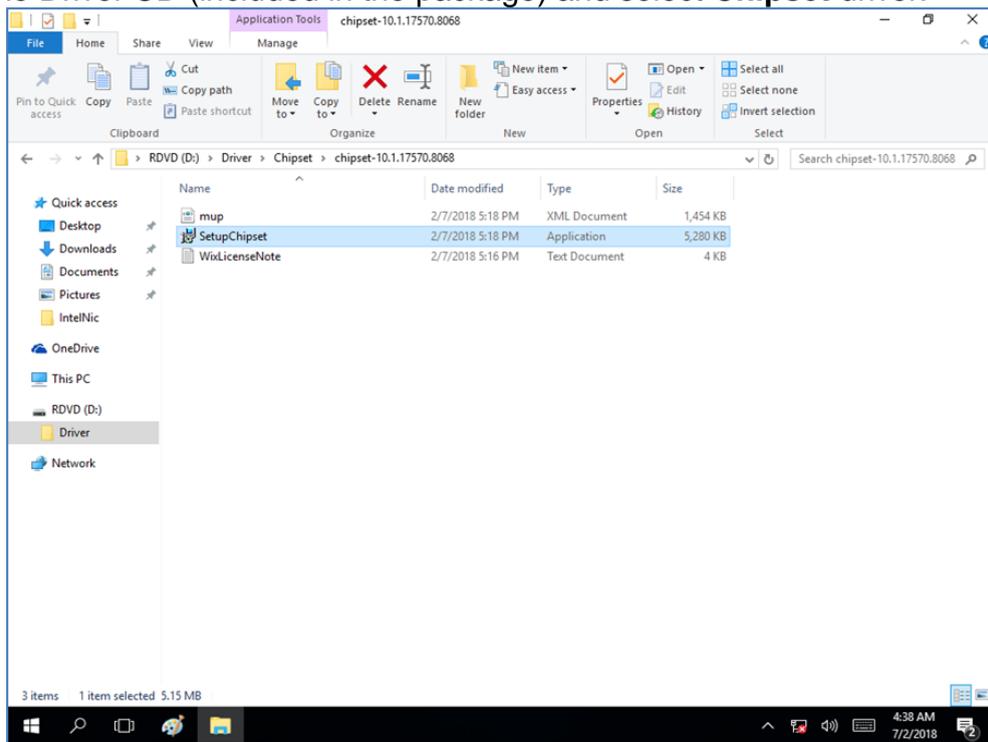
Chapter 4: Driver Installation

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-IE3 Box PC.

4.1 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.



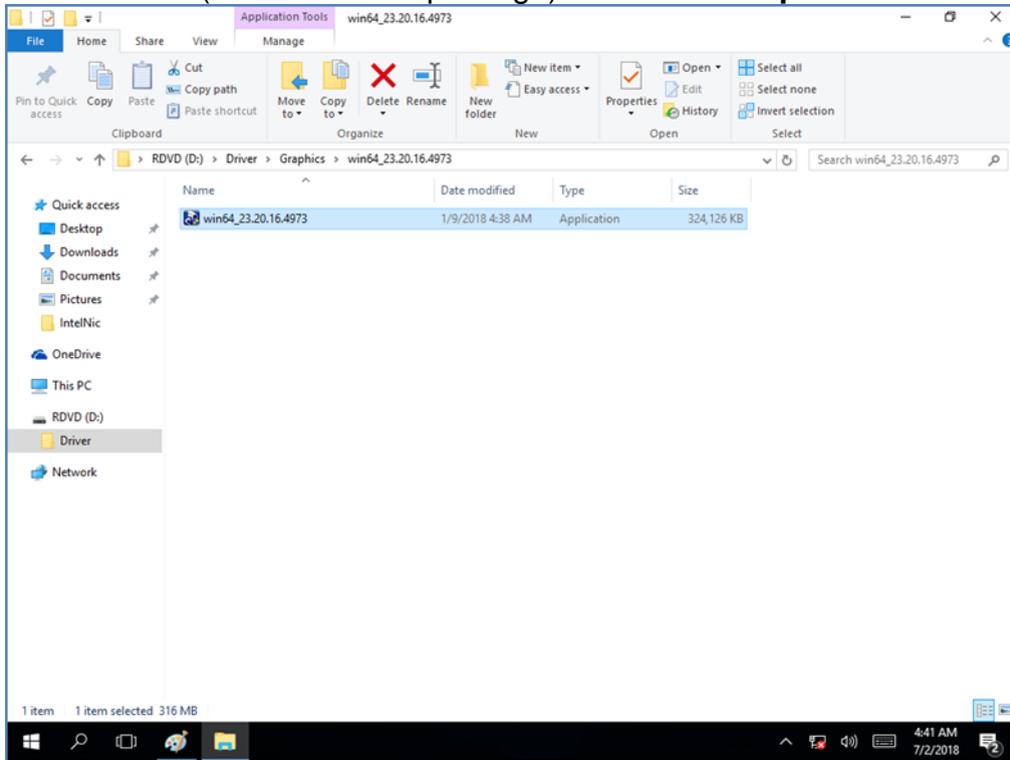
5. Wait for the driver to be installed. When installation completed, select **Restart Now** to restart your computer.



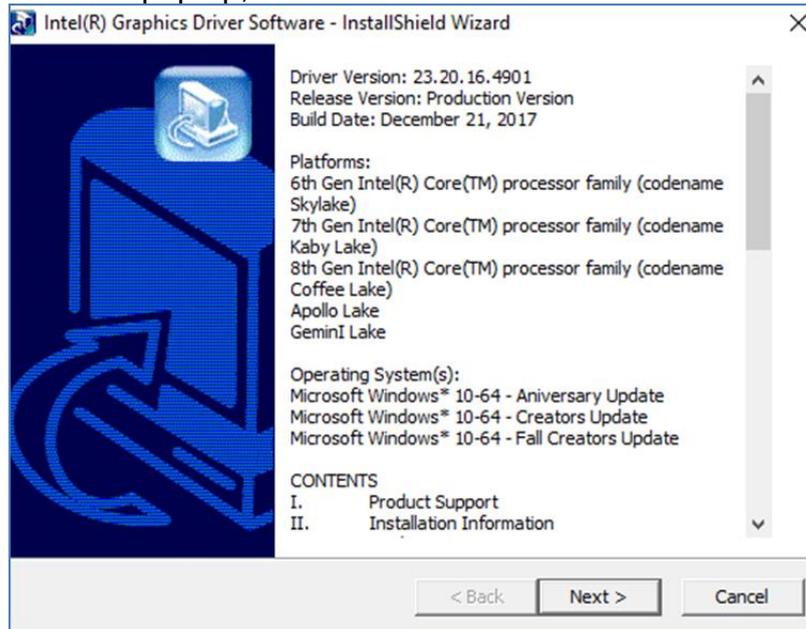
4.2 Graphic Driver

Follow instructions below to install Graphic driver.

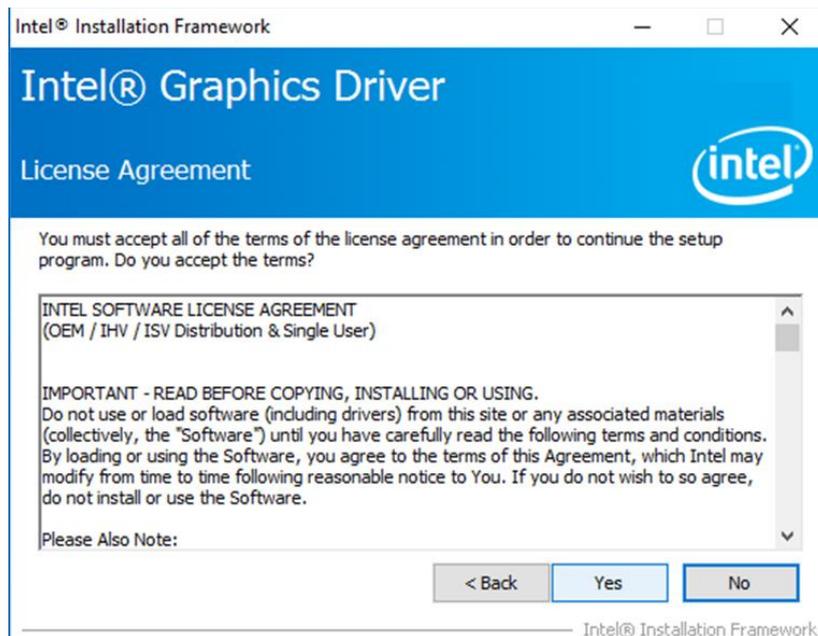
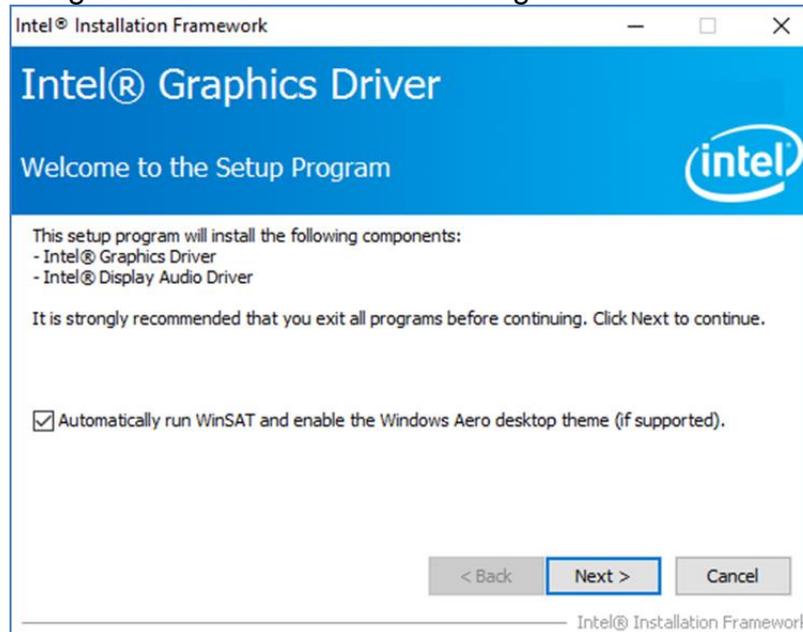
1. Open the Driver CD (included in the package) and select **Graphic** driver.



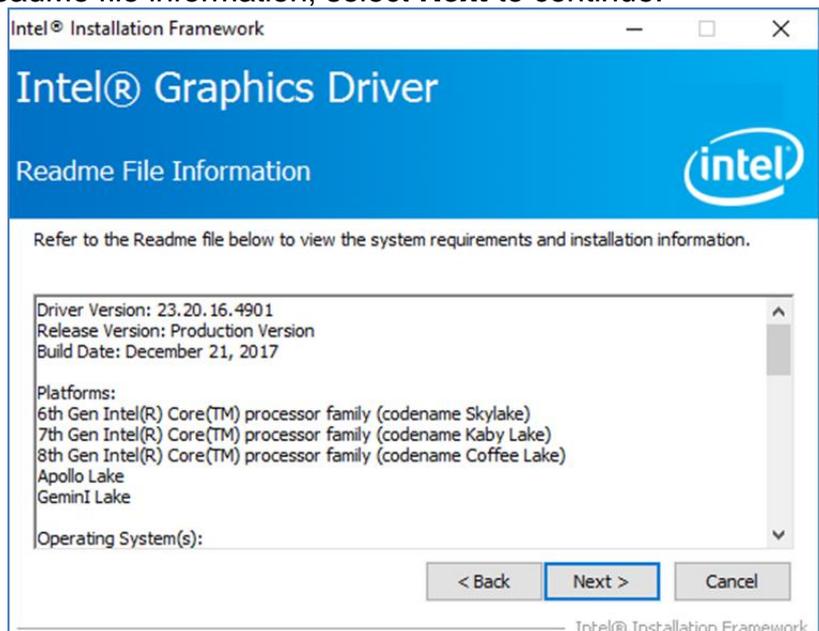
2. Installation window will pop up, select **Next**.



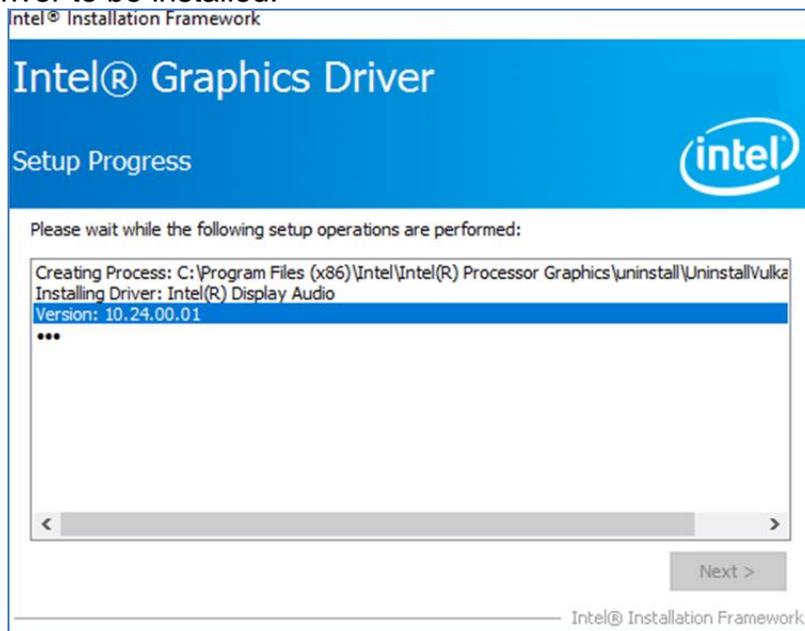
3. Select Accept to agree with the terms of license agreement.



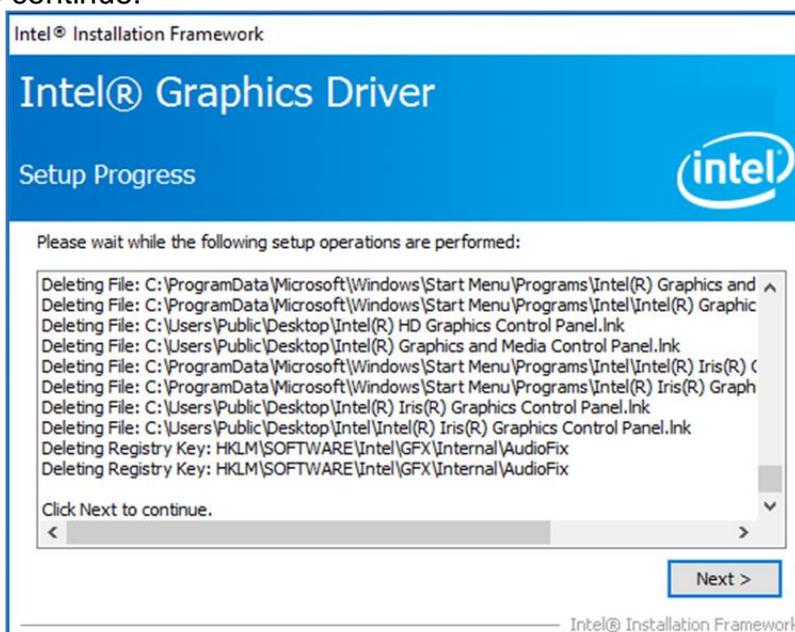
4. Check the ReadMe file information, select **Next** to continue.



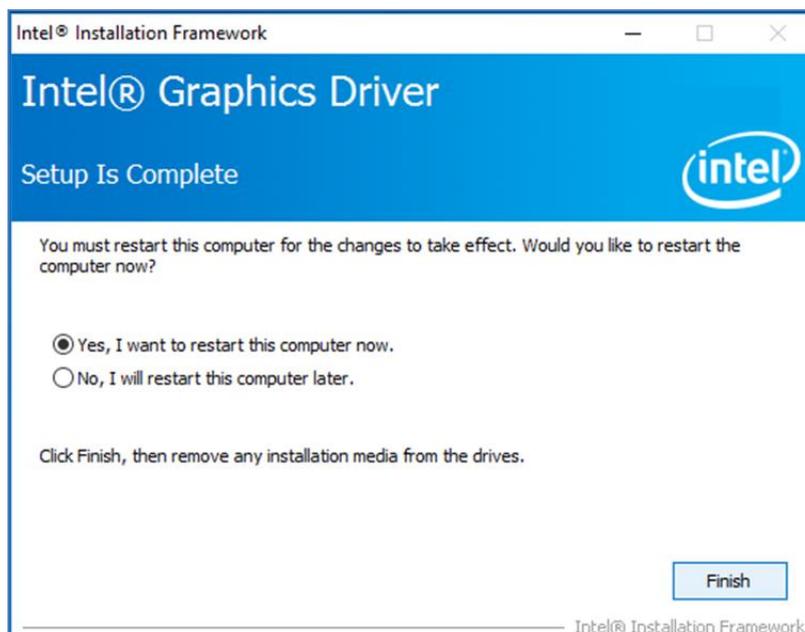
5. Wait for the driver to be installed.



6. Select **Next** to continue.



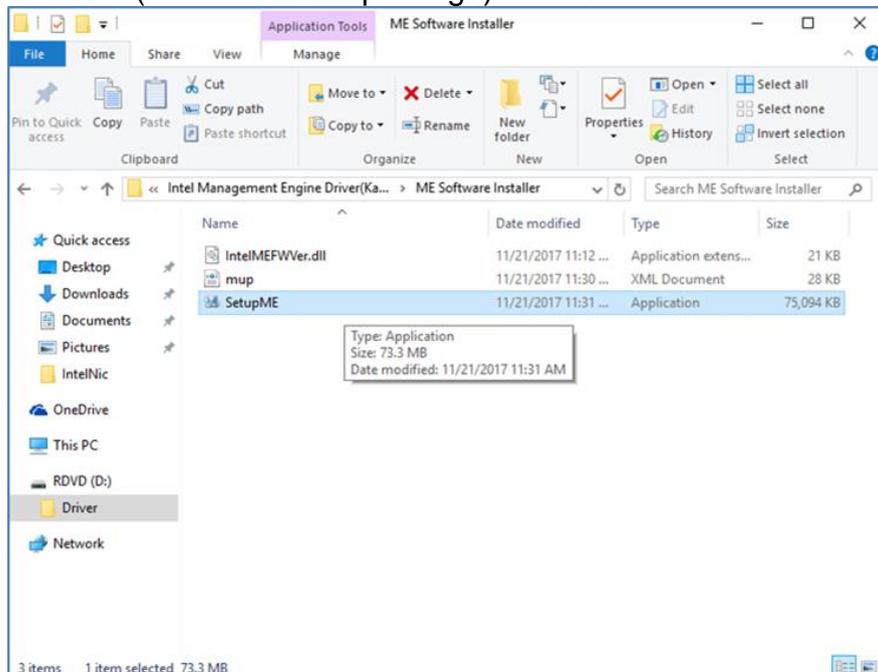
7. After installation is completed, select “**Yes, I want to restart this computer now**”, and click **Finish**.



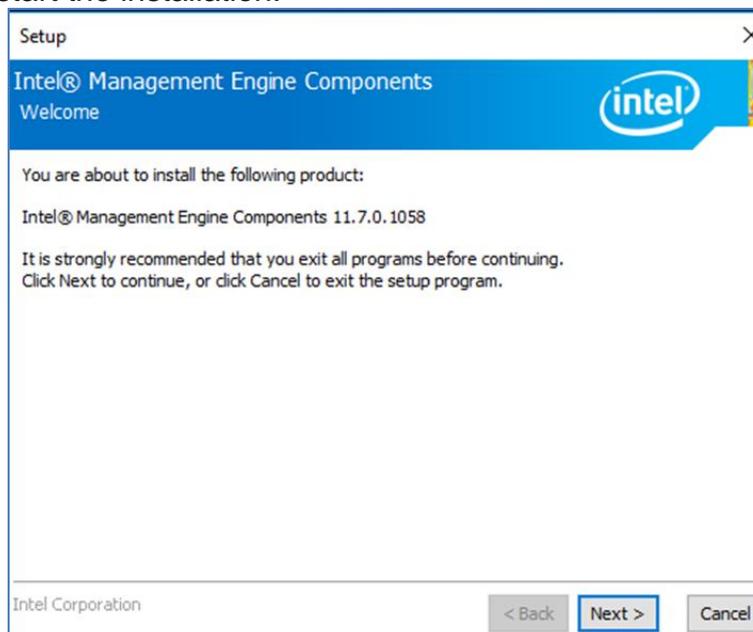
4.3 Management Engine (ME)

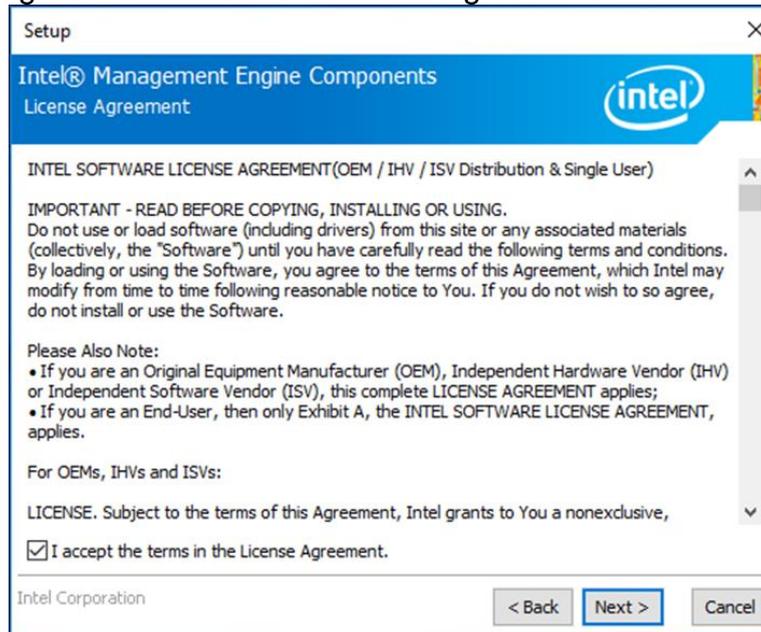
Follow instructions below to install Management Engine (ME) .

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

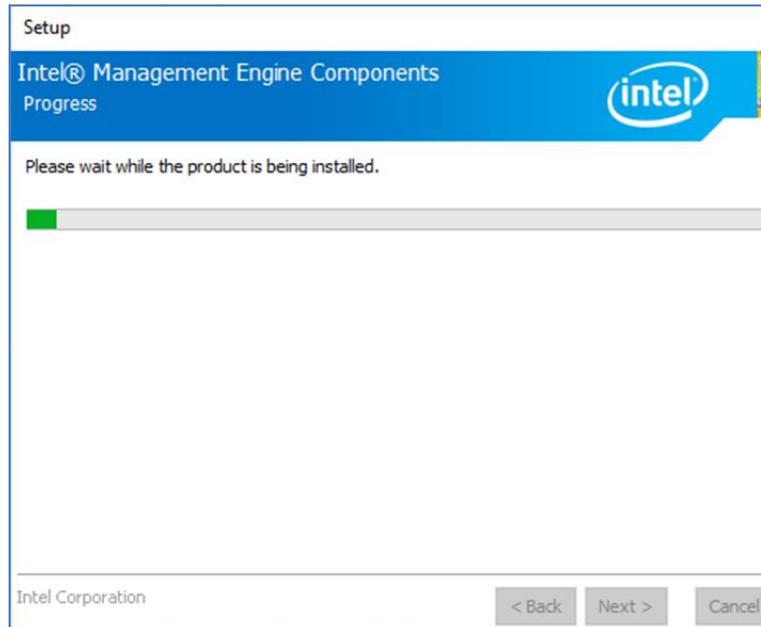
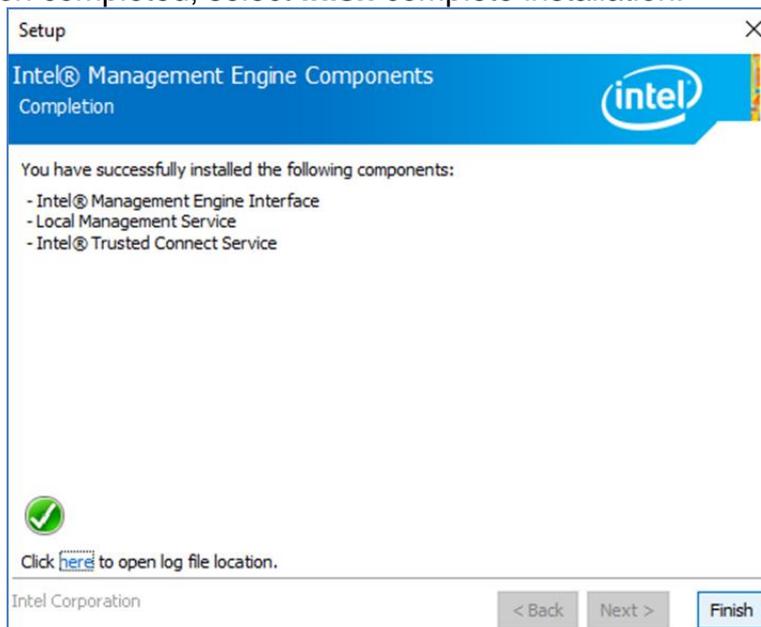


2. Select **Next** to start the installation.



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

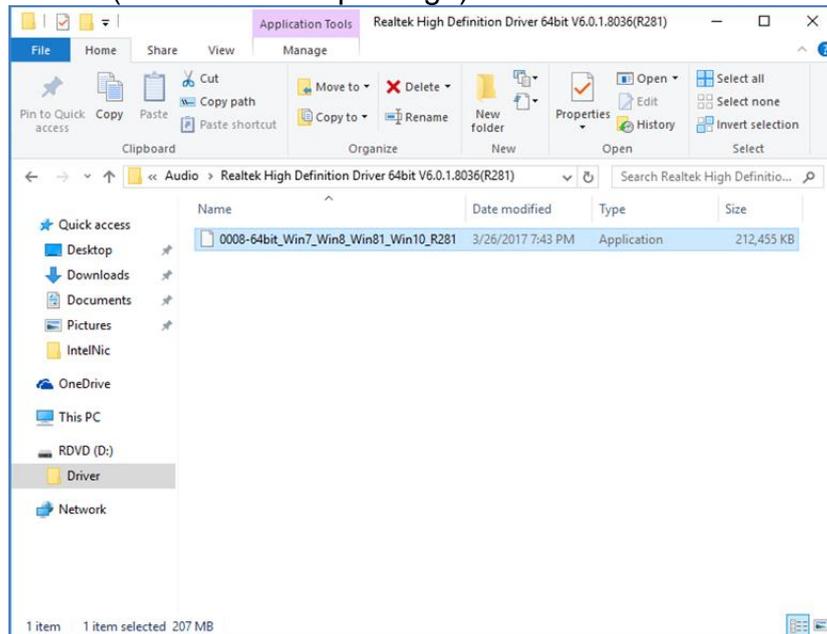
4. Wait for the driver to be installed.

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

4.4 Audio Driver

Follow instructions below to install Audio driver.

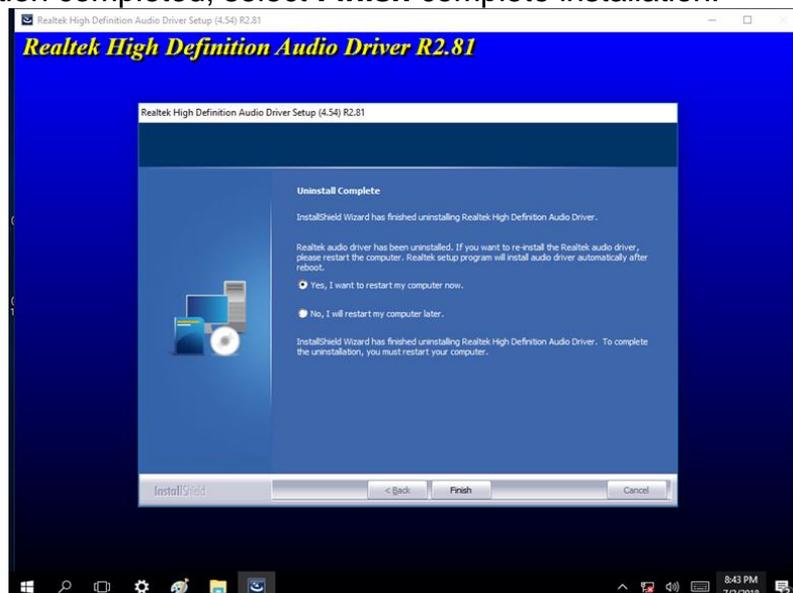
1. Open the Driver CD (included in the package) and select **Audio** driver.



2. Select **Start** to continue.



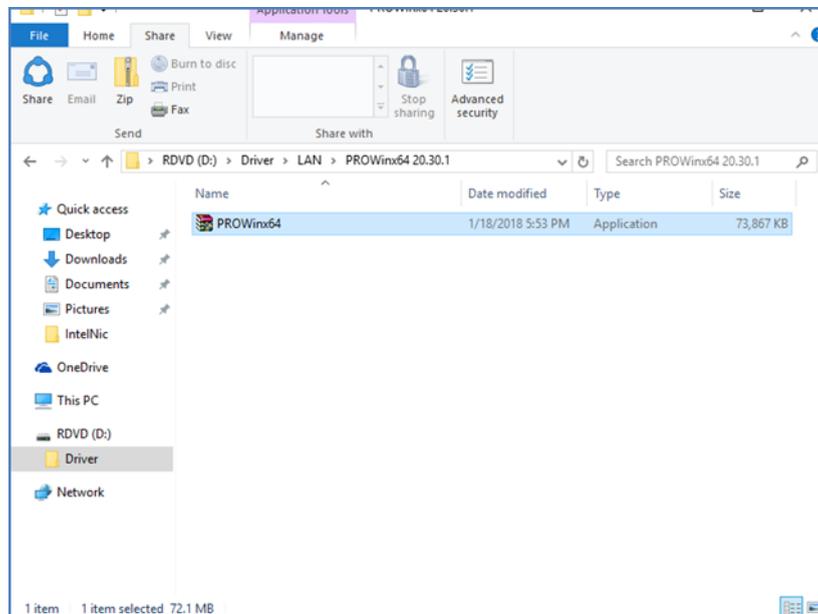
3. When installation completed, select **Finish** complete installation.



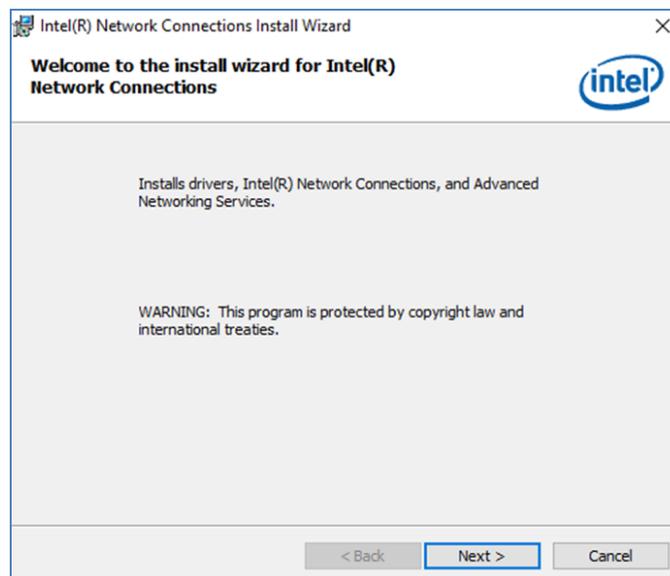
4.5 Ethernet Driver

Follow instructions below to install LAN driver.

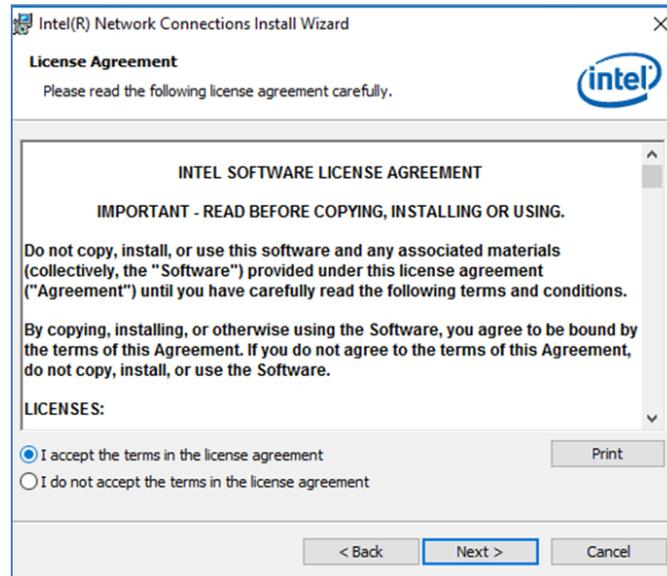
1. Open the Driver CD (included in the package) and select **LAN** driver.



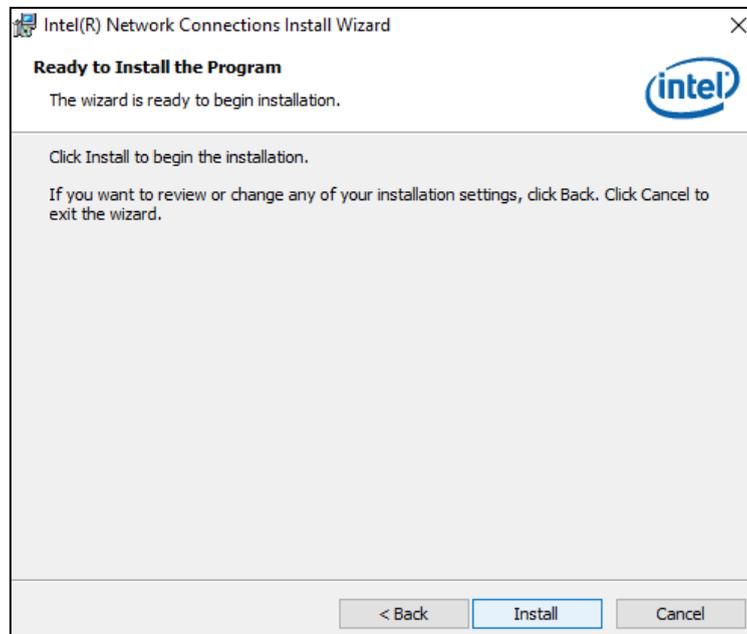
2. When compression is complete, select **Next**.



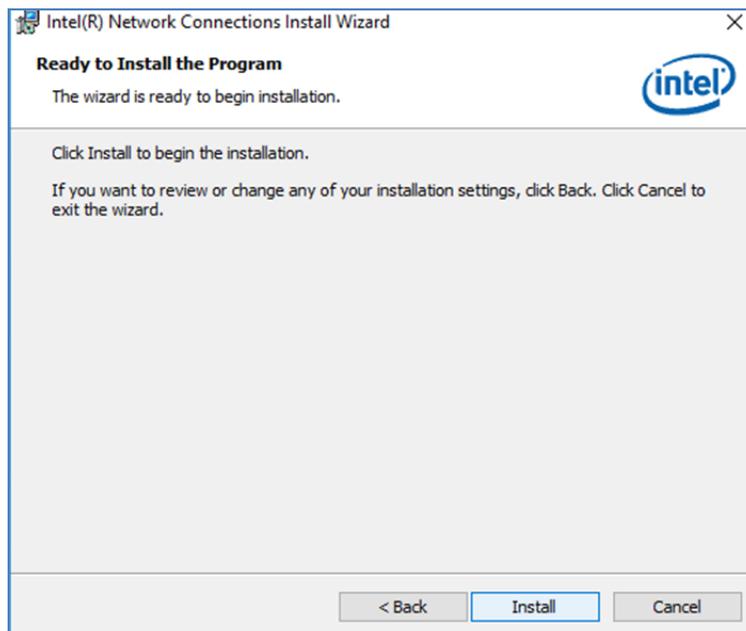
3. Read the license agreement, and then select **Next**.



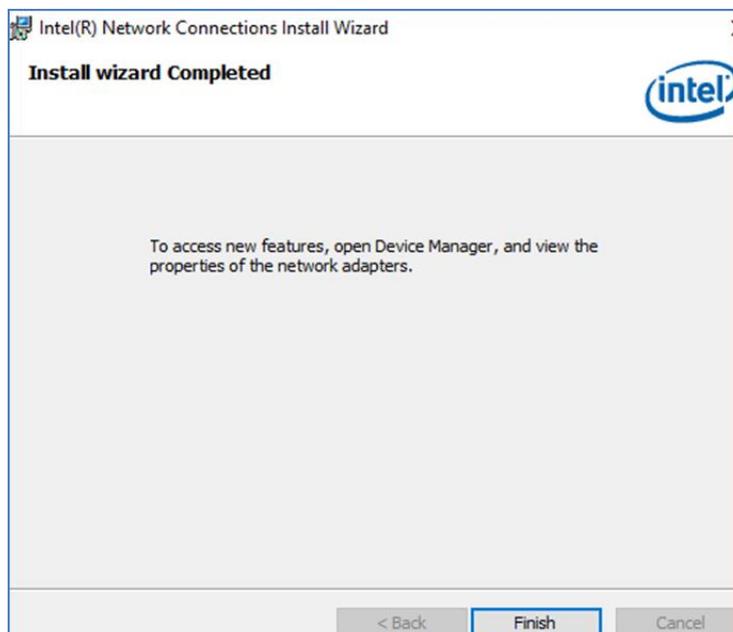
4. System displays the installed packages, select **Next**.



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



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

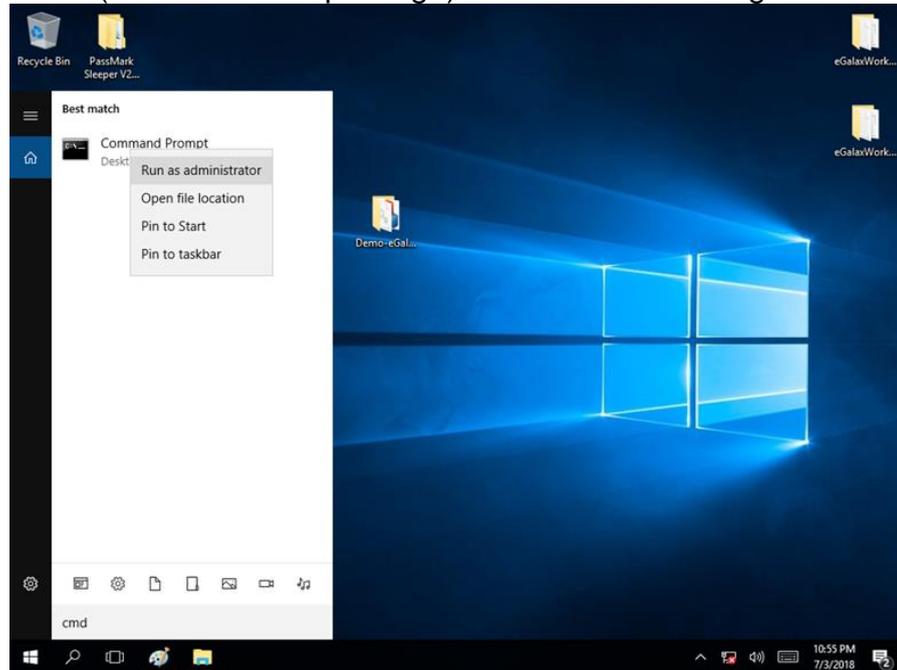


4.6 Watchdog Driver

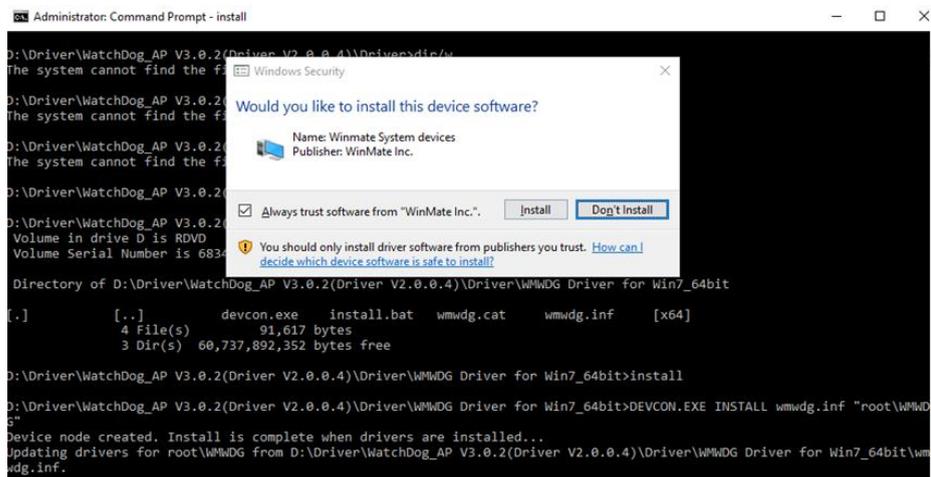
For more details about Winmate Watchdog, please download Watchdog Guide from Winmate Downloads Center.

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.

```
Administrator: Command Prompt - install
D:\Driver\WatchDog_AP V3.0.2(Driver V2.0.0.4)\Driver>dir
The system cannot find the file specified.

D:\Driver\WatchDog_AP V3.0.2(Driver V2.0.0.4)\Driver>dir/w
The system cannot find the file specified.

D:\Driver\WatchDog_AP V3.0.2(Driver V2.0.0.4)\Driver>cd WMDG Driver for Win7_64bit

D:\Driver\WatchDog_AP V3.0.2(Driver V2.0.0.4)\Driver\WMDG Driver for Win7_64bit>dir/w
Volume in drive D is RDVD
Volume Serial Number is 6834-E6A5

Directory of D:\Driver\WatchDog_AP V3.0.2(Driver V2.0.0.4)\Driver\WMDG Driver for Win7_64bit

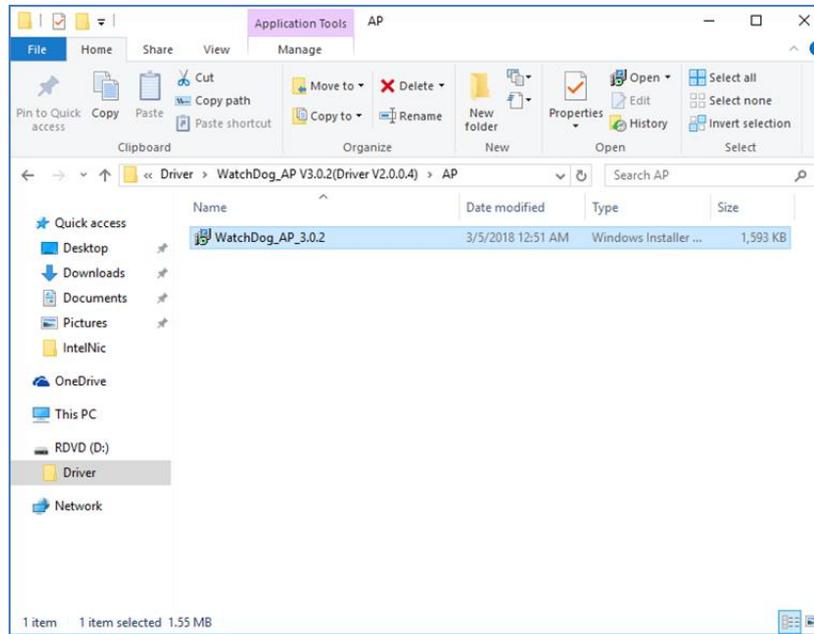
.           .]           [..]           devcon.exe   install.bat   wmwgdg.cat   wmwgdg.inf   [x64]
4 File(s)   91,617 bytes
3 Dir(s)    60,737,892,352 bytes free

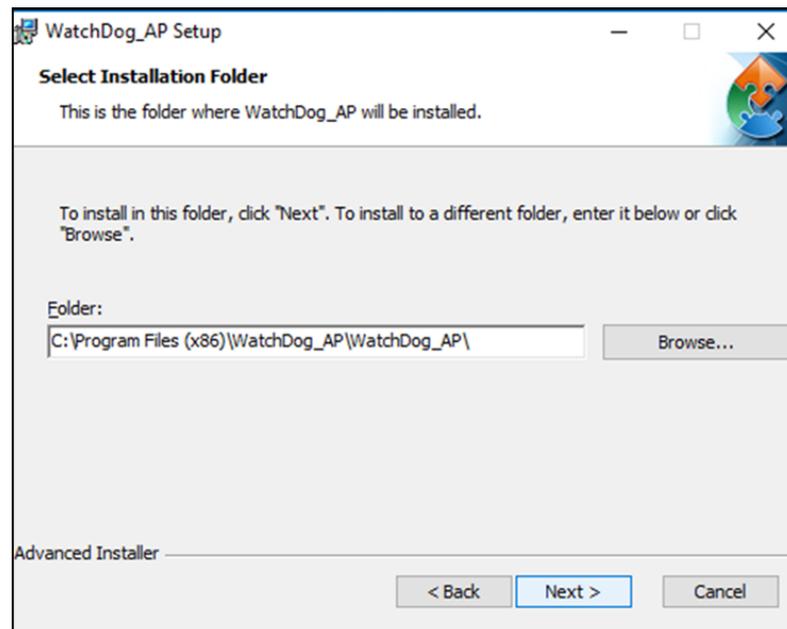
D:\Driver\WatchDog_AP V3.0.2(Driver V2.0.0.4)\Driver\WMDG Driver for Win7_64bit>install

D:\Driver\WatchDog_AP V3.0.2(Driver V2.0.0.4)\Driver\WMDG Driver for Win7_64bit>DEVCON.EXE INSTALL wmwgdg.inf "root\WMDG
Device node created. Install is complete when drivers are installed...
Updating drivers for root\WMDG from D:\Driver\WatchDog_AP V3.0.2(Driver V2.0.0.4)\Driver\WMDG Driver for Win7_64bit\w
mwgdg.inf.
Drivers installed successfully.

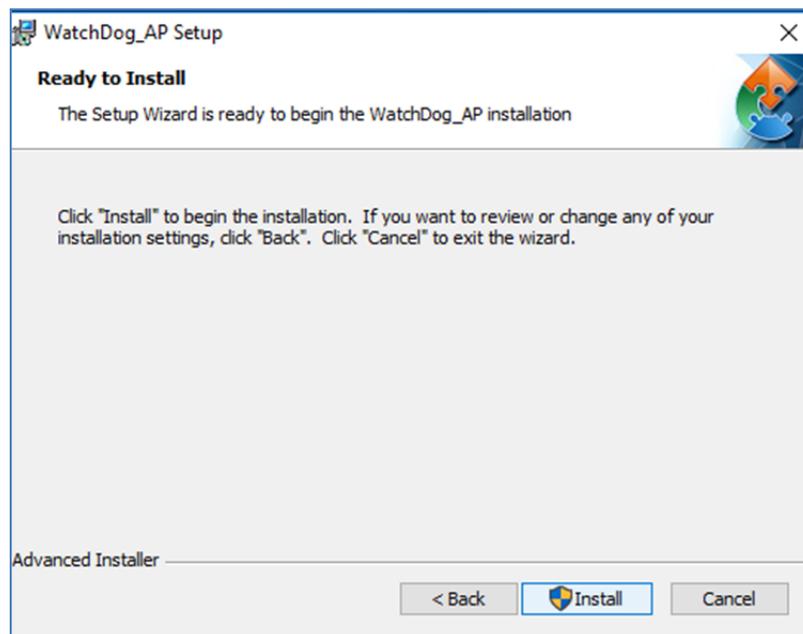
D:\Driver\WatchDog_AP V3.0.2(Driver V2.0.0.4)\Driver\WMDG Driver for Win7_64bit>pause
```

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

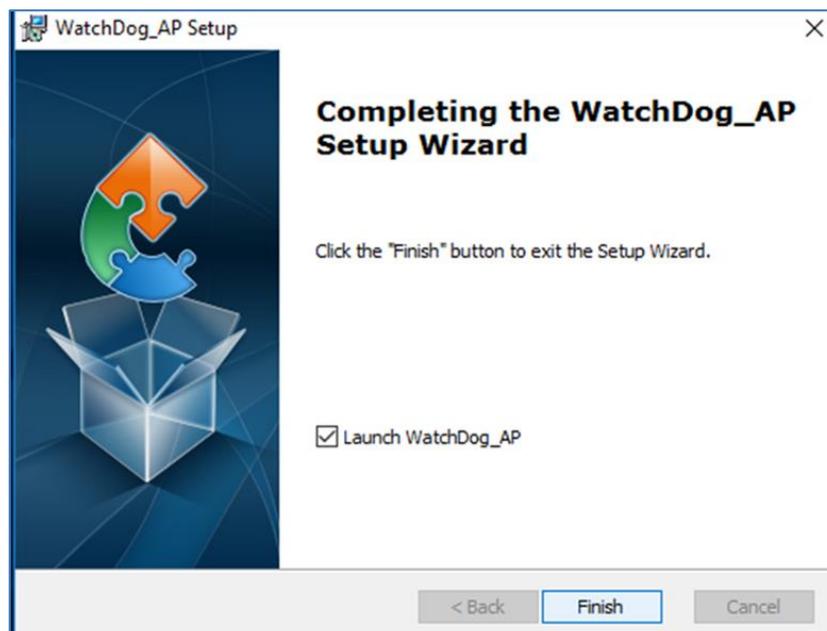


7. Select **Next**.8. The installed storage location is displayed, select **Next** to continue.

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



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

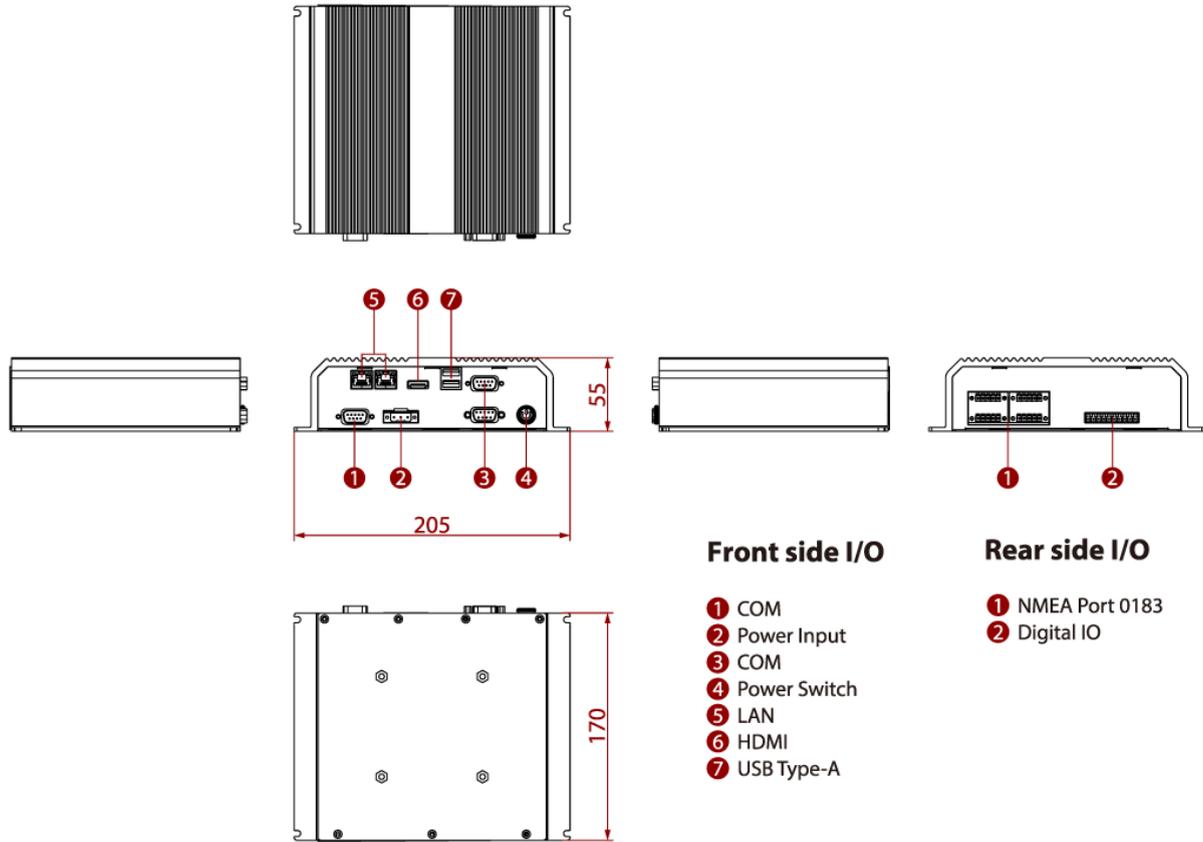


Appendix

Appendix A: Hardware Specifications

Model Name		
I330EAC-IE3		
System Specification	Processor	Intel® Pentium® N6415 (1.5M Cache, up to 3.0GHz)
	Memory	1 x SO-DIMM, DDR4 3200 MHz, 4GB 8GB (Optional) 16GB (Optional)
	Storage	1 x M.2 2242 Bkey SSD 256GB 512GB (Optional)
	Ethernet Controller	2 x Intel® Ethernet Controller
	Security	TPM 2.0
	Operating System	Windows 11 IoT Enterprise SAC (64 bit) (Optional) Windows 10 IoT Enterprise (64 bit) (Optional) Linux Ubuntu 22.04 (Optional)
IO Ports	USB Port	2 x USB3.2 Gen1x1 (TypeA)
	Serial Port	3 x RS232
	Video	1 x HDMI 2.0 (Optional)
	LAN	2 x RJ4510/100/1000 Mbps
	DIDO	8 x DIDO
	NMEA 0183	4 x NMEA 0183
Power	Power Input	24V DC-in with Isolation (Approval by Certificate) 9~36V DC Input Acceptable
Mechanical	Dimensions	205 x 170 x 55 mm
	Weight	1.5 kg
	Mounting	VESA Mount
	Enclosure	Metal
	Cooling System	Fanless Design
Environment	Operating Temperature.	15~55°C
	Operating Humidity	5% to 95%
	Shock	15G,11ms duration
	IP rating	IP66 (Front Side)
Certification	Certification	CE / FCC
Control	Button	1 x Power Button
Accessory	Accessory	Driver CD & User Manual AC to DC Adapter 12V/ 50W Power Cord 3 pin Terminal Block to DC Jack

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-IE3

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