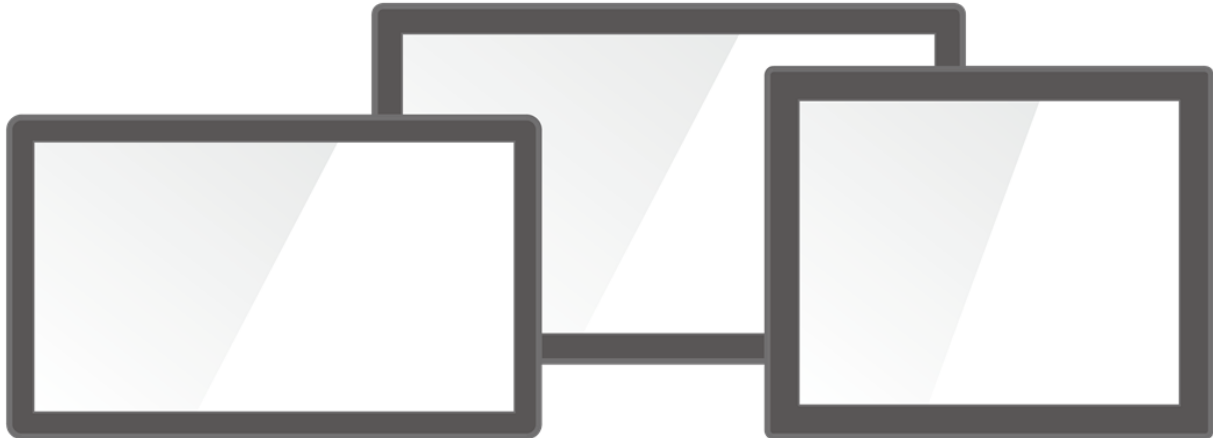


# 7"~23.8" G-WIN Panel PC

Intel® Celeron® Elkhart Lake N6211 Processor (up to 3.0 GHz)



## GC Series

**Model No.** W07IE3S-GCT1  
W07IE3S-GC01HB  
W10IE3S-GCH2  
R12IE3S-GCM2(HB)  
W12IE3S-GCB1  
R15IE3S-GCC3(HB)  
W22IE3S-GCA3  
W24IE3S-GCA2

---

# User Manual

Document Version 1.0  
Document Part No. 91521111115N

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

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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 1W18Axxxxxxx 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 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.

For your safety carefully read all the safety instructions before using the device. Keep this user manual for future reference.

- Always disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
- For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
- Keep this equipment away from humidity.
- Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
- The openings on the enclosure are for air convection and to protect the equipment from overheating.
- Do not cover the openings.
- Before connecting the equipment to the power outlet make sure the voltage of the power source is correct.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
- Never pour any liquid into an opening. This could cause fire or electrical shock.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
- All cautions and warnings on the equipment should be noted.

**\*Let service personnel to check the equipment in case any of the following problems appear:**

- The power cord or plug is damaged.
- Liquid has penetrated into the equipment.
- The equipment has been exposed to moisture.
- The equipment does not work well or you cannot get it to work according to the user manual.
- The equipment has been dropped and damaged.
- The equipment has obvious signs of breakage.
- Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20°C (-4°F) or above 60°C (140°F). It may damage the equipment.



**Caution** Use the recommended mounting apparatus to avoid risk of injury.

**Attention** Utiliser l'appareil de fixation recommandé pour éliminer le risque de blessure.



**Warning!** Only use the connection cords that come with the product. When in doubt, please contact the manufacturer.

**Avertissement!** Utiliser seulement les cordons d'alimentation fournis avec le produit. Si vous doutez de leur provenance, contactez le fabricant.



**Warning!** Always ground yourself against electrostatic damage to the device.

**Avertissement!** Toujours vérifier votre mise à la terre afin que l'équipement ne se décharge pas sur vous.

- Cover workstations with approved anti-static material. Use a wrist strap connected to a work surface and properly grounded tools and equipment.
- Use anti-static mats, heel straps, or air ionizer for added protection.
- Avoid contact with pins, leads, or circuitry.
- Turn off power and input signals before connecting test equipment.

- Keep the work area free of non-conductive materials, such as ordinary plastic assembly aids and Styrofoam.
- Use filed service tools, such as cutters, screwdrivers that are conductive.
- Always put drivers and PCB's component side on anti-static foam.

## 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

### General Guideline

It is recommended to reboot the device when some functions are defect or inactive. If it still can't solve the problems please contact your dealer or agent.

## About This Quick Start Guide

This Quick Start Guide provides information about using the Winmate® G-WIN GC Series Panel PC. This Quick Start Guide applies to the IE32 GC Series Panel PC.

The documentation set for the IE32 GC Series Panel PC provides information for specific user needs, and includes:

- **GC Series Panel PC User Manual** – contains detailed description on how to use the panel PC, its components and features.



**Note:**

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



# Chapter 1: Introduction

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

## 1.1 Overview

Congratulations on purchasing Winmate® GC65 Panel PC. The elegantly designed, yet rugged, industrial grade G-WIN GC series is designed for heavy duty applications. With rugged construction, ultimate computing power, GC65 series are guaranteed to meet "heavy duty" needs. This series feature high computing power and user-friendly interface with projected capacitive multi-touch (PCAP) technology and support Windows® operating systems. Rugged housing provides front IP65 protection against outer dust and water splash.

## 1.2 Features

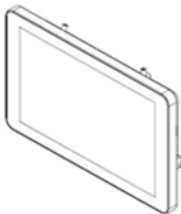
Winmate® GC65 Panel PC features:

- 7"~23.8" PCAP touch screen
- Low power consumption with Intel® Elkhart Lake N6211
- Fanless cooling system and ultra-low power consumption
- Front IP65 for protection against water and dust
- A true flat, easy-to-clean front surface with edge-to-edge design
- Plenty of I/O, including 2 x LAN, 1 x RS232/422/485, 2 x USB3.2 Gen 2x1 (Type-A), 1 x HDMI 2.0

## 1.3 Package Content

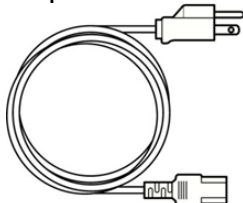
Carefully remove the box and unpack your device. Please check if all the items listed below are inside your package. If any of these items are missing or damaged contact us immediately.

Standard factory shipment list:



- **Panel PC**

Varies by product specifications



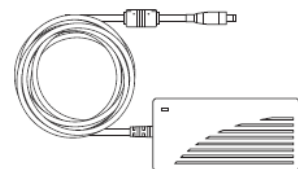
- **Power Cable**

Varies by country



- **User Manual (Hardcopy)**

Part No. 9152111115N



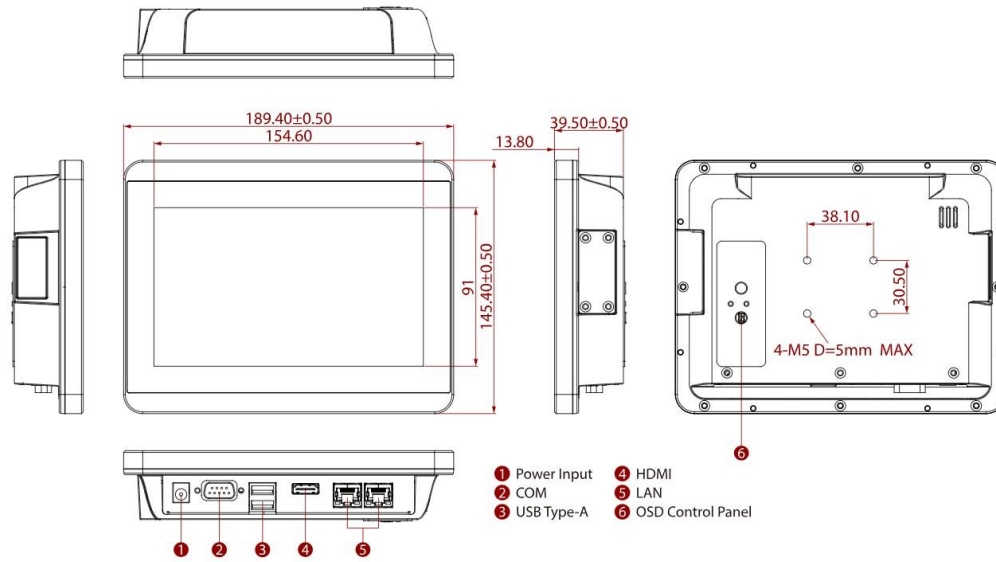
- **AC Adapter 12V/ 84W**

Part No. 922D084W12V1

# 1.4 Product Overview

7", W07IE3S-GCO1HB

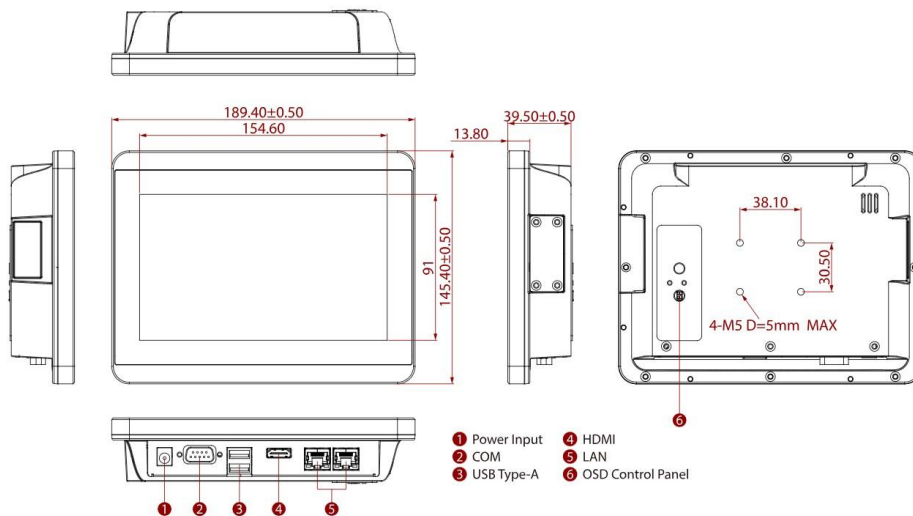
Dimension: 189.4 x 145.4 x 39.5  
Unit: mm



No	Description	No	Description
①	12V DC	④	1 x HDMI 2.0b
②	1 x RS232/422/485	⑤	2 x RJ45
③	2 x USB 3.2 Gen 2x 1	⑥	OSD Control Panel

7", W07IE3S-GCT1

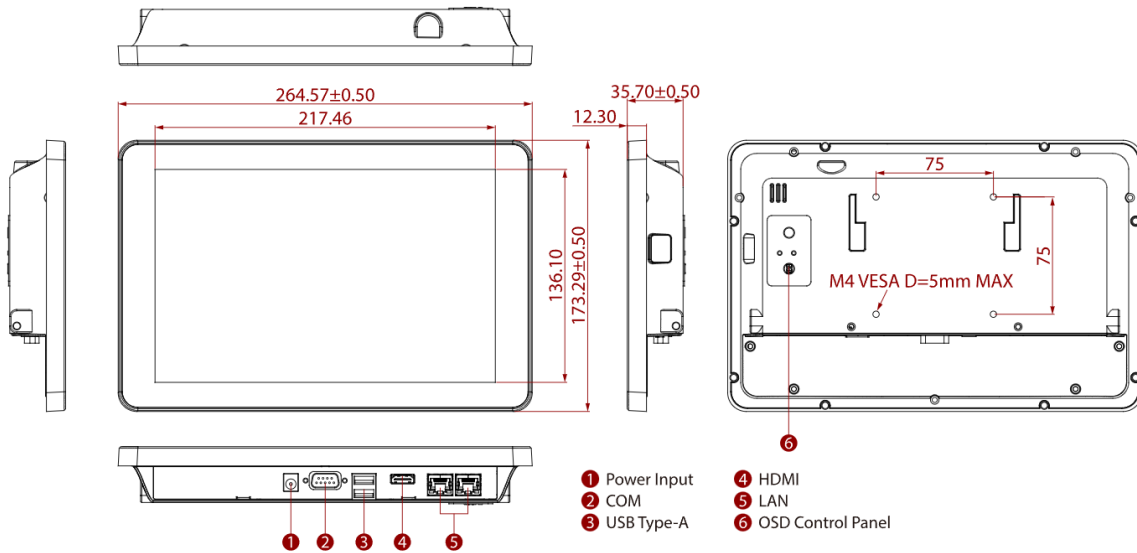
Dimension: 189.4 x 145.4 x 39.5  
Unit: mm



No	Description	No	Description
①	12V DC-in	④	1 x HDMI 2.0b
②	1 x RS232/422/485	⑤	2 x RJ45
③	2 x USB 3.2 Gen 2x 1	⑥	OSD Control Panel

10.1", W10IE3S-GCH2

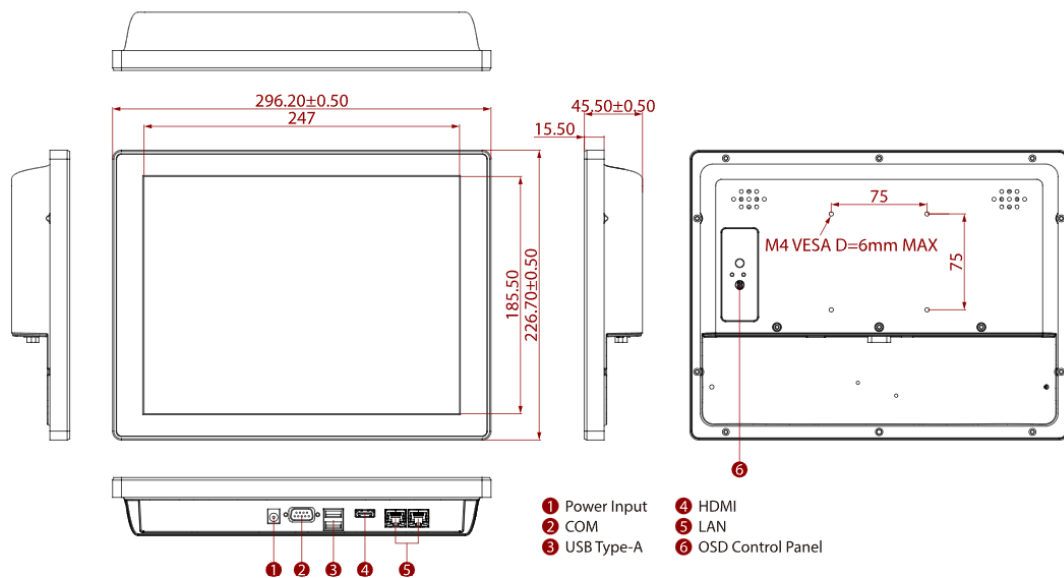
Dimension: 264.57x 173.29x 35.70  
Unit: mm



No	Description	No	Description
①	12V DC-in	④	1 x HDMI 2.0b
②	1 x RS232/422/485	⑤	2 x RJ45
③	2 x USB 3.2 Gen 2x 1	⑥	OSD Control Panel

12.1", R12IE3S-GCM2(HB)

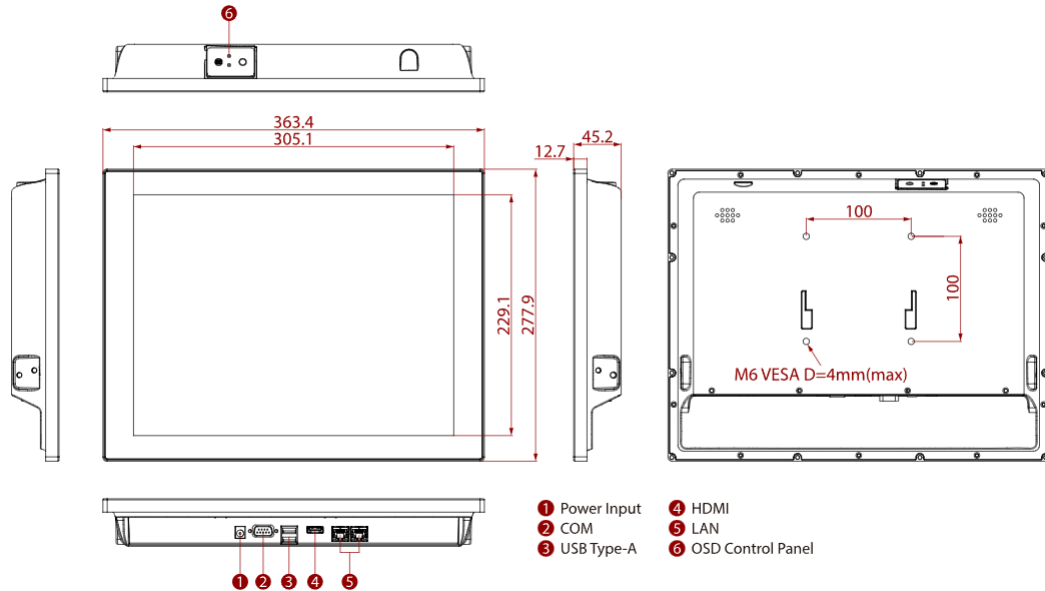
Dimension: 296.2x 226.7x 45.5  
Unit: mm



No	Description	No	Description
①	12V DC in	④	1 x HDMI 2.0b
②	1x RS232/422/485	⑤	2 x RJ 45
③	2 x USB 3.2 Gen 2x 1	⑥	OSD Control Panel

15", R15IE3S-GCC3(HB)

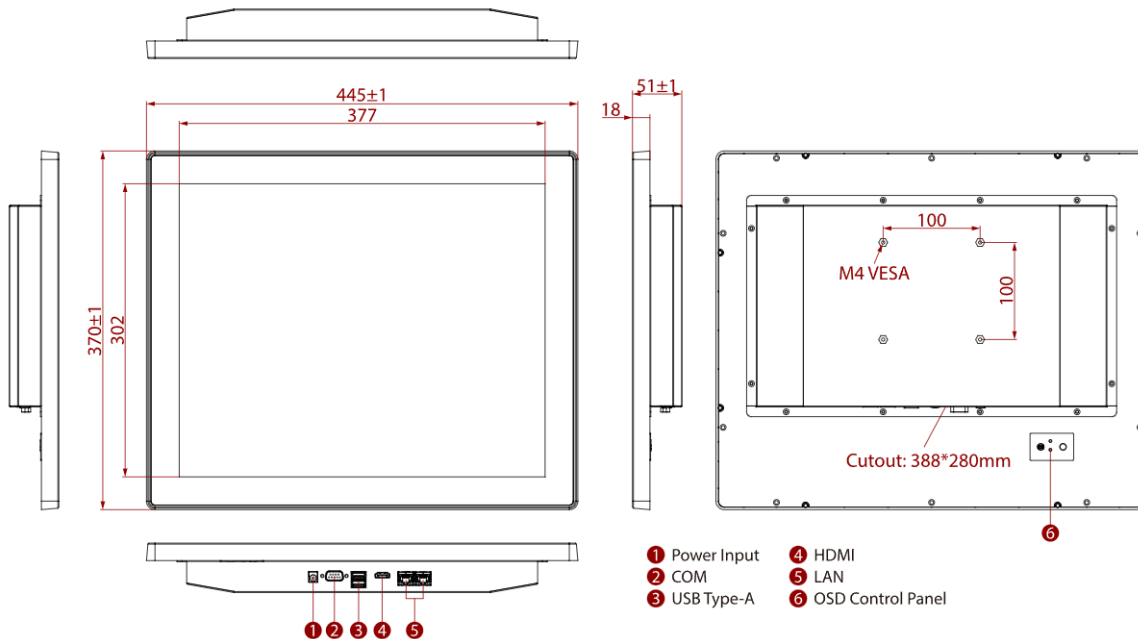
Dimension: 363.4 x 277.9 x 45.2  
Unit: mm



No	Description	No	Description
①	12V DC	④	1 x HDMI 2.0b
②	1x RS232/422/485	⑤	2 x RJ 45
③	2 x USB 3.2 Gen 2x 1	⑥	OSD Control Panel

19", R19IE3S-GCM1

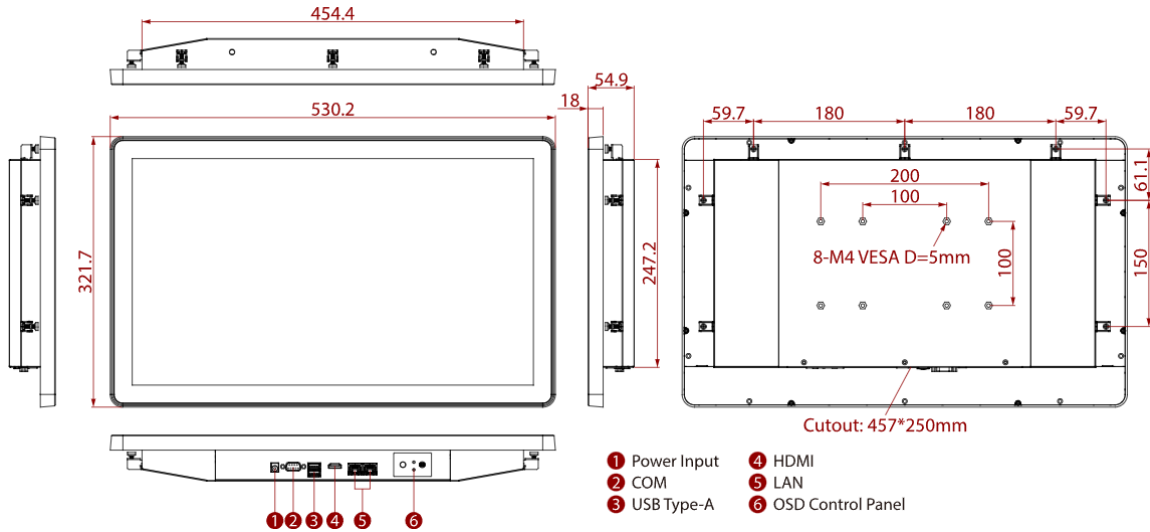
Dimension: 445x 370 x 51  
Unit: mm



No	Description	No	Description
①	12V DC	④	1 x HDMI 2.0b
②	1x RS232/422/485	⑤	2 x RJ 45
③	2 x USB 3.2 Gen 2x 1	⑥	OSD Control Panel

**21.5", W22IE3S-GCA3**

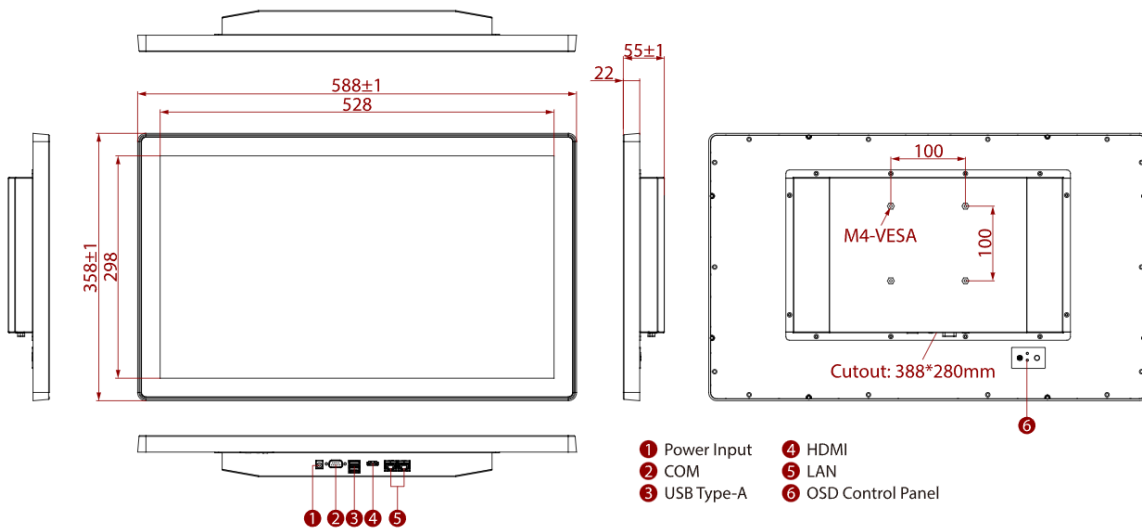
*Dimension: 530.2x 321.7 x 54.9  
Unit: mm*



No	Description	No	Description
①	12V DC	④	1 x HDMI 2.0b
②	1 x RS232/422/485	⑤	2 x RJ 45
③	2 x USB 3.2 Gen 2x 1	⑥	OSD Control Panel

**23.8", W24IE3S-GCA2**

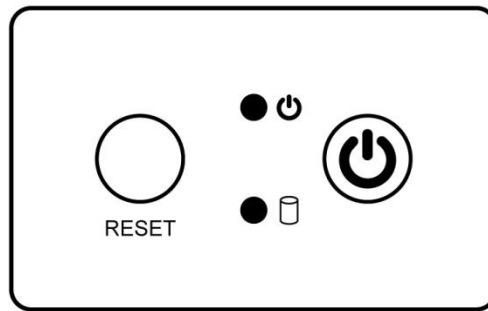
*Dimension: 588x 358x 55  
Unit: mm*



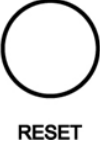

No	Description	No	Description
①	12V DC	④	1 x HDMI 2.0b
②	1x RS232/422/48	⑤	2 x RJ 45
③	2 x USB 3.2 Gen 2x 1	⑥	OSD Control Panel

## 1.5 Physical Buttons and LED Indicators



Physical buttons and LED indicators (OSD Control Panel) located on the rear side of the Panel PC.



### Physical Buttons

Icon	Button	Description
	Reset	Press to reset the system
	Power On/ Off	Press to power on or power off the device

### LED Indicators

LED Type	Status	Description
	On	Power is on
	Off	Power is off
	Blinking	Storage activity (Data is being read or written)
	Off	System is idle

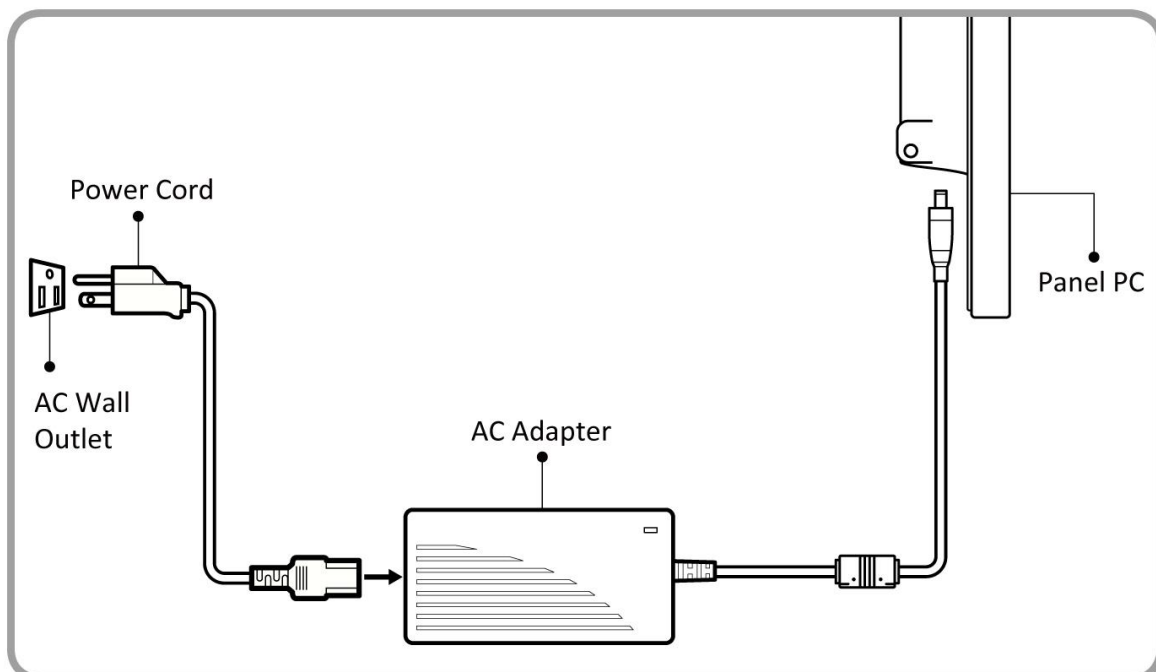
## Chapter 2: Getting Started

This chapter tells you important information on power supply, adapter and precautions tips. Pay attention to power considerations.

### 2.1 Turning On and Off Your Device

#### 2.1.1 To turn on your device:

1. Connect the Panel PC to the AC adapter.
2. Connect the AC adapter to the power cord.
3. Plug in the power cord to a working AC wall outlet. The device will boot automatically.



#### **CAUTION**


Use only the AC adapter (12V/ 50W) included in your package (Rating: Output 4.2 A). Using other AC adapters may damage the device.



#### **ALTERNATING CURRENT**

This product must be grounded. Use only a grounded AC outlet. Install the additional PE ground wire if the local installation regulations require it.

#### 2.1.2 To shut down the device:

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

## 2.2 Operating the Panel PC

Winmate® GC65 Panel PC support several versions of Windows OS:

- Windows 11 IoT
- Windows 11 Pro
- Windows 10 IoT
- Linux Ubuntu 22.04.

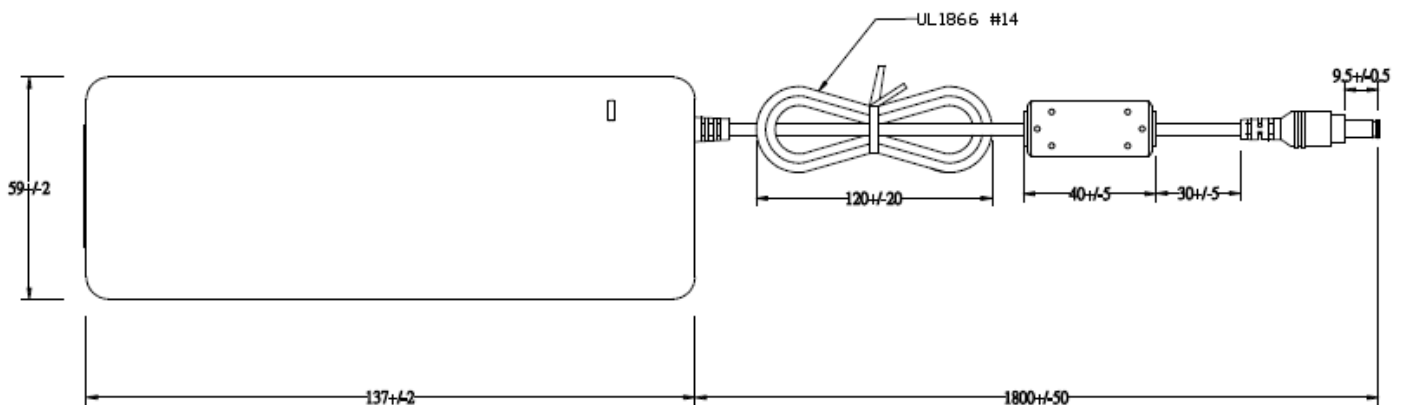


### IMPORTANT:

The device is shipped with the OS System according to your order. Contact us if you have any questions regarding OS settings.

## 2.3 Power Input Connector

Panel PC use and adapter with accepts 12V DC power input to connect the source of power.



### 2.3.1 Connecting to other Devices

This panel PC has front IP65 feature and comes with various interfaces located on the bottom of the panel. Please use correct cables to connect the interfaces accordingly.



## Chapter 3: Operating the Device

In this chapter you will find an instruction on how operate the panel PC



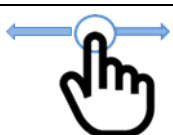
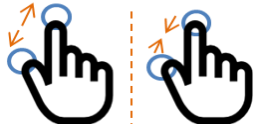




### 3.1 Operating System

G-Win GC SeriesFront IP65 Panel PC supports:

- Windows 11 IoT Enterprise (64bit) (Optional)
- Windows 11 Pro 64 bit (Optional)
- Windows 10 IoT Enterprise (64bit) (Optional)
- Linux Ubuntu 20.04 (Optional)

### 3.2 Multi-Touch

The touchpad supports the core gestures for Windows.

Gesture	Windows Usage	Gesture Action	Action
Tap/ Double-tap	Click / Double-click	Click or double-click	
Panning with Inertia	Scrolling	Drag one or two fingers up and down	
Selection/ Drag (left to right with one finger)	Mouse-drag/ Selection	Drag one finger left/right	
Zoom	Zoom (default to CTRL key + scroll wheel)	Move two fingers apart/ toward each other	
Rotate	No system default unless handled by Application (using WM_Gesture API)	Move two fingers in opposite directions <i>or</i> Use one finger to pivot around another	
Two-Finger tap	N/A - Exposed through Gesture API, used by Application discretion	Tap two fingers at the same time (where the target is the midpoint between fingers)	
Press and Hold	Right-click	Press, wait for blue-ring animation to complete, then release	
Flicks	Default: Pan Up/ Down/ Back, and Forward	Make quick drag gestures in the described direction	

\* Reference from Microsoft®

## Chapter 4: Installation

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

### 4.1 Wiring Requirements

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

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

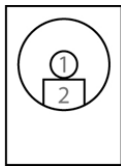
## 4.2 Connecting to Other Devices

This section explains how to connect external interfaces to the Panel PC.

### 4.2.1 Power Connector

#### DC Jack

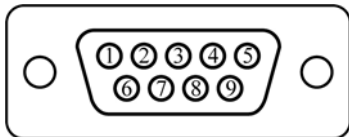
The Panel PC has DC jack connector for 12V DC-in power.



Pin №	Signal Name	Pin №	Signal Name
1	DC_IN	2	GND

### 4.2.2 Serial Port Connector

Use COM1 serial port connector to connect your Panel PC to external devices such as modem or printer. You can configure serial port setting via jumpers located on the motherboard. You need to open the housing in order to access the jumpers.



Pin №	RS-232 (Default)	RS-422	RS-485
1	DCD	TxD-	D-
2	RXD	TxD+	D+
3	TXD	RxD+	NC
4	DTR	RxD-	NC
5	GND	GND	GND
6	DSR	NC	NC
7	RTS	NC	NC
8	CTS	NC	NC
9	RI	NC	NC



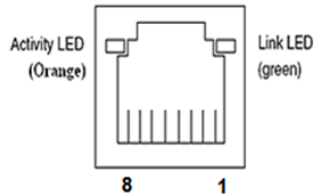
#### CAUTION!

It is recommended to use factory jumper settings. Opening the housing when it is sealed may damage the device and its parts.

*Refer to User Manual for instructions on how to configure serial port setting.*

### 4.2.3 RJ45 Connector

The GC65 Panel PC has two RJ45 connectors that support 10/100/1000 Mbps Ethernet interface for connecting to the internet.

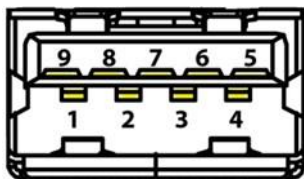


Pin №	Signal Name	Pin №	Signal Name
1	TX1+	2	TX1-
3	TX2+	4	TX2-
5	TX3+	6	TX3-
7	TX4+	8	TX4-

### 4.2.4 USB 3.2

Use USB 3.2 connector to connect your GC Panel PC to USB 3.2 compatible devices.

USB2.0 and USB 3.0



Pin No	Signal Name	Pin No	Signal Name
1	+5V	2	USB_D-
3	USB_D+	4	GND
5	STDA_SSRX-	6	STDA_SSRX+
7	GND_DRAIN	8	STDA_SSTX-
9	STDA_SSTX+		

### 4.2.5 HDMI : HDMI 2.0 Type A

Use HDMI Type A connector to connect the panel PC to external monitor.



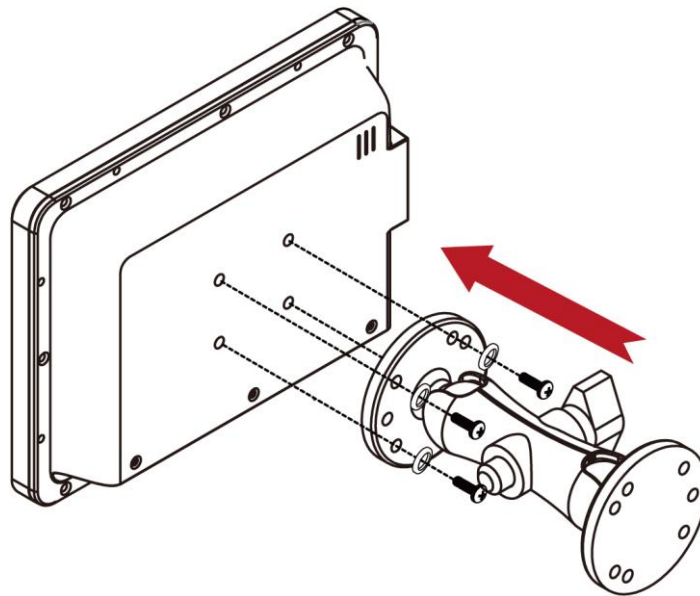
Pin №	Signal Name	Pin №	Signal Name
1	TMDS_DATA2+	2	GND
3	TMDS_DATA2-	4	TMDS_DATA1+
5	GND	6	TMDS_DATA1-
7	TMDS_DATA0+	8	GND
9	TMDS_DATA0-	10	TMDS_CLOCK+
11	GND	12	TMDS_CLOCK-
13	CEC	14	NC
15	DDC_CLOCK	16	DDC_DATA
17	GND	18	5V
19	Hot Plug Detect		

## Chapter 5: Mounting

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

### 5.1 RAM Mount

Notice that only 7" model support RAM Mount to fit any vehicle application.



*\*The picture is for demonstration purposes only. RAM Mount accessories are not supplied by Winmate.*

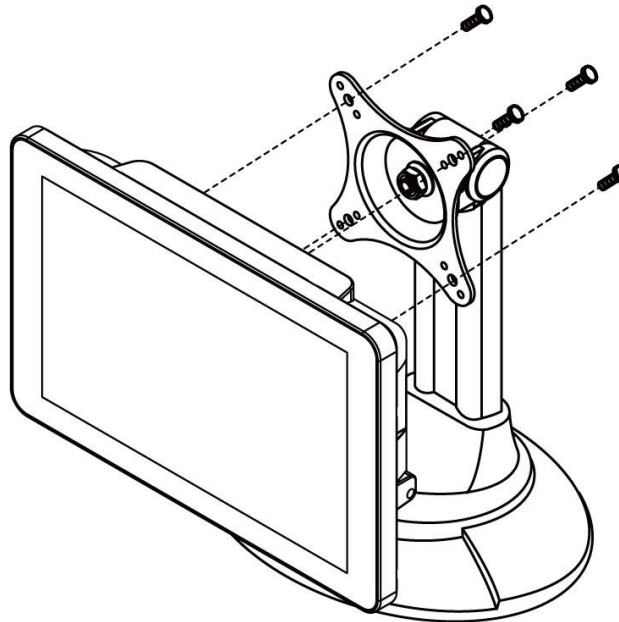
## 5.2 VESA Mount

This device supports VESA Mount and provides various types of mounting options to fit any industrial use or vehicle.

Size	VESA Plate
7", 10.1", 12.1", 12.3"	75x75 mm
15", 19", 21.5", 23.8"	100x100 mm
21.5"	200x200 mm

### Mounting Instruction

Use Philips M4x5 screws to fix the desk stand to VESA holes on the back cover of the device.

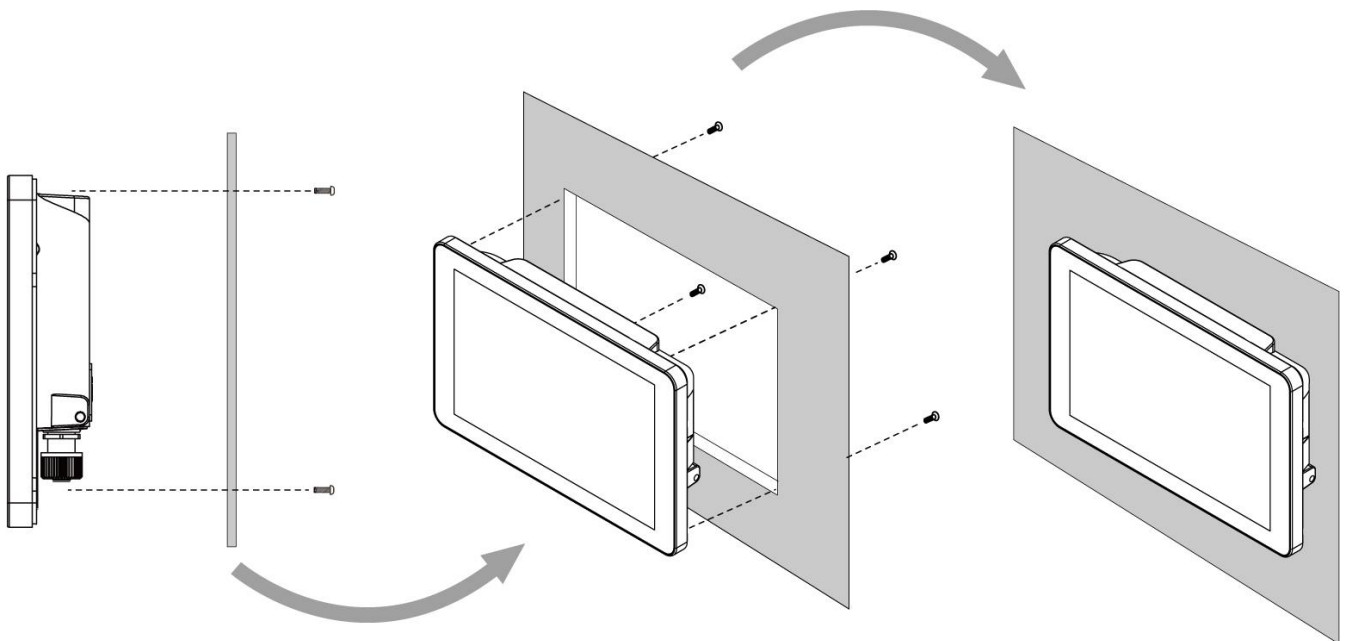


*\*The picture is for demonstration purposes only. VESA Mounting accessories are not supplied by Winmate.*

## 5.3 Panel Mount

Panel Mount mounting solutions is suitable for many applications where Panel PC should be embedded. With this mounting solution flat surface leave no bezel in the front.

Size	Wall Cutout	Screw Hole Diameter
7"	175.5 x 131.5, mm	M4x4, mm
10.1"	250 x 159, mm	M4x4, mm
12.1"	282 x 207, mm	M4x4, mm
12.3"	307 x 128, mm	M4x4, mm
15"	346.5 x 261, mm	M6x4, mm
19"	388 x 280, mm	M4x5, mm
21.5"	457 x 250, mm	M4x5, mm
23.8"	388 x 280, mm	M4x5, mm



### Mounting Instruction:

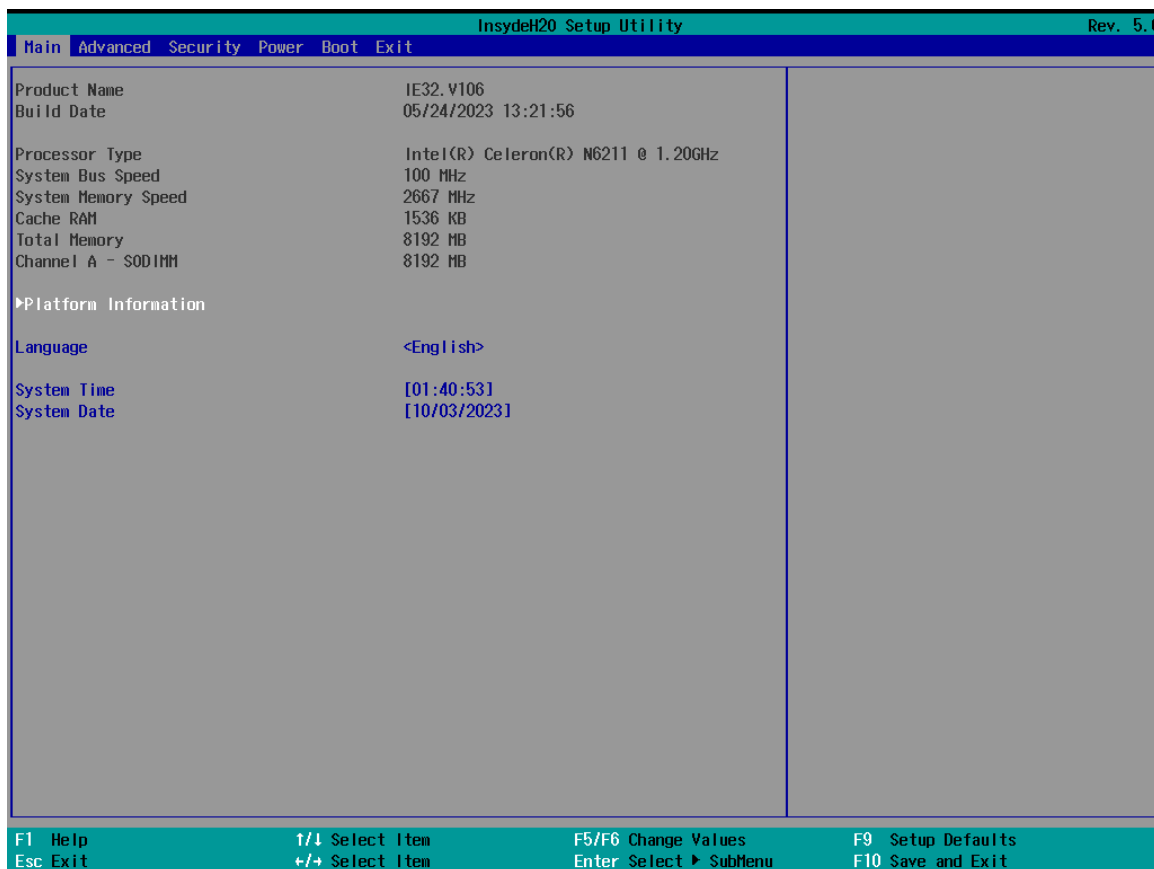
1. Prepare a fixture for the specific dimensions of the device.
2. Cut a hole on a sub frame or panel according to the cutout dimensions.
3. Install the device properly onto the cutout area of the sub frame or panel with the sides of the front bezel.
4. Fix the device to fixture with Phillips screws.

## Chapter 6: 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 Award BIOS installation utility.

### 6.1 Main Menu

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





BIOS Setting	Description	Setting Option	Effect
<b>Language</b>	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.
<b>System Time</b>	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]
<b>System Date</b>	This is current date setting.	Date and time changes.	Set the date in the format [mm/dd/yyyy];

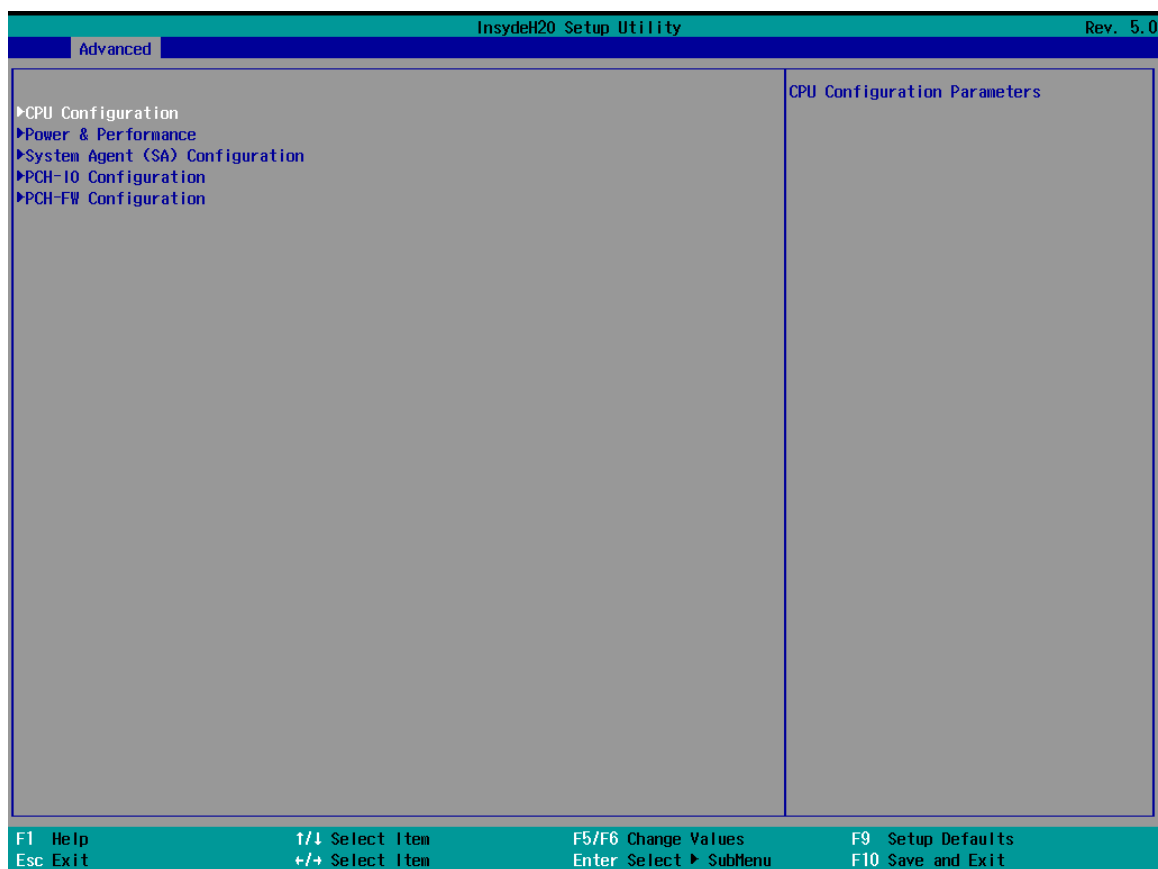
## 6.2 Advanced

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

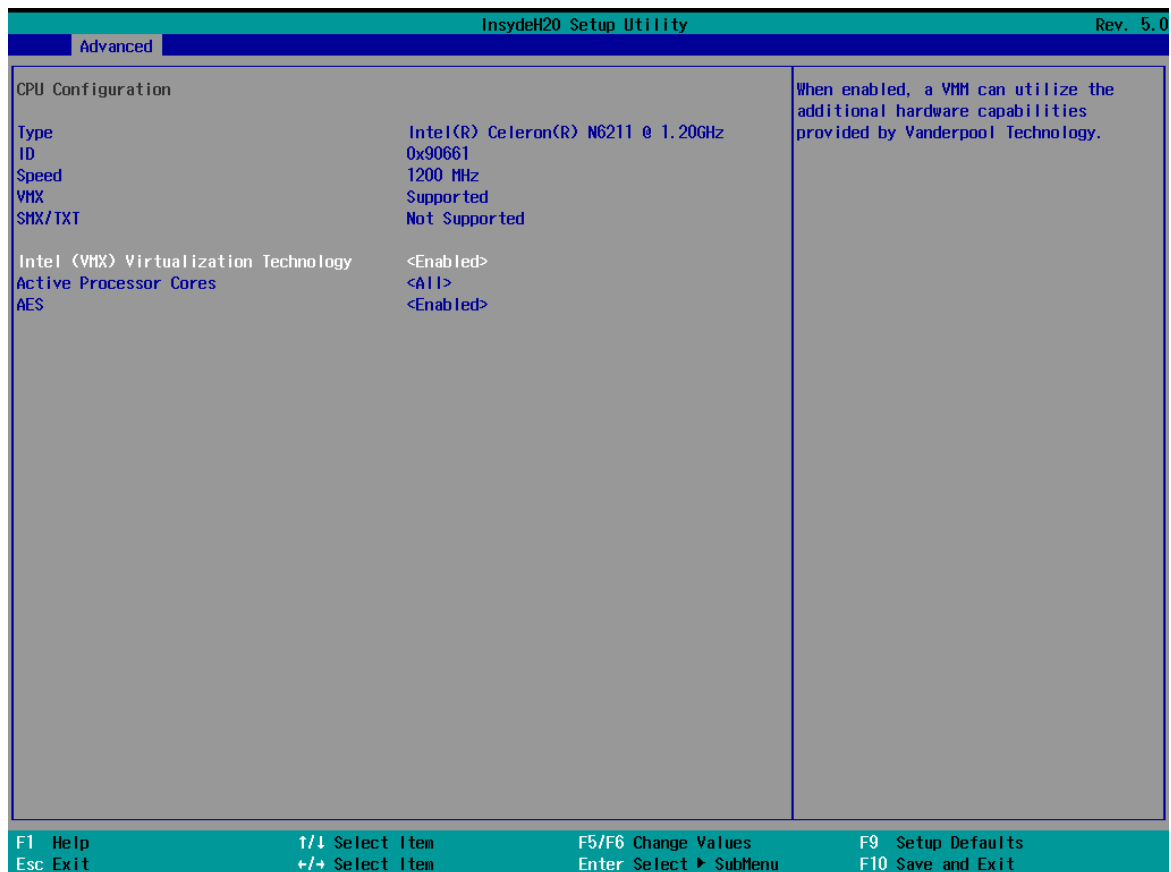
Handle advanced BIOS settings page with caution. Any changes can affect the operation of your computer.



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	Configures PCH-OI	Enter	Opens submenu

BIOS Setting	Description	Setting Option	Effect
Configuration	parameters		
PCH-FM Configuration	Configures PCH-FM parameters	Enter	Opens submenu
SIO F81968	Configures SIO F81968 parameters	Enter	Opens submenu

## 6.2.1 CPU Configuration

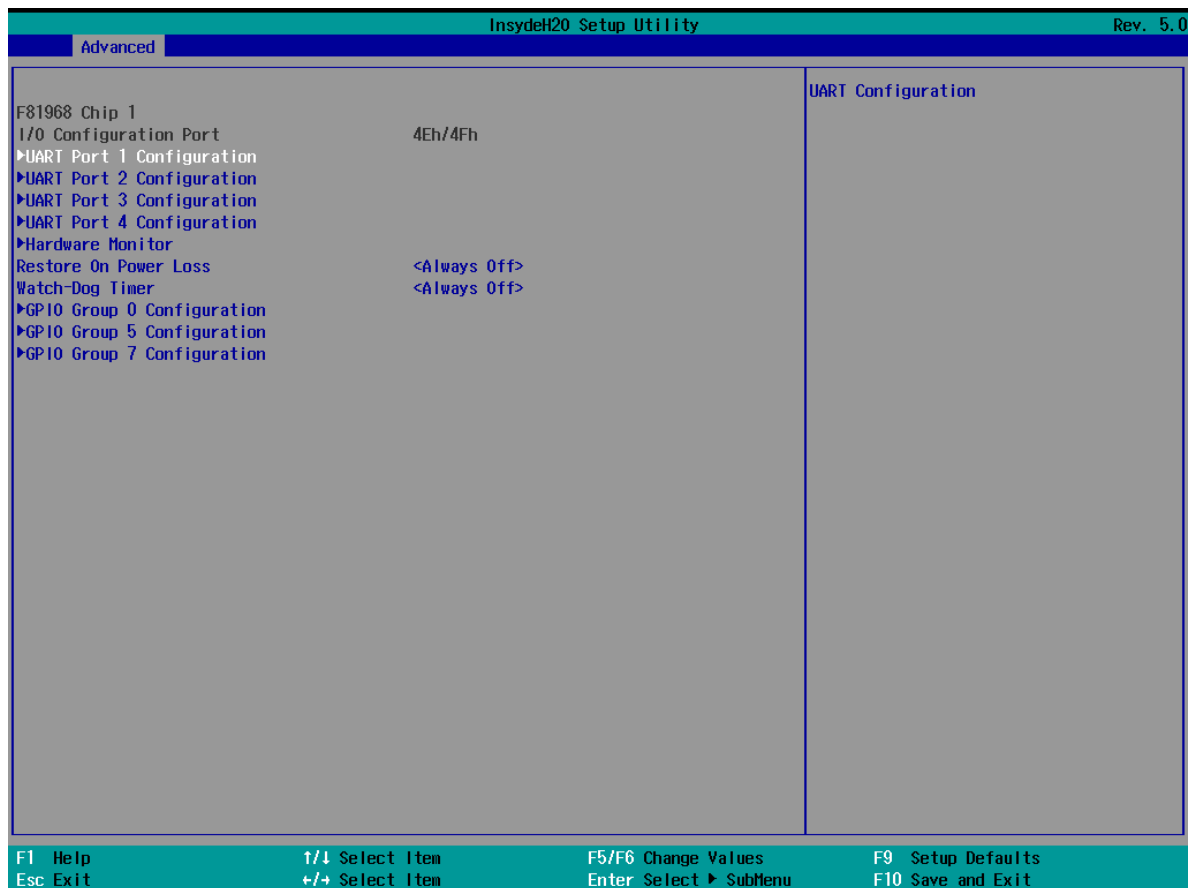


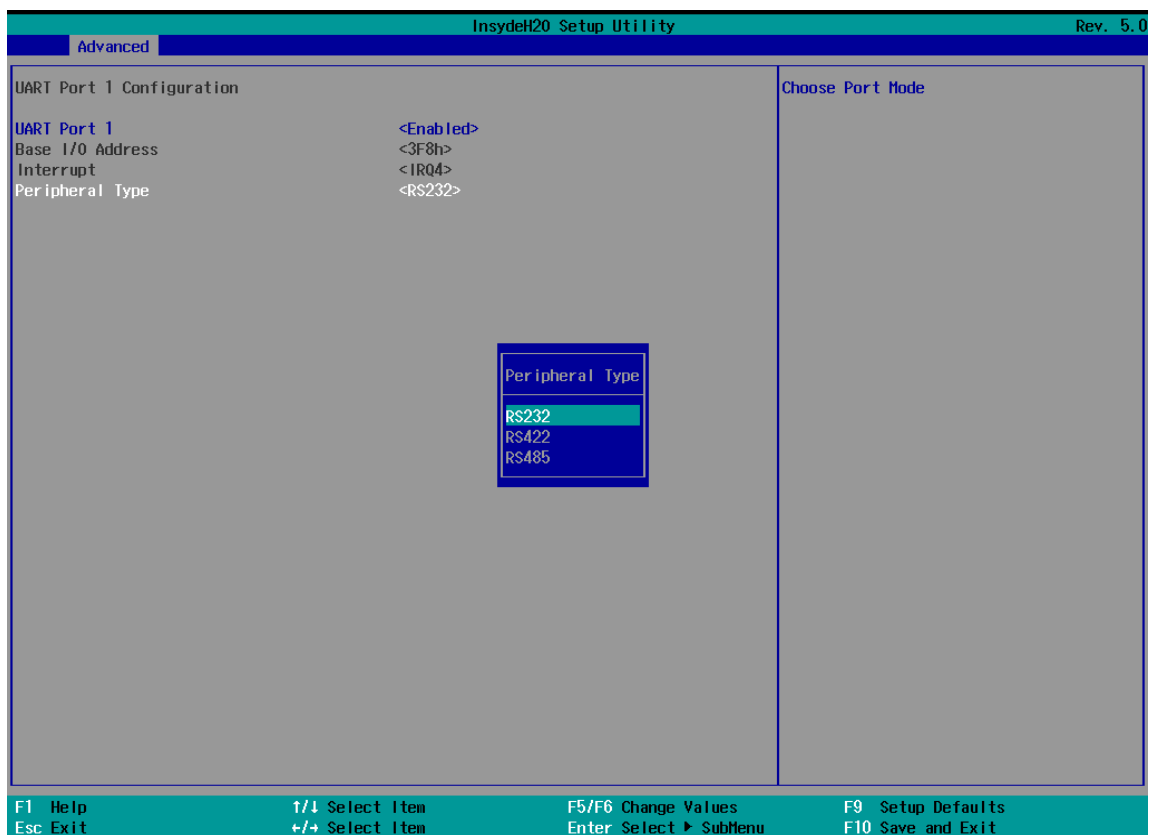
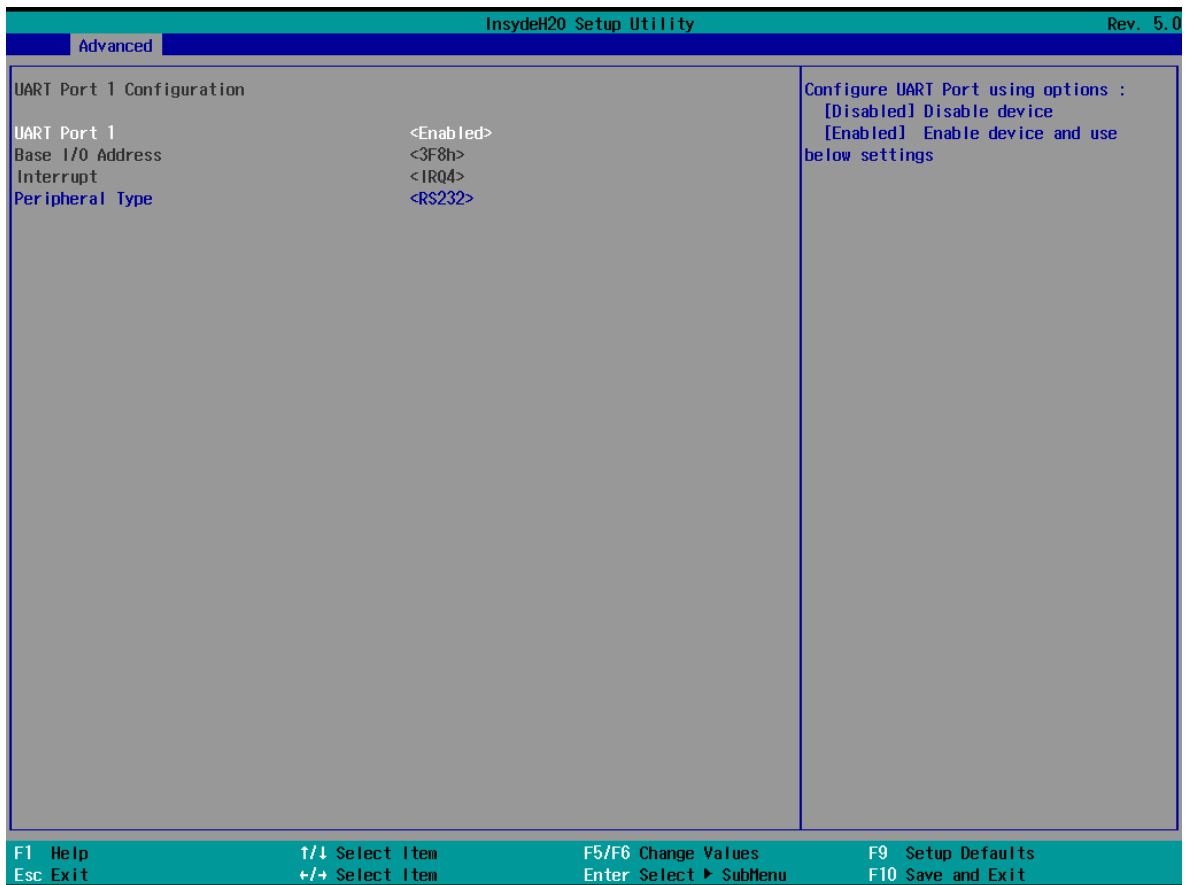
BIOS Setting	Description	Setting Option	Effect
Intel (VMX) Virtualization Technology	Enable or disable Intel Virtualization Technology.	Enable/Disable	When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.
Active Processor Cores	Number of core to enable in each processor package	All / 1 / 2 / 3	Select number of core to enable in each processor package

BIOS Setting	Description	Setting Option	Effect
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 Encryption Standard)	Enable/Disable	Enable or disable AES

## 6.2.2 F81968 Configuration

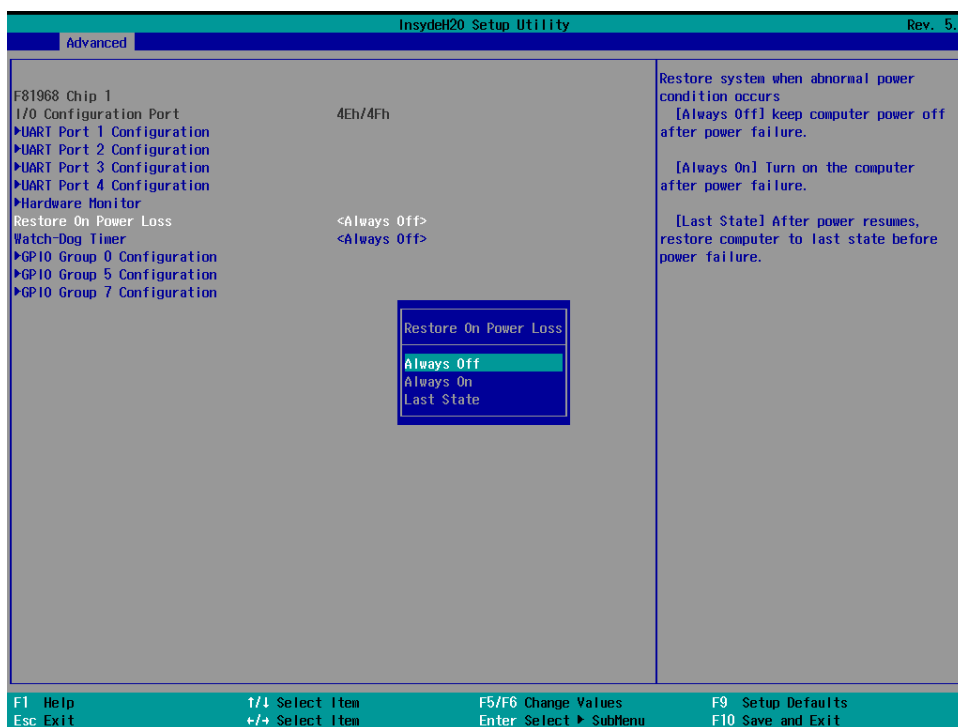
If you want to adjust the UART port type, follow below step. First, enter the UART Port1 Configuration and in Peripheral Type, you can choose between RS232/RS422/RS485.



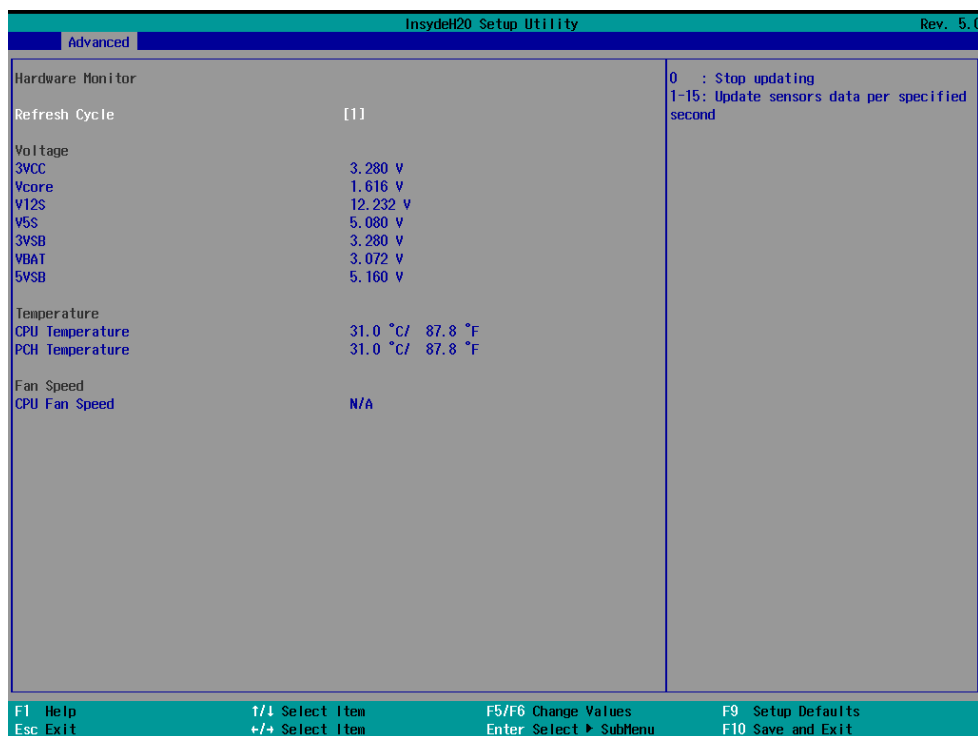


### 6.2.2.1 Restore On Power Loss

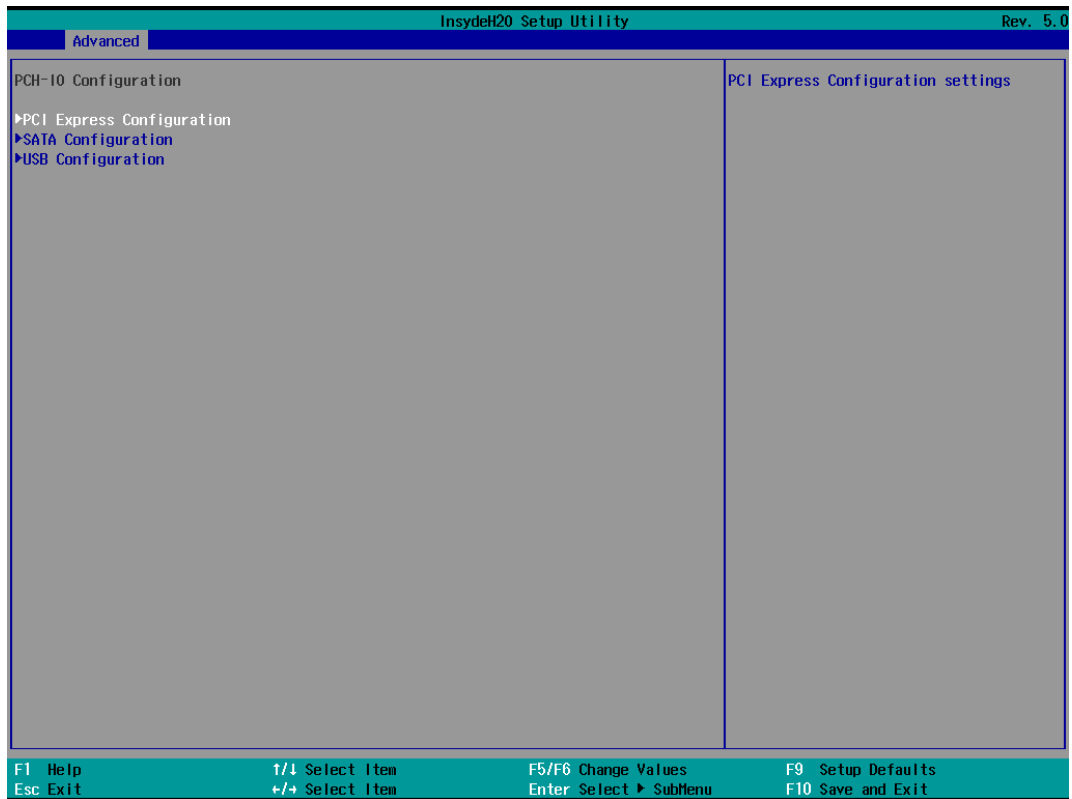
In Restore On Power Loss, you can setup whether to restore the product automatically when the Power loss.



### 6.2.3 Hardware Monitor

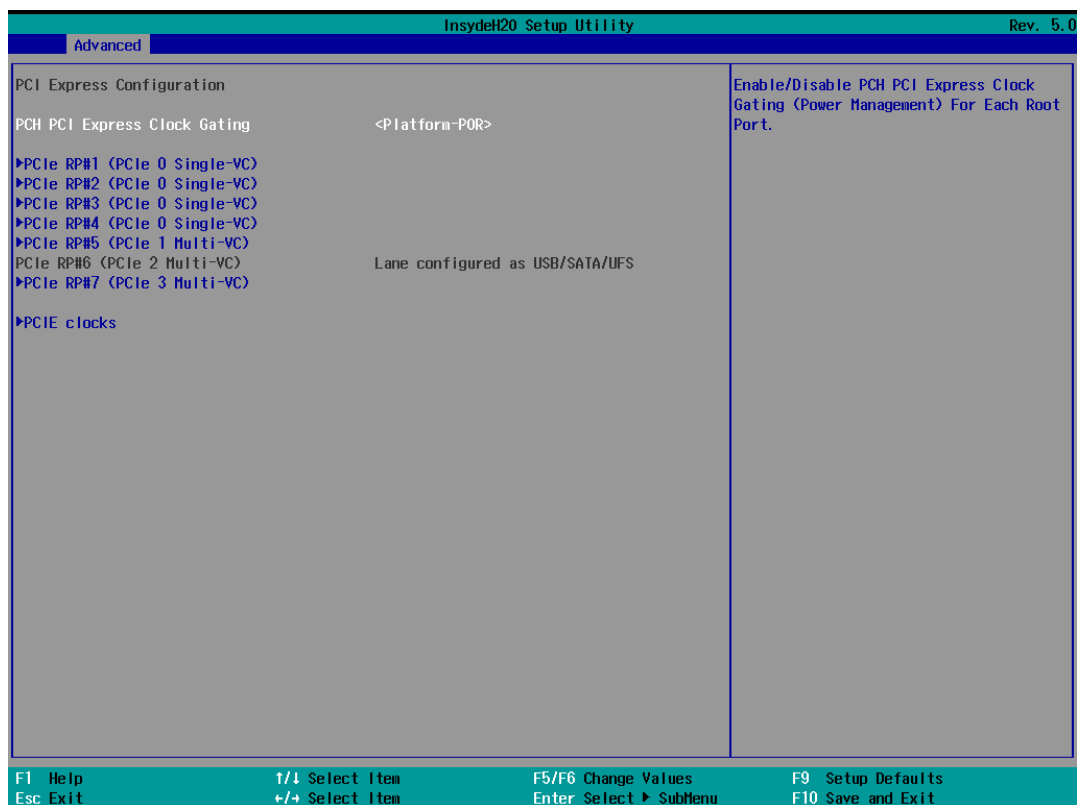


## 6.2.4 PCH-IO Configuration

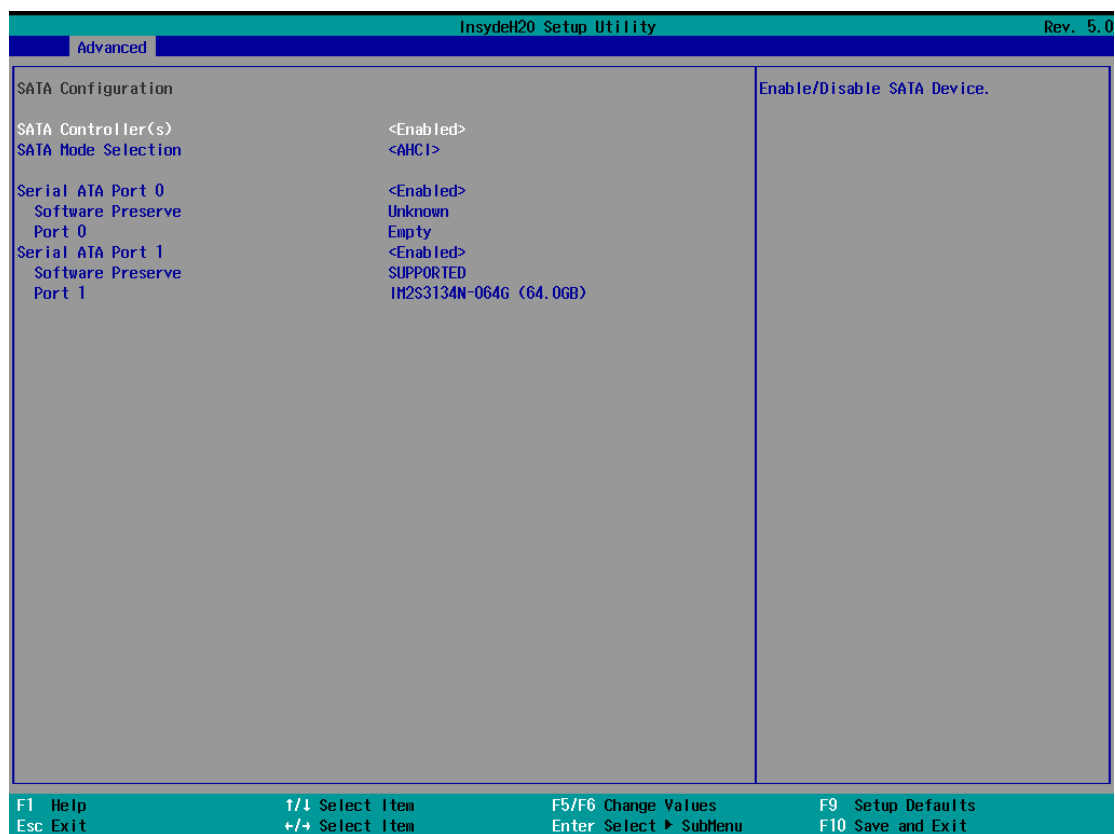


BIOS Setting	Description	Setting Option	Effect
<b>PCI Express Configuration</b>	PCI Express clock gating enable/disable for each root port.	Enter	Opens sub-menu
<b>SATA And RST Configuratuion</b>	Enable/ Disable SATA device	Enter	Opens sub-menu
<b>USB Configuration</b>	Selectively enable/ disable the corresponding USB port from reporting a Device Connection to the controller.	Enter	Opens sub-menu

## 6.2.5 PCI Express Configuration

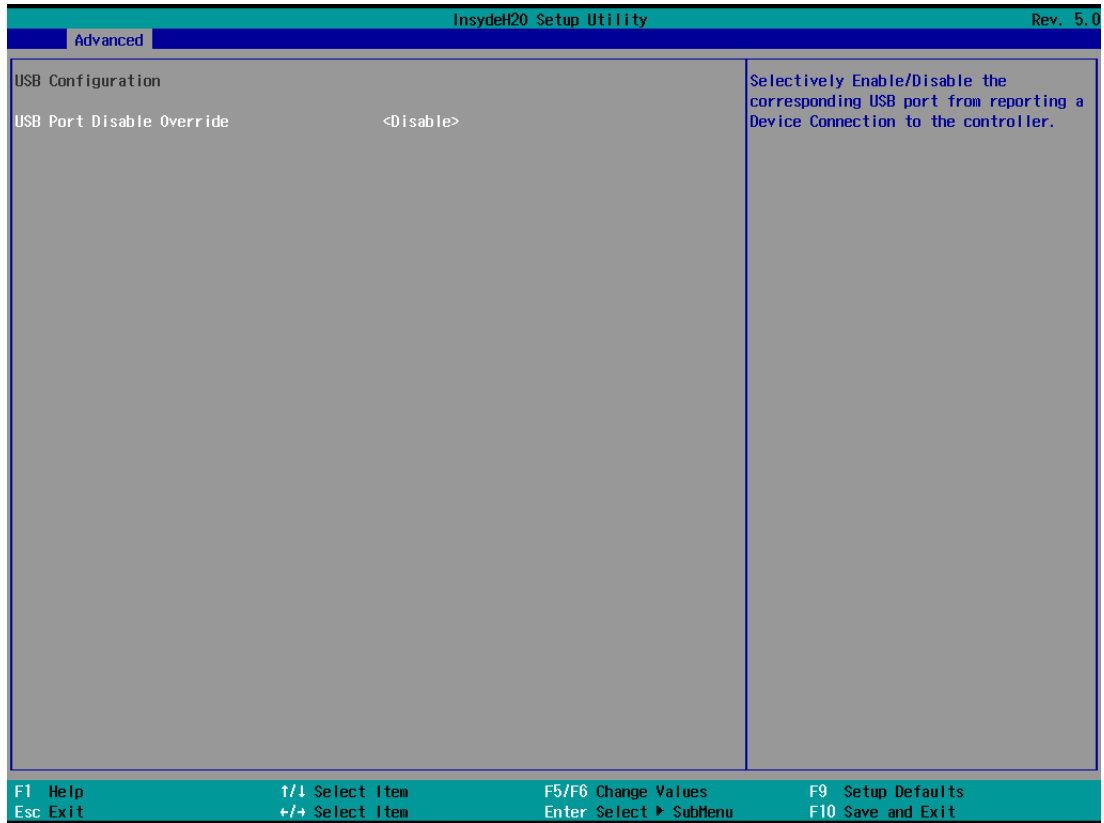


## 6.2.6 SATA and RST Configuration

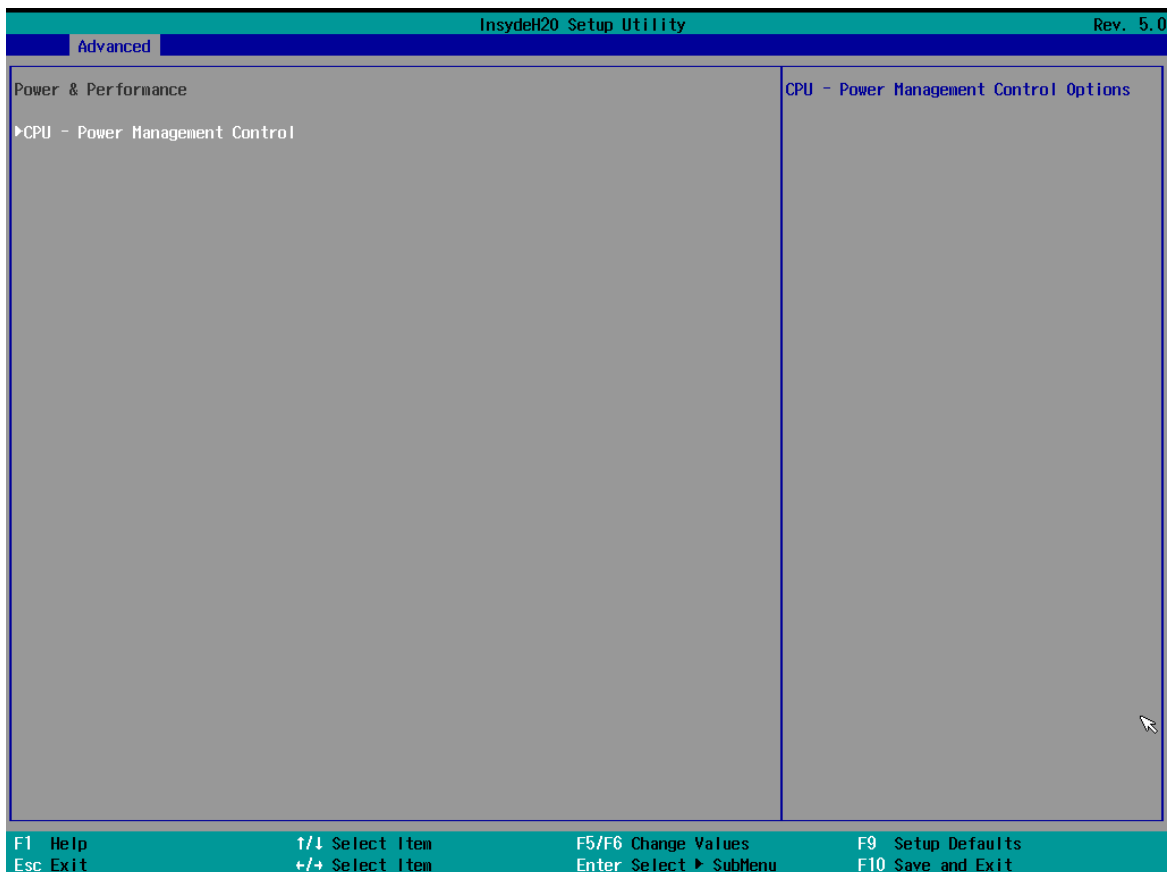




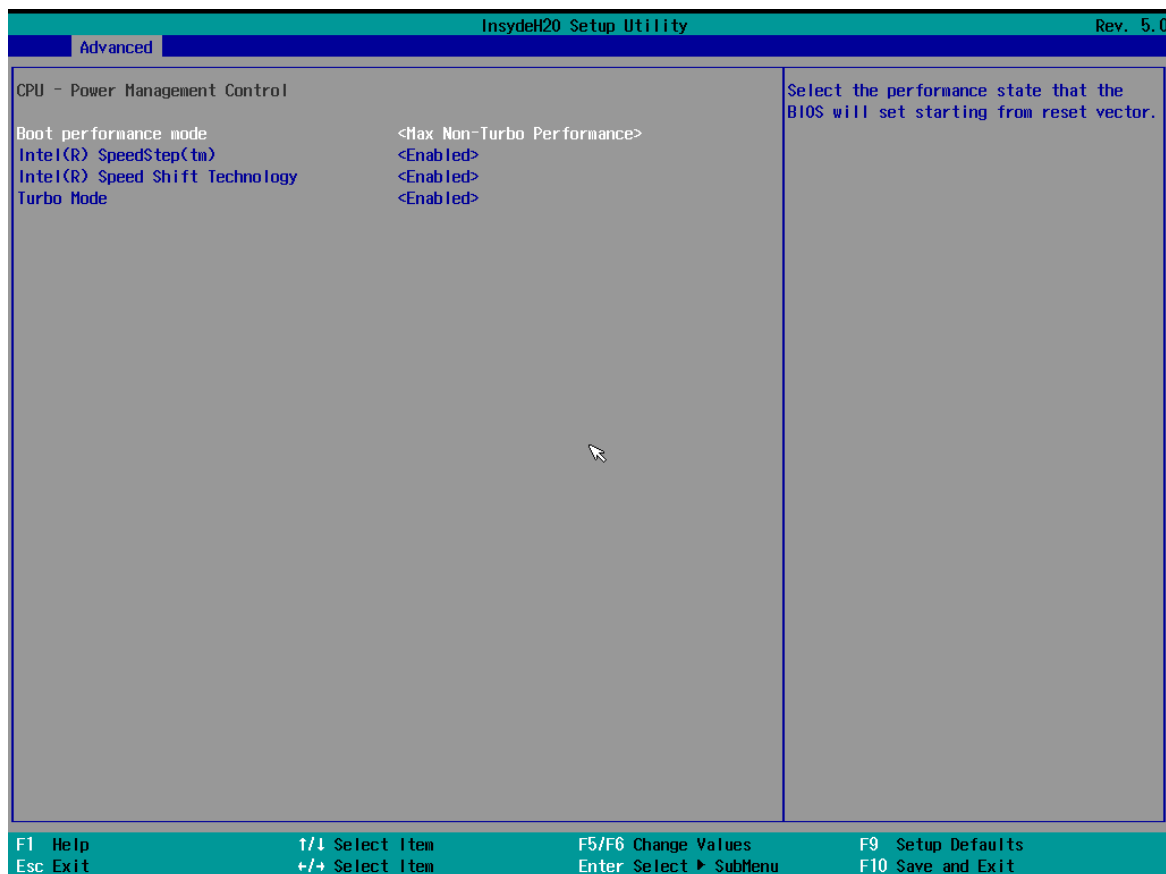
## 6.2.7 USB Configuration



## 6.2.8 Power & Performance



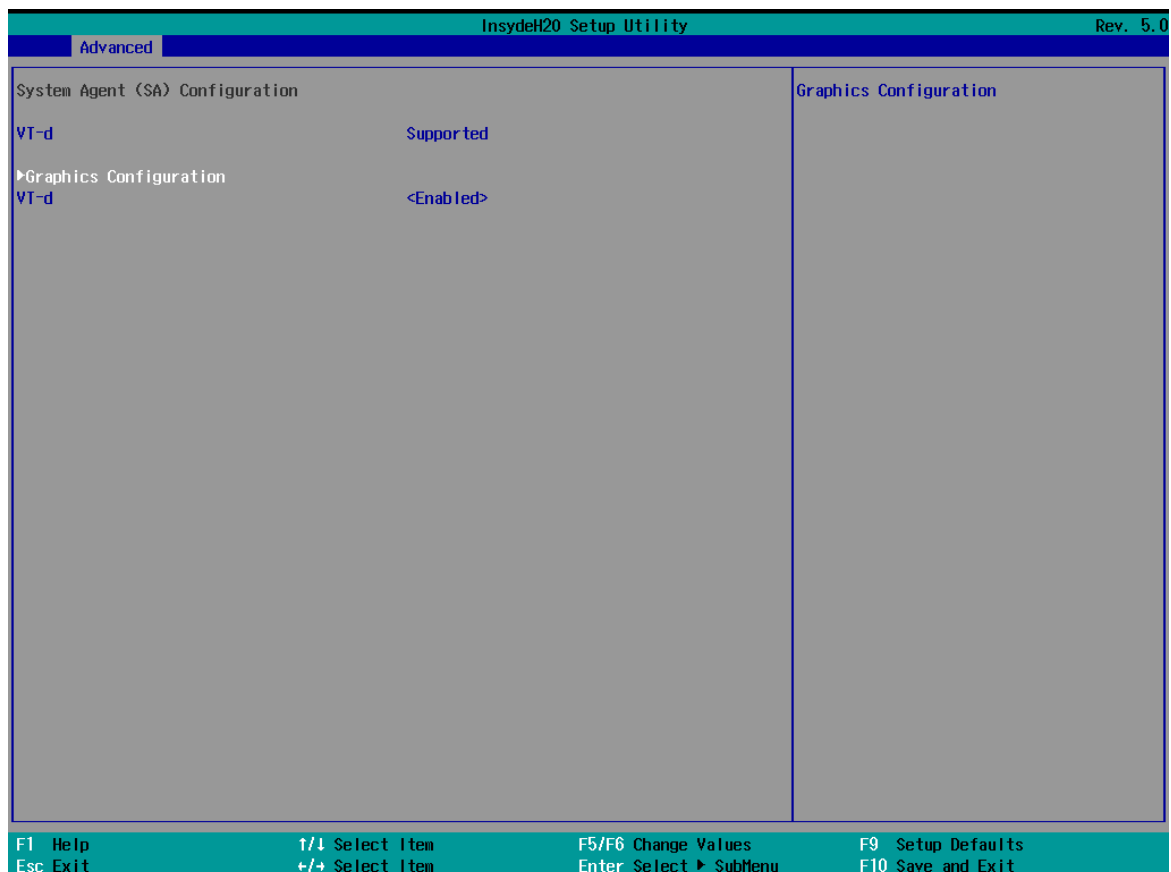
BIOS Setting	Description	Setting Option	Effect
<b>CPU – Power Management Control</b>	Configure CPU – Power Management parameters	Enter	Opens sub-menu



BIOS Setting	Description	Setting Option	Effect
<b>Boot Performance Mode</b>	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
<b>Intel SpeedStep (ta)</b>	Configure Intel SpeedStep (ta) parameters	Enabled/ Disabled	Allows more than two frequency ranges to be supported
<b>Intel Speed Shift Technology</b>	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

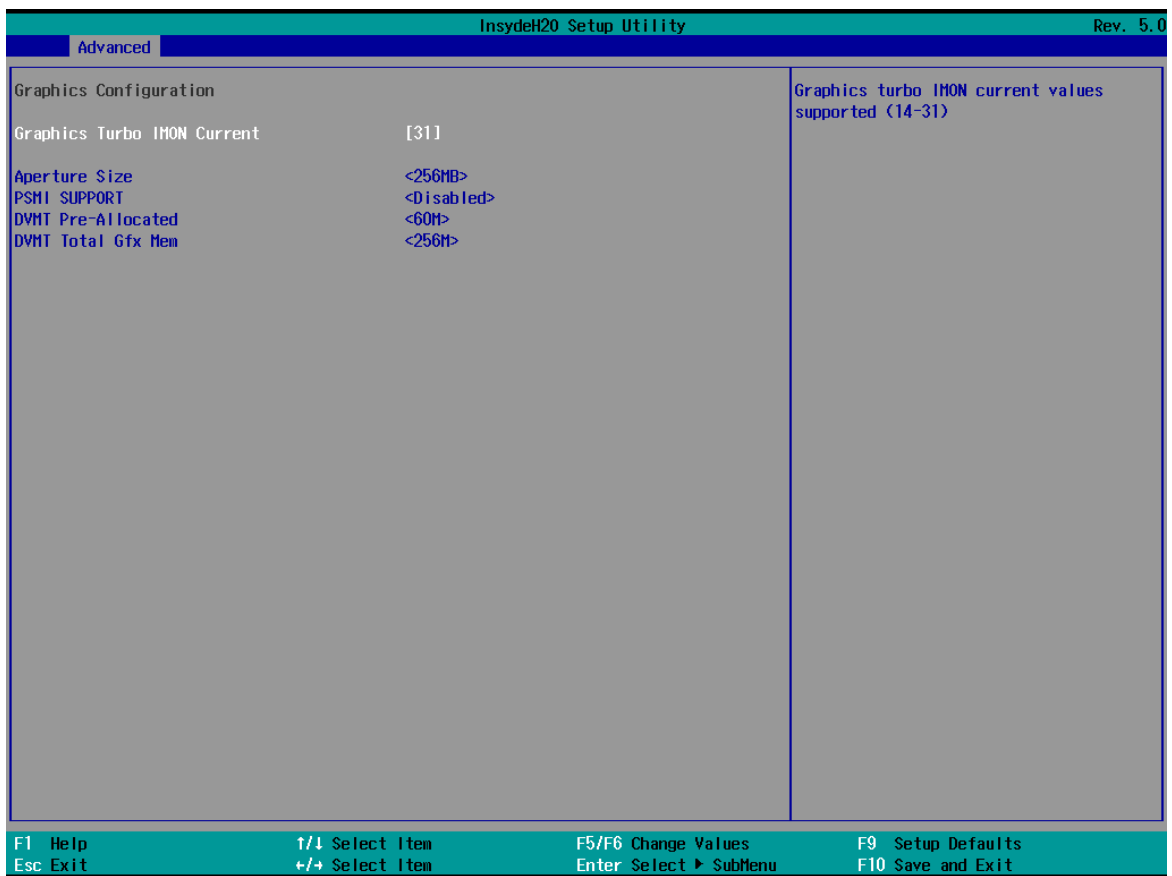
BIOS Setting	Description	Setting Option	Effect
<b>-Turbo Mode</b>	Enable or disable Turbo Mode	Enabled/ Disabled	Enable/ Disable processor Turbo Mode (requires EMTTM enabled too). Auto means enabled, unless max turbo ratio is bigger than 16 – SKL AO W/A
<b>C states</b>	Enable or disable C states	Enabled/ Disabled	Enable/ Disable CPU Power Management. Allows COU to go to C states when it is not 100% utilized
<b>Custom P-state Table</b>	Configure Custom P-state Table parameters	Enter	Enters sub-menu
<b>-Number of P-states</b>	Select the number of custom P-states.	[Number]	Set the number of custom P-states. At least 2 states must be present

## 6.2.9 System Agent (SA) Configuration



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

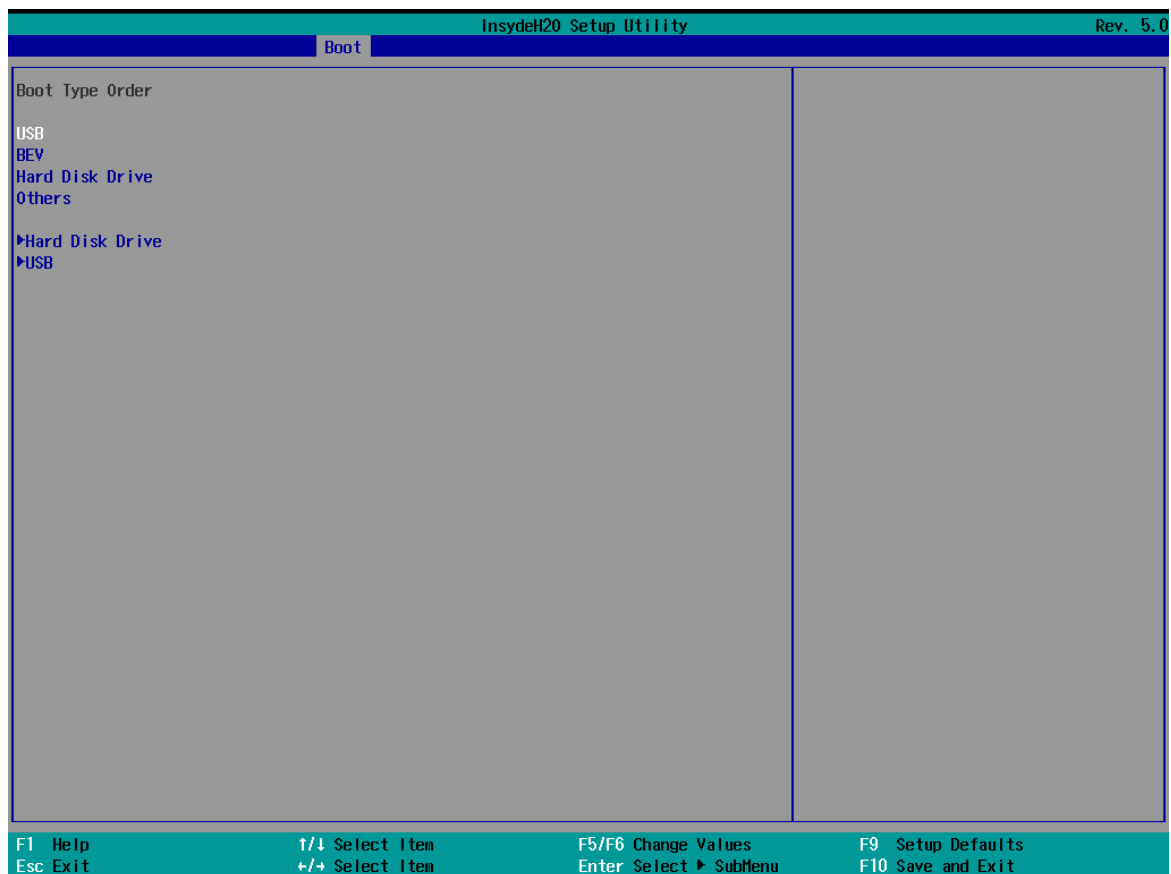
## 6.2.10 Graphics Configuration



BIOS Setting	Description	Setting Option	Effect
<b>Internal Graphics</b>	Internal Graphics settings	Auto Enabled Disabled	Keep IGFX enabled based on the setup options
<b>Aperture Size</b>	Select the aperture size	128MB 256MB 512MB 1024MB 2048 MB	Select the aperture size  <i>Note: Above 4MB MMIO BIOS assignment is automatically enabled when selecting 2048MB aperture. To use this feature please disable CSM port</i>

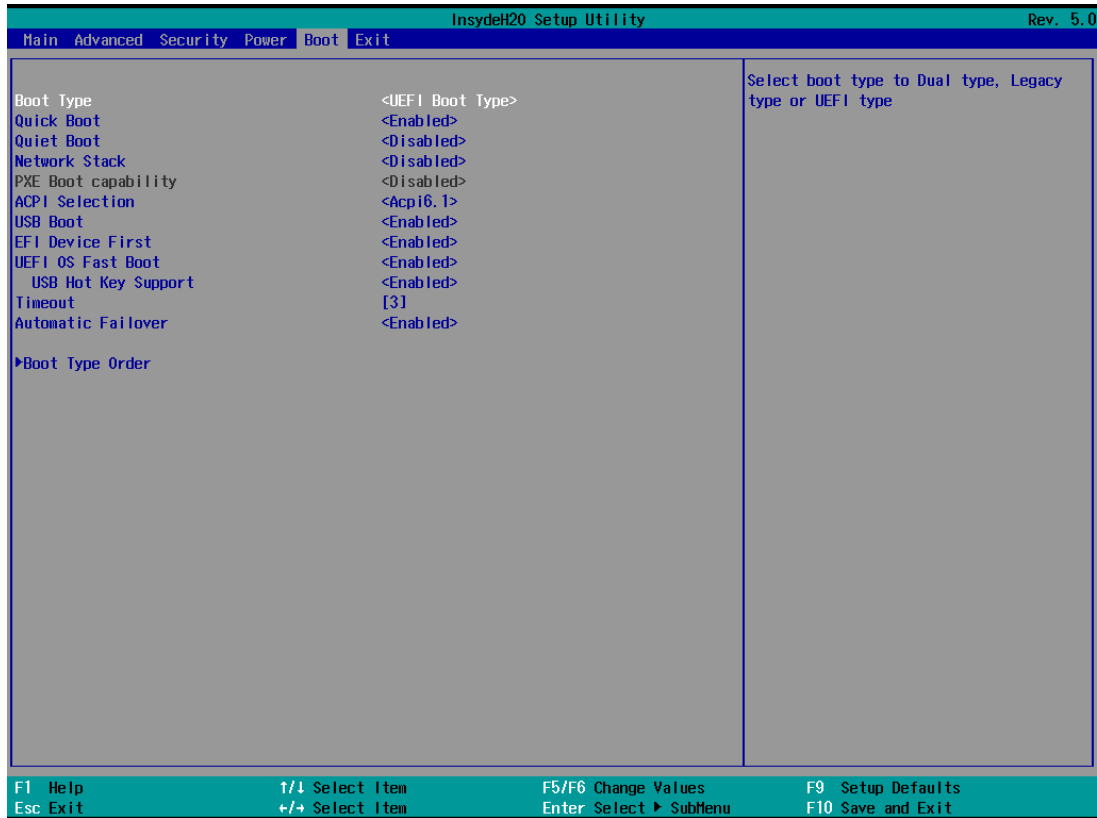
BIOS Setting	Description	Setting Option	Effect
<b>DVMT Pre-Allocated</b>	Select DVMT Pre-Allocated	0M~60M	Select DVMT 5.0 Pre-Allocated (Fixed) Graphic Memory size used by Internal Graphic Device
<b>DVMT Total Gfx Mem</b>	Select DVMT Total Gfx Mem	256M 128M MAX	Select DVMT 5.0 Total Graphic Memory size used by the Internal Graphic Device
<b>Gfx Low Power Mode</b>	Select Gfx Low Power Mode	Enabled/ Disabled	This option is applicable for SFF only

## 6.2.11 Boot



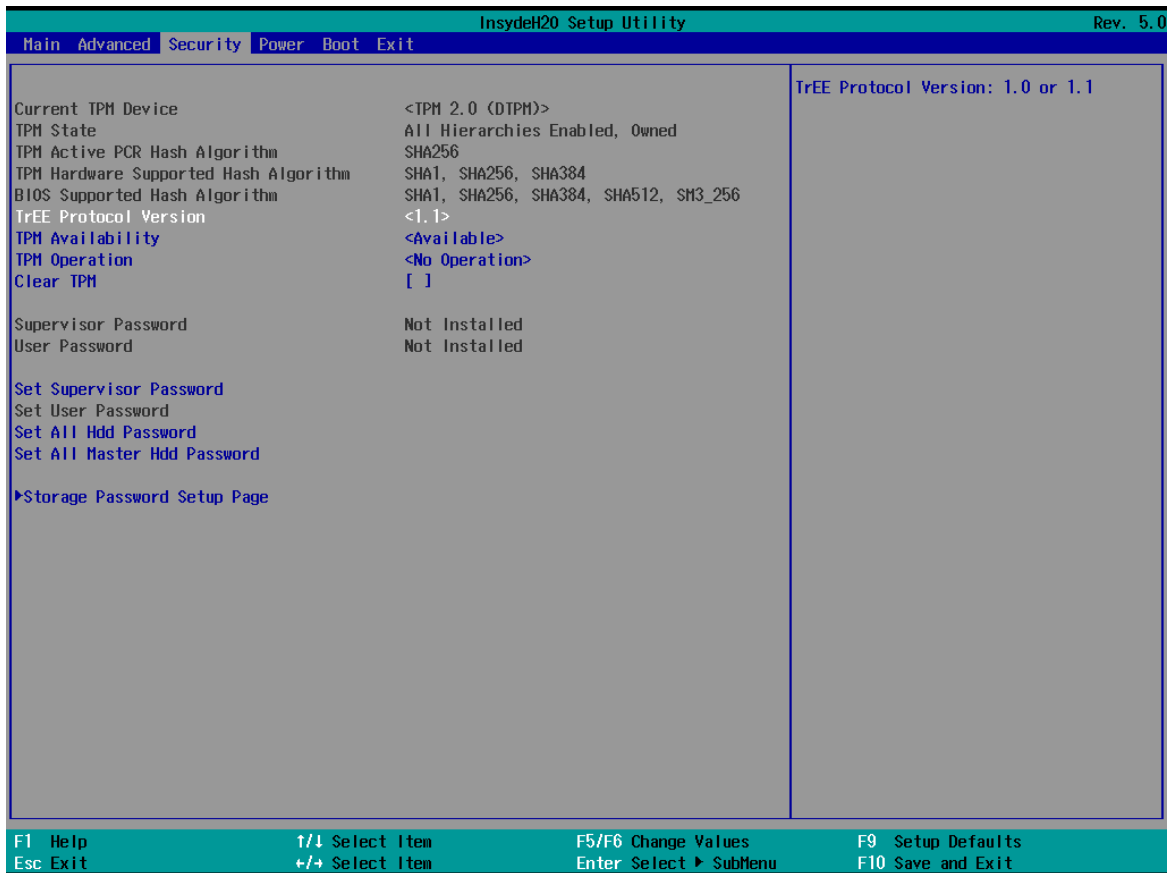
BIOS Setting	Description	Setting Option	Effect
<b>Boot Type</b>	Boot Type configuration	UEFI Boot Type	Select boot type to Dual type, Legacy type or UEFI type
<b>Quick Boot</b>	Quick Boot configuration	Enabled Disabled	Allows InsydeH20 to skip certain tests while booting. This will decrease the time needed to boot the system
<b>Quiet Boot</b>	Quiet Boot configuration	Enabled Disabled	Disable or enable booting in text Mode.
<b>Timeout</b>	Timeout	[Value]	Timeout settings
<b>Automatic Failover</b>		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
<b>Boot Type Order</b>	Boot Type Order	Enter	Opens sub-menu

## 6.2.12 Boot Type Order



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

## 6.2.13 Security



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

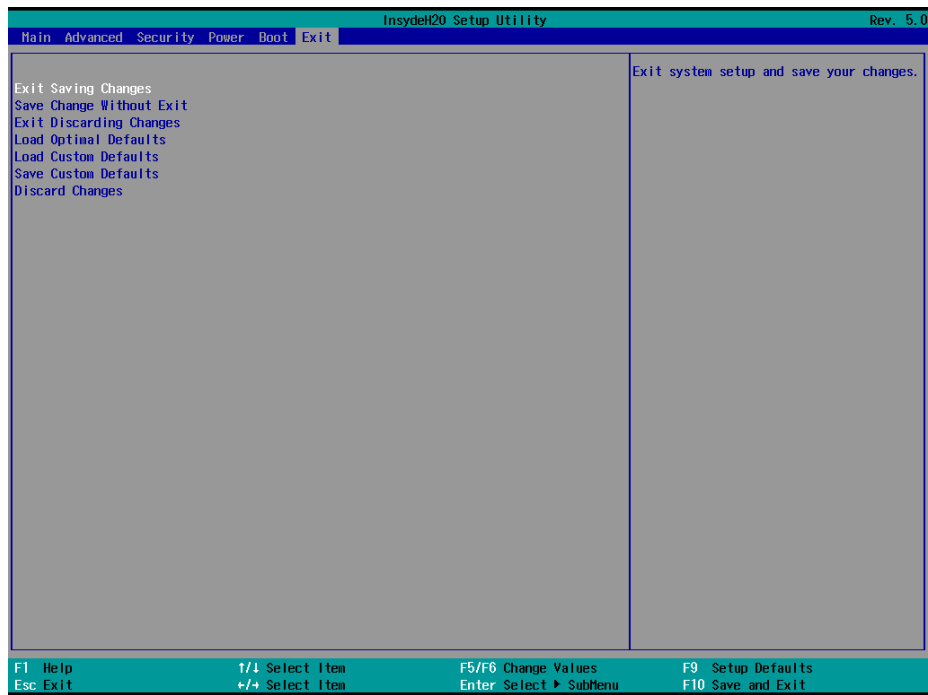


## 6.2.14 Power



BIOS Setting	Description	Setting Option	Effect
<b>ACPI S3</b>	ACPI S3 configuration	Disabled Enabled	Enable/ Disable ACPI S1/S3 Sleep state
<b>Auto Wake on S5</b>	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

## 6.2.15 Exit



## 6.3 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 any expansion 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 **F6** on the external USB keyboard 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.
5. During the recovery process, a command prompt will show up to indicate the percent of recovery process complete.
6. After the recovery process to complete, please restart your computer manually.

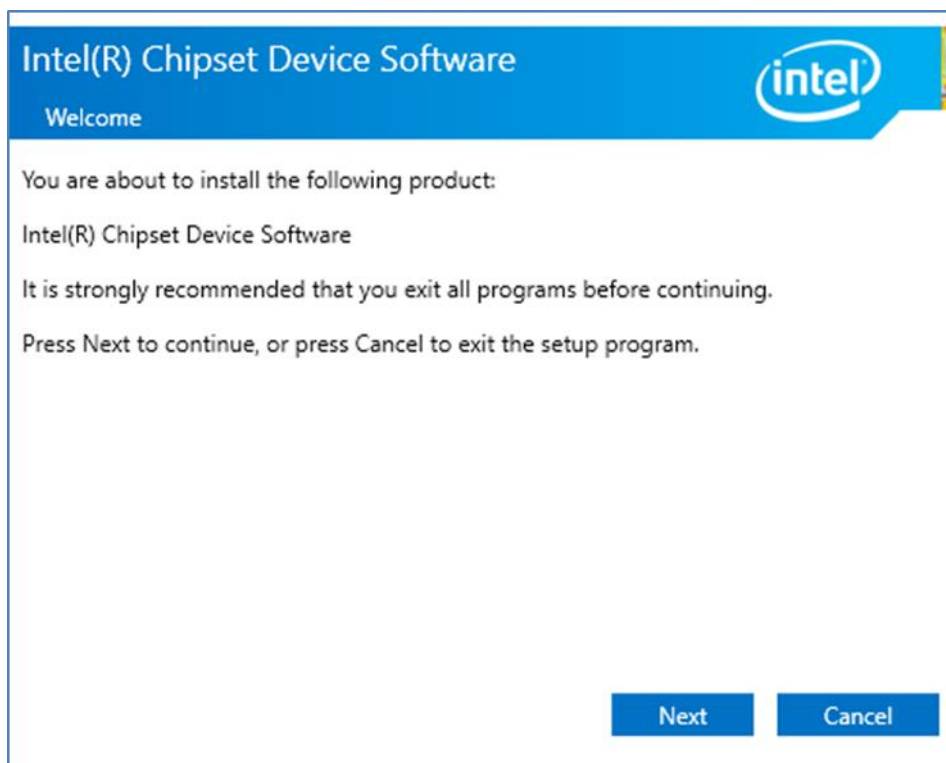
## Chapter 7: Driver Installation

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 IE32 3.5" SBC.

### 7.1 Chipset Driver

Follow instructions below to install Chipset driver.

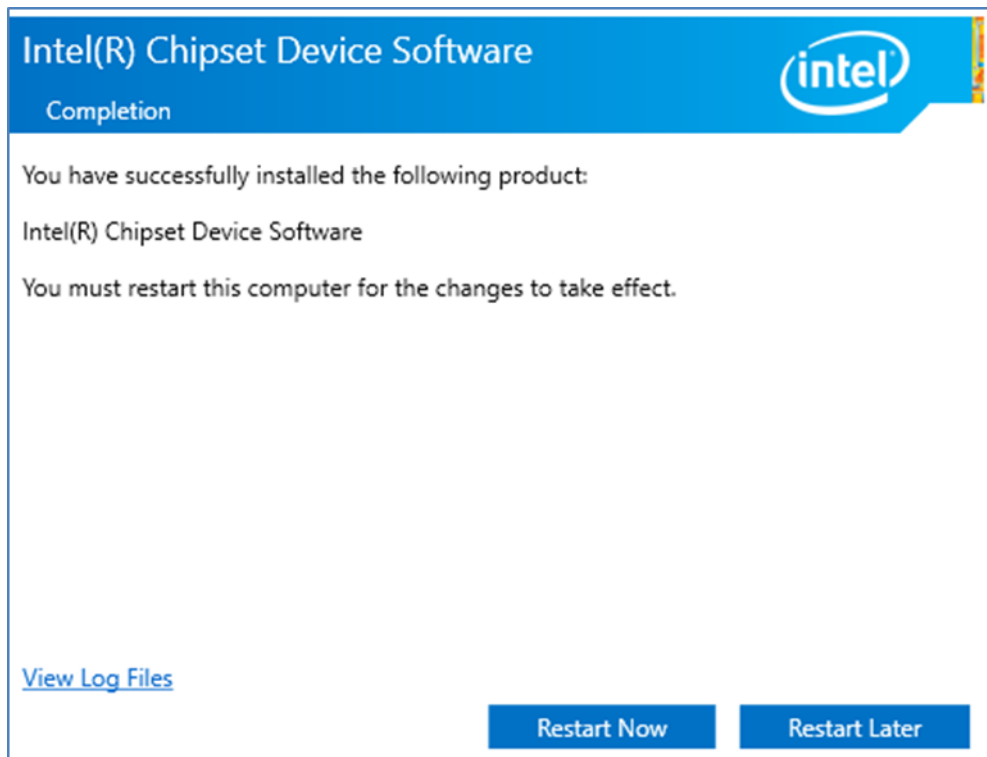
1. Open the Driver (Download from Winmate Download Center) and select **Chipset** driver. When installation window will pop up, select **Next**.



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



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



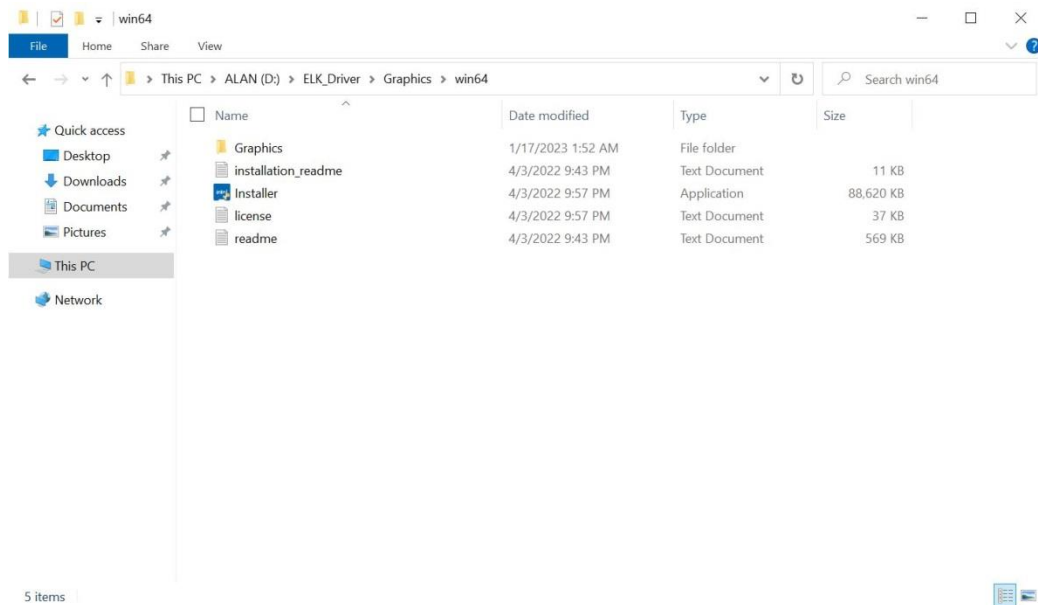
4. Wait for the driver to be installed. When installation completed, select **Restart Now** to restart your computer.



## 7.2 Graphic Driver

Follow instructions below to install Graphic driver.

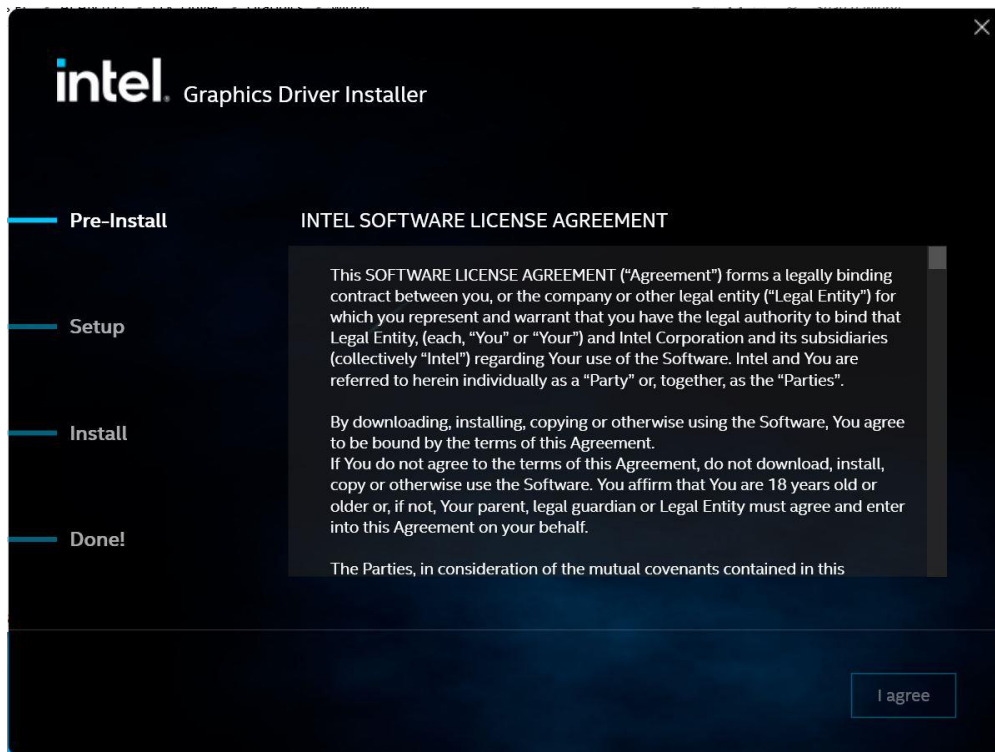
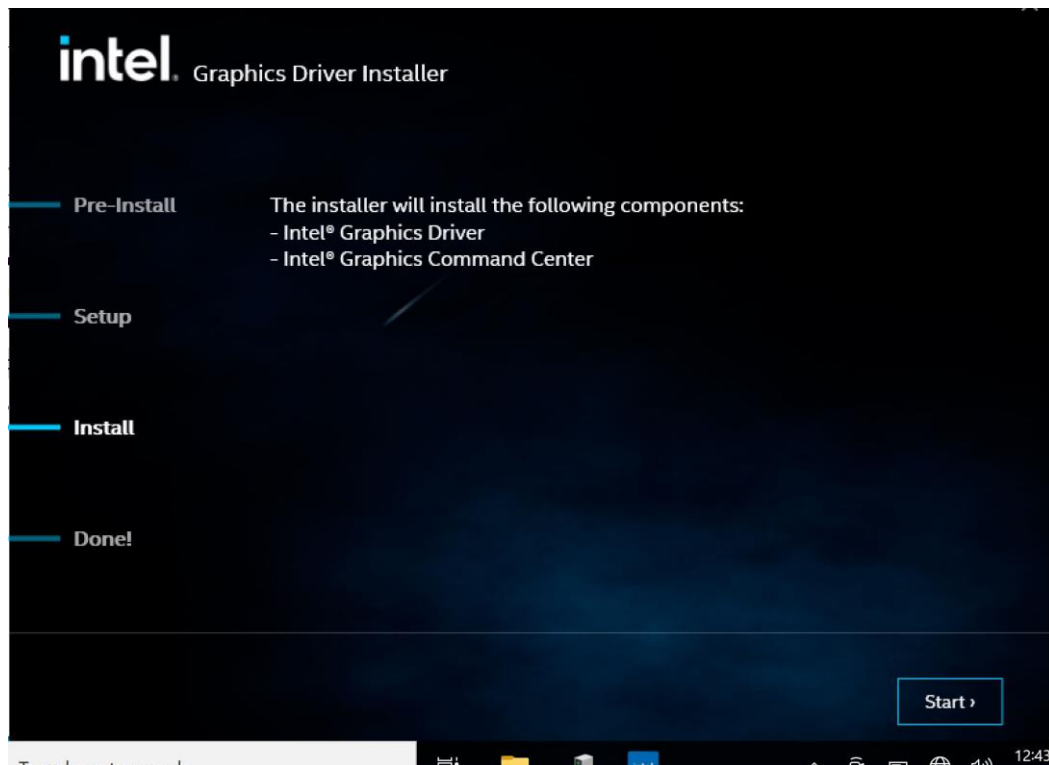
1. Open the Driver (Download from Winmate Download Center) and select **Graphic** driver.



2. Installation window will pop up, select **Begin installation**.

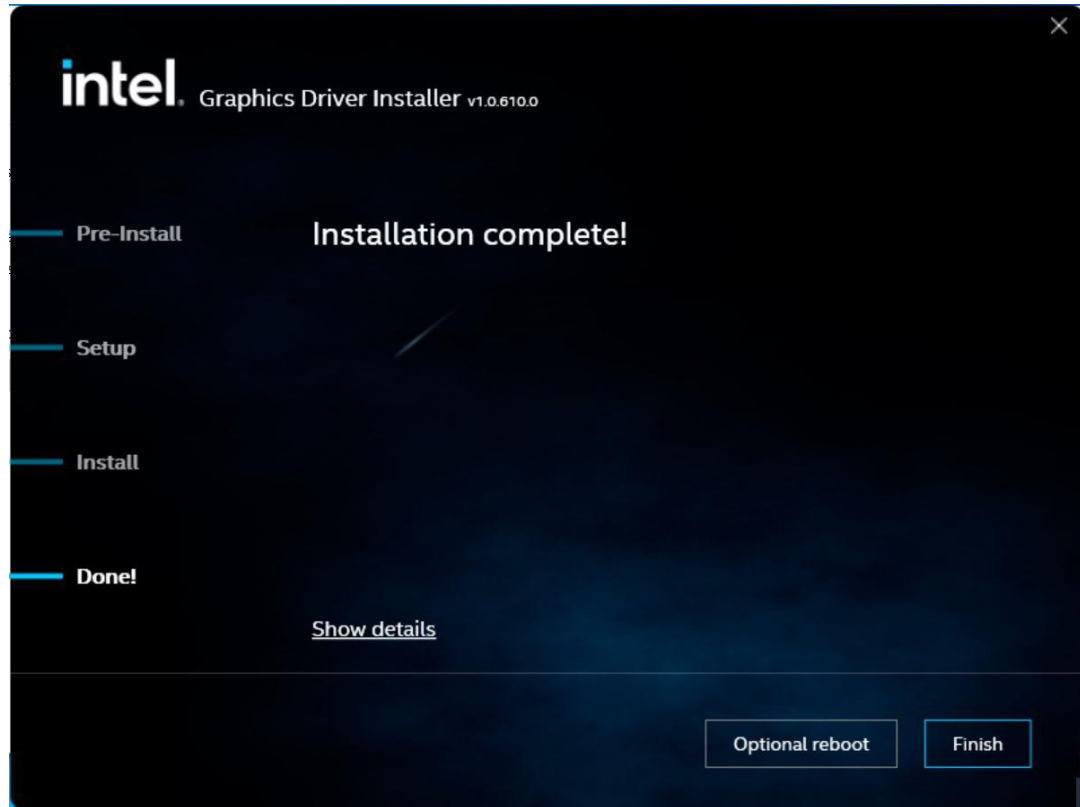


## 3. Select I agree.

4. Select **Start** to install the Driver.



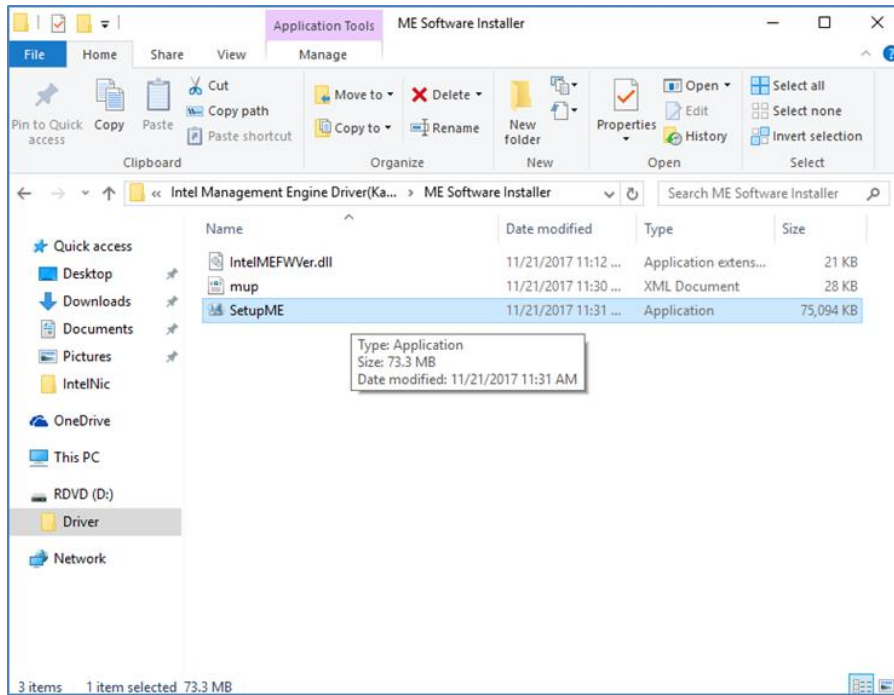
5. After installation is completed, click **Finish**.



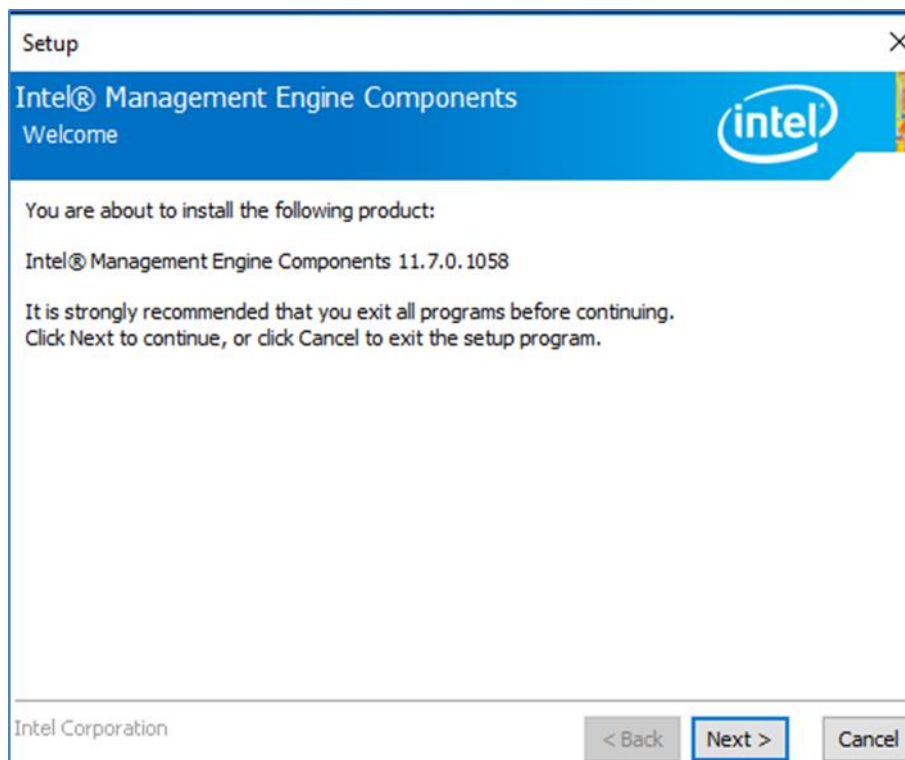
## 7.3 Management Engine (ME)

Follow instructions below to install Management Engine (ME) .

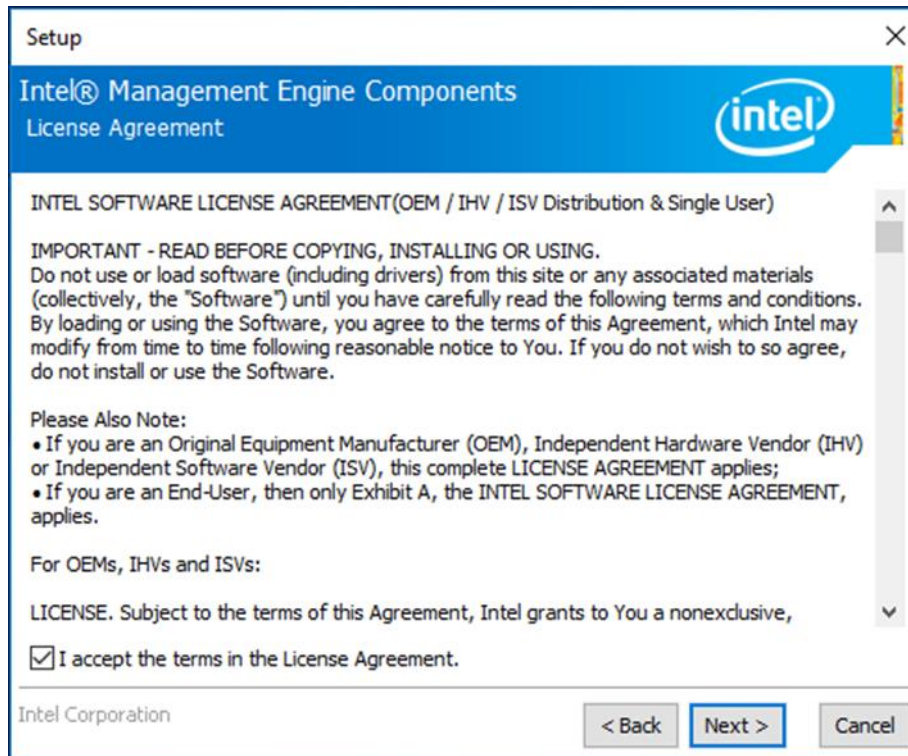
1. Open the Driver (Download from Winmate Download Center) and select **ME** driver.



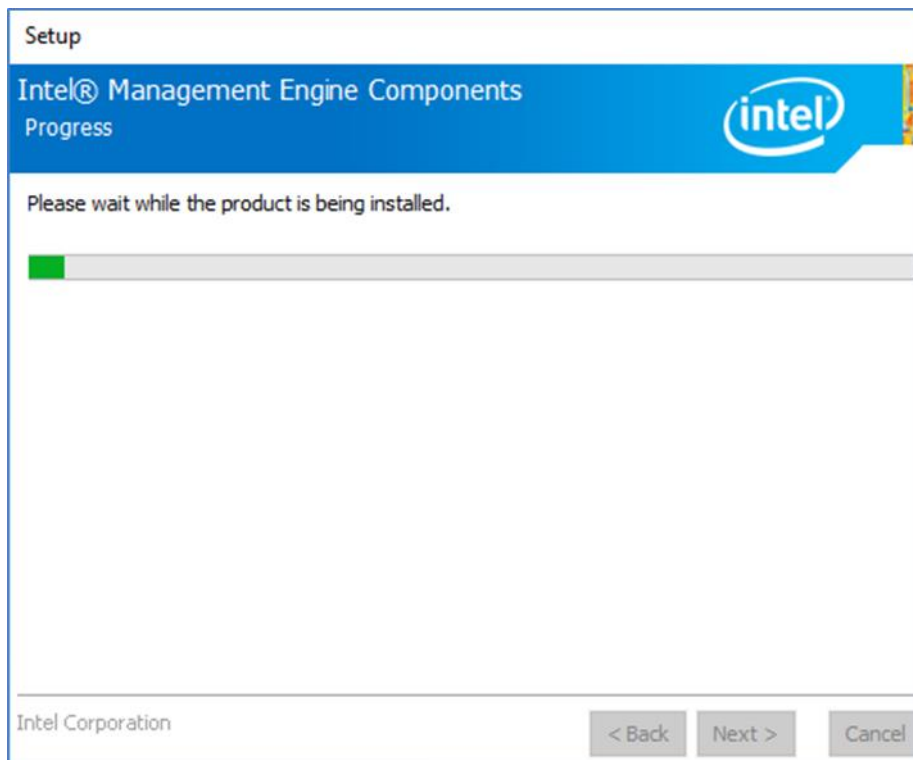
2. Select **Next** to start the installation.



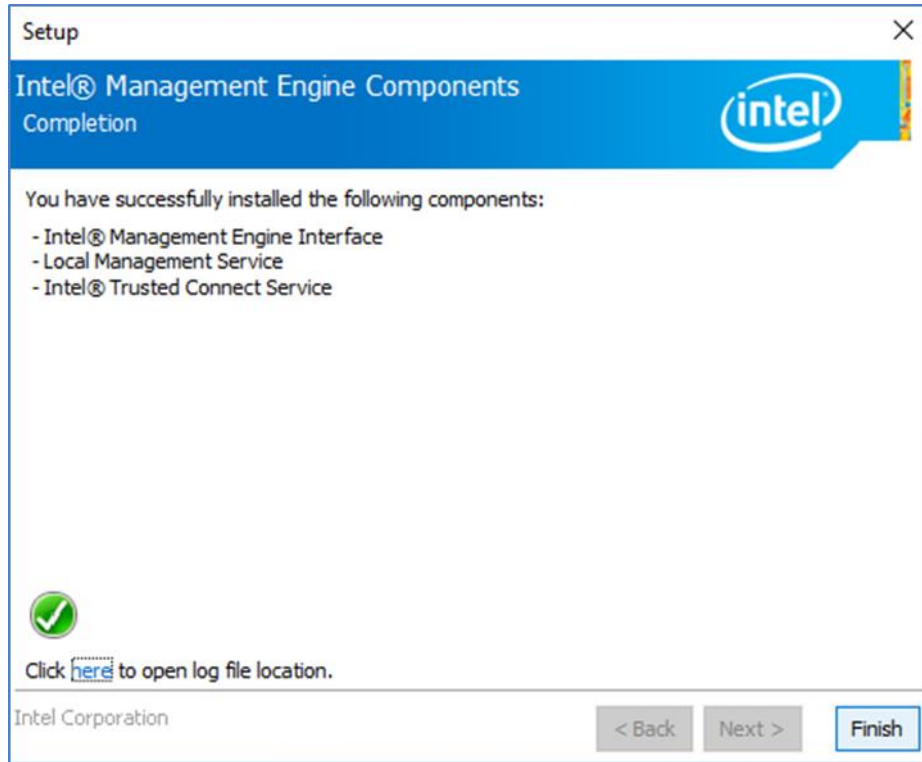
3. Select **Next** to agree with the terms of license agreement.



4. Wait for the driver to be installed.



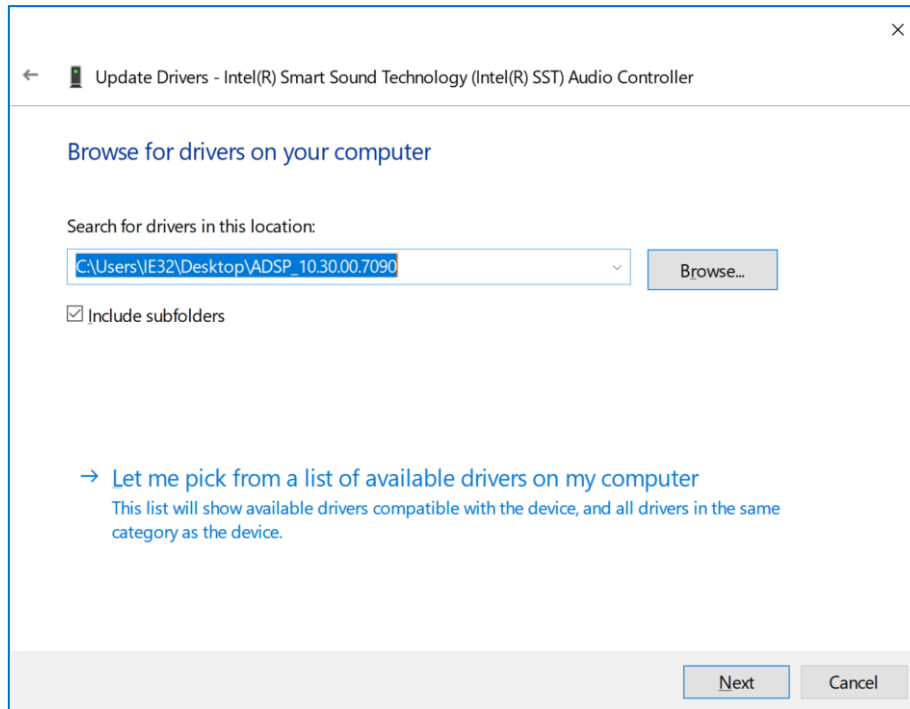
5. When installation completed, select **Finish** complete installation.



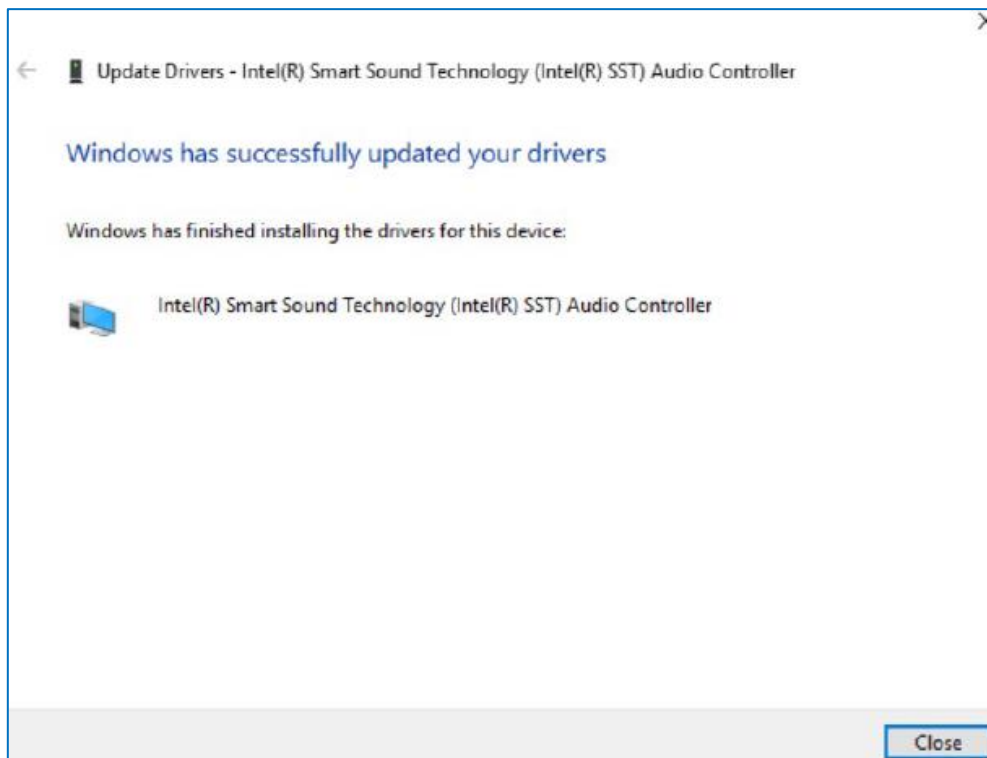
## 7.4 SST Driver

Follow instructions below to install SST driver.

1. Update Drivers > Browse “My computer” for driver software > Next



2. Wait for driver installation to complete.

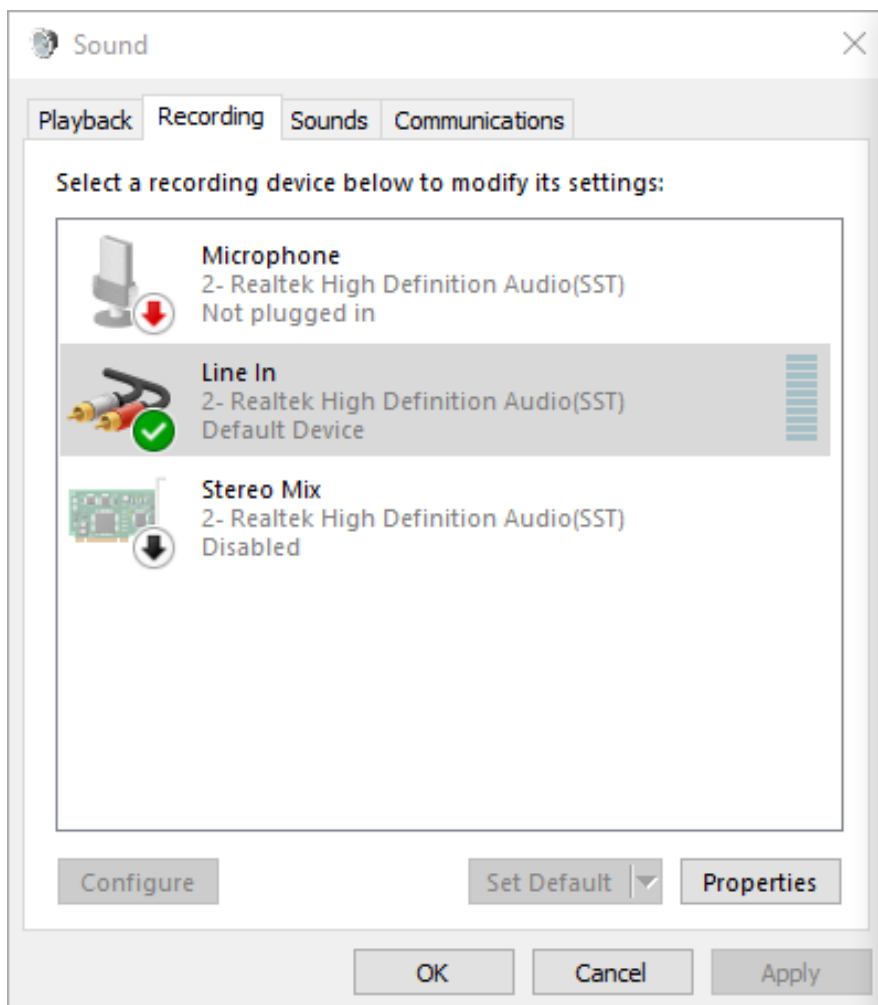


Please read these instructions carefully before using this product, and save this manual for future use.

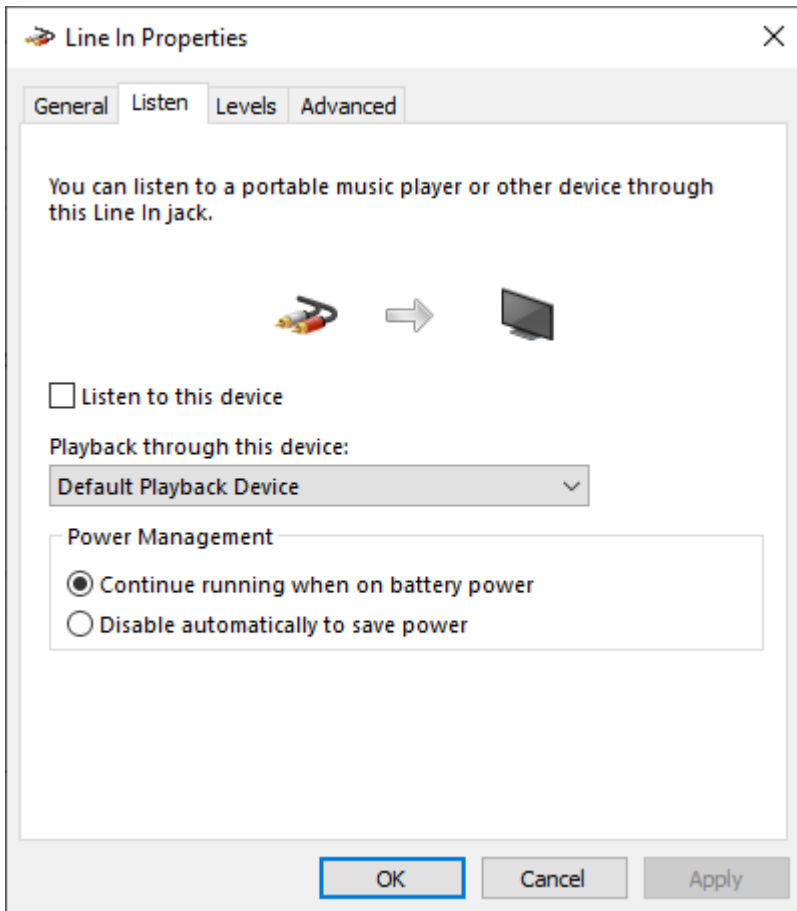
**Note:**

This product is equipped with SST Driver, when the line-in function of Audio is used, the product will automatically enter D3 sleep mode. To solve this problem, you must enter the line in setting and turn on the sync output. When the sync output setting is turned on, the line-out will output the sound synchronously.

Therefore, if you only need to use the line-in function, please turn off the volume of the line-out device. When the line-out volume is turned off, HDMI will also have no audio output. If you will not use the line-in function, please keep the Winmate default setting. When you need to use the line-in function, please follow the steps below to turn on the sync output.

**Step 1:**

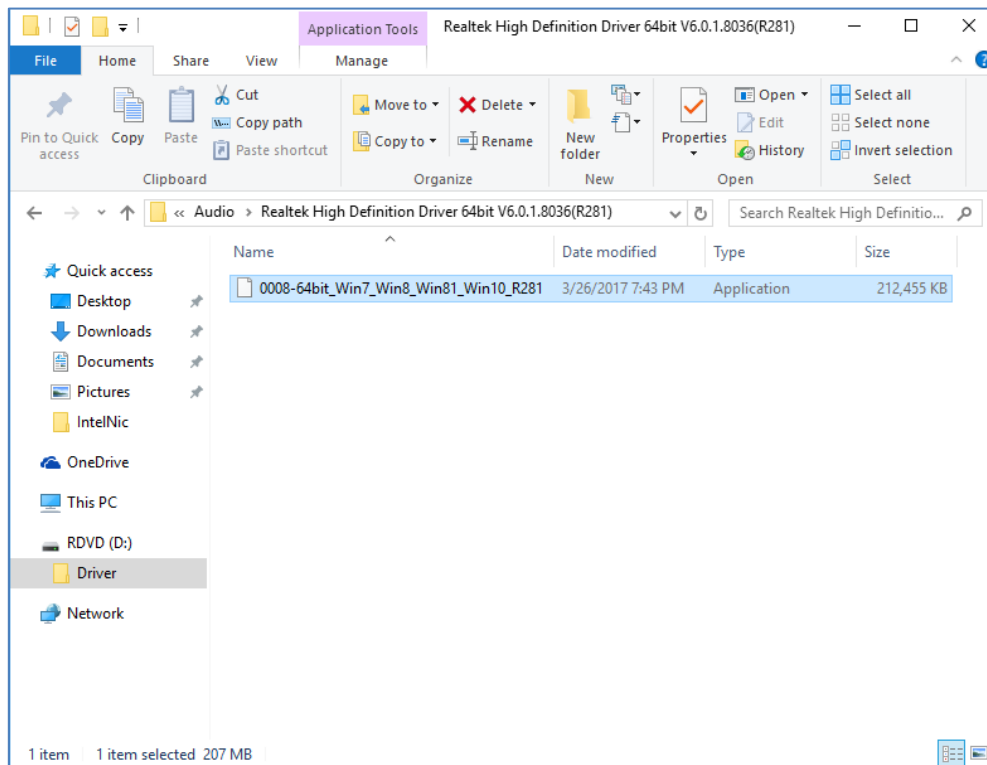
Step 2:



## 7.5 Audio Driver

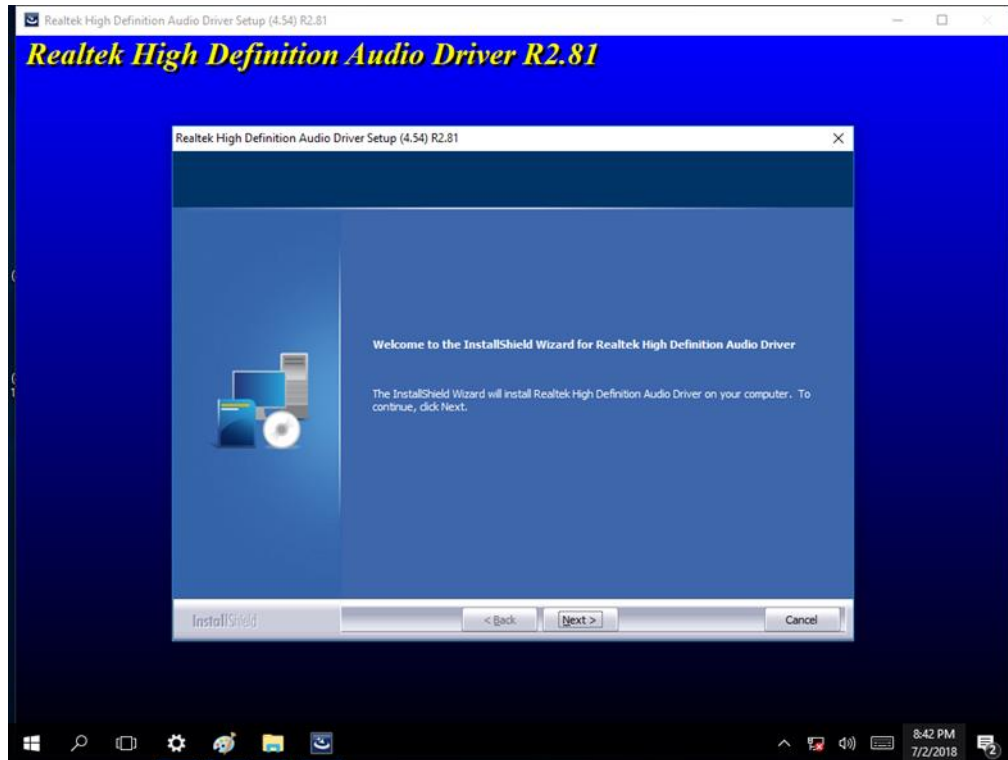
Follow instructions below to install Audio driver.

1. Open the Driver (Download from Winmate Download Center) and select **Audio** driver.





2. Select **Next** to continue.



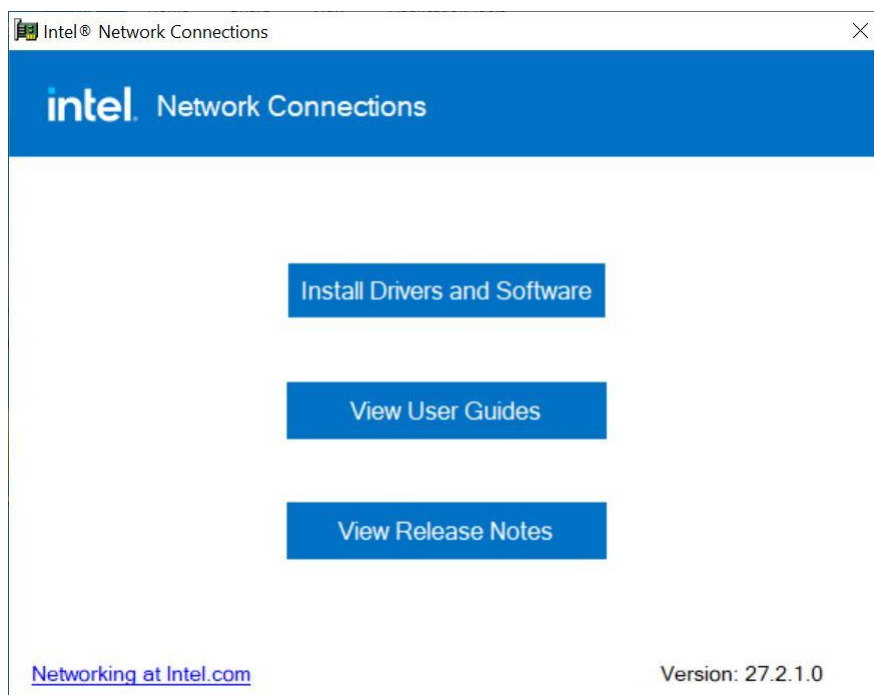
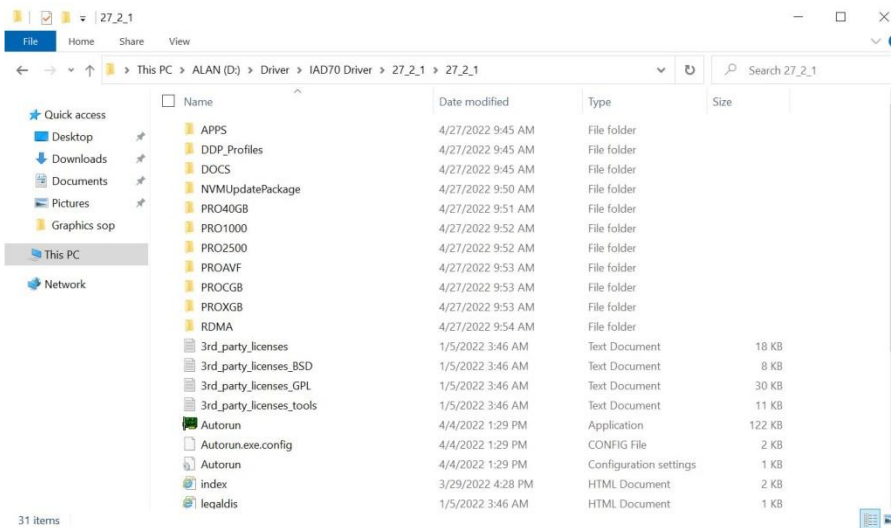
3. When installation completed, select **Finish** complete installation.



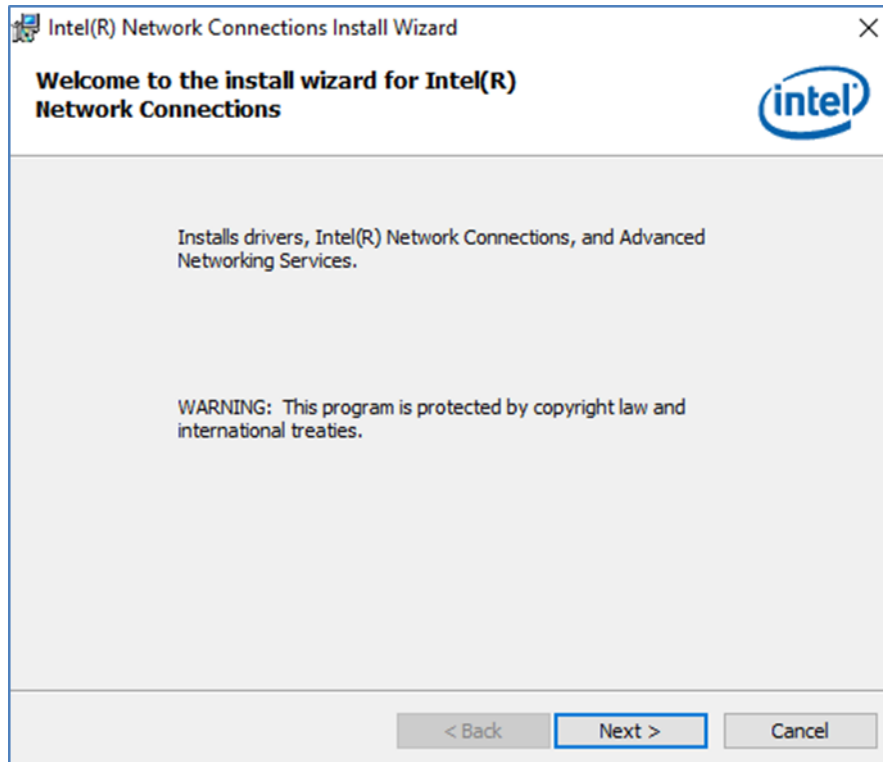
## 7.6 Ethernet Driver

Follow instructions below to install LAN driver.

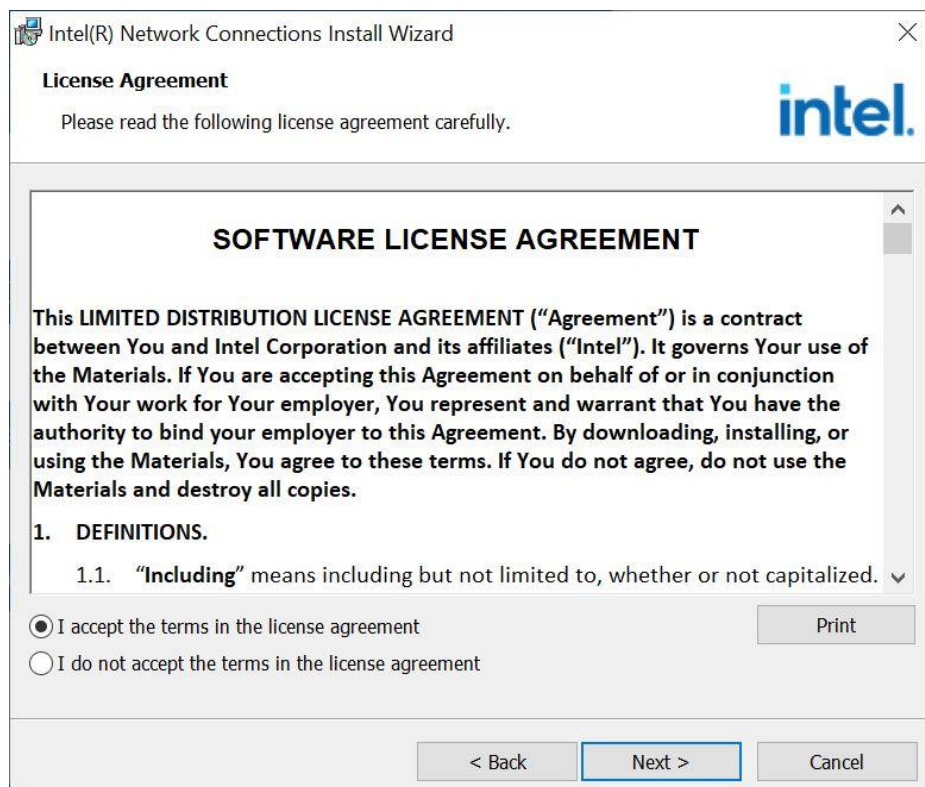
1. Open the Driver (Download from Winmate Download Center) and select **LAN** driver.



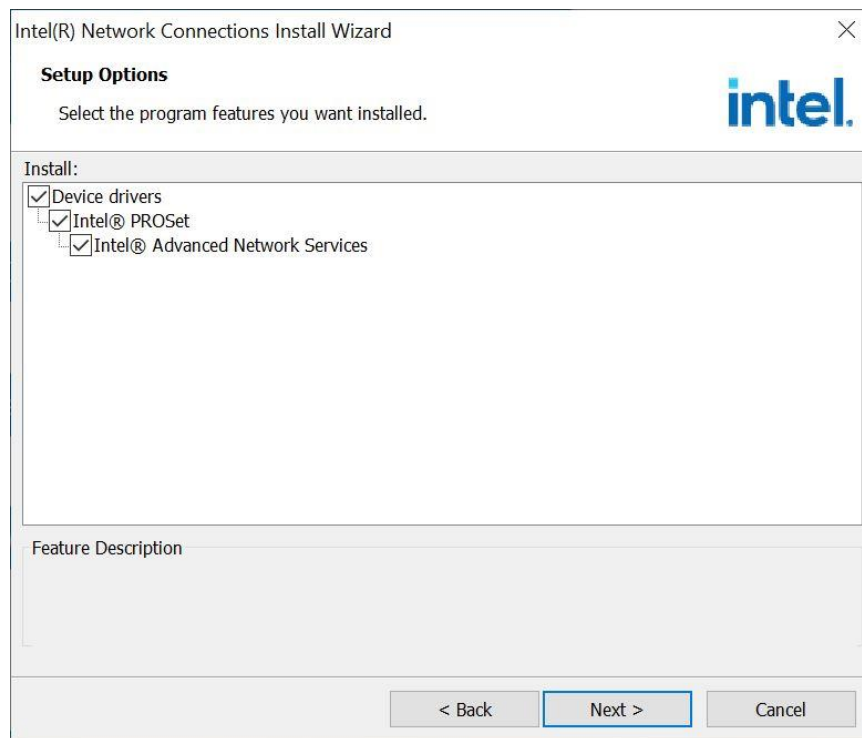
2. When compression is complete, select **Next**.



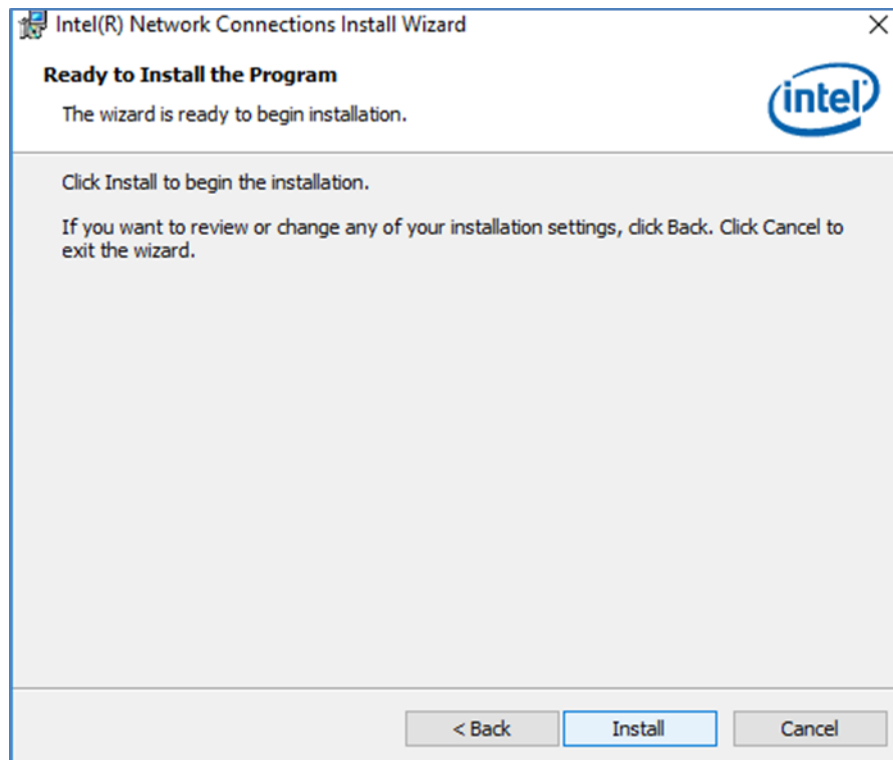
3. Read the license agreement, and then select **Next**.



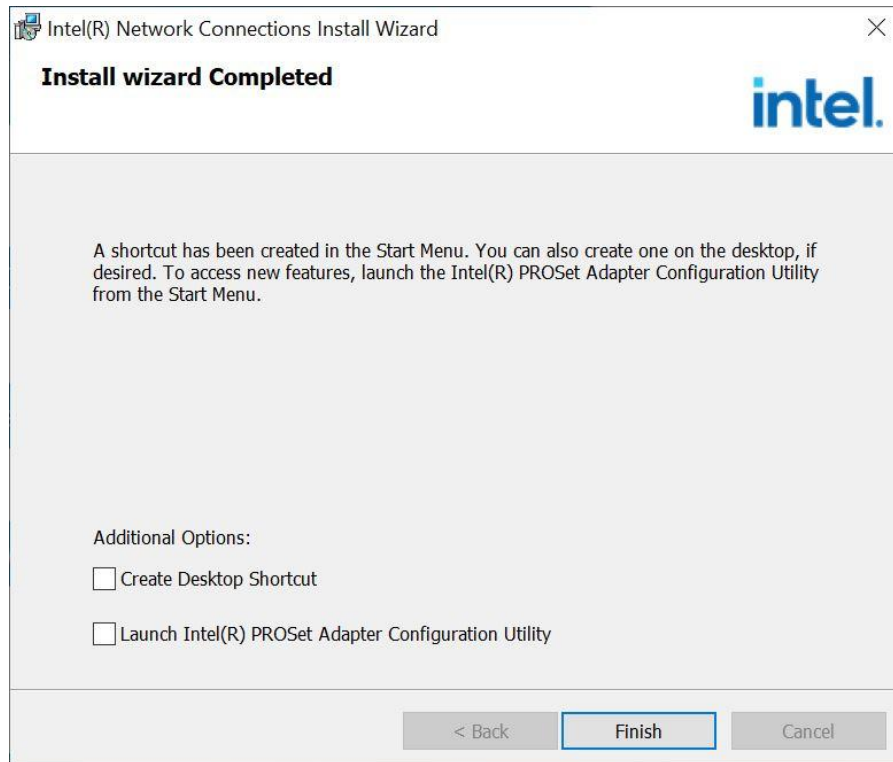
4. Select the program you want to install and select **Next**.



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



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



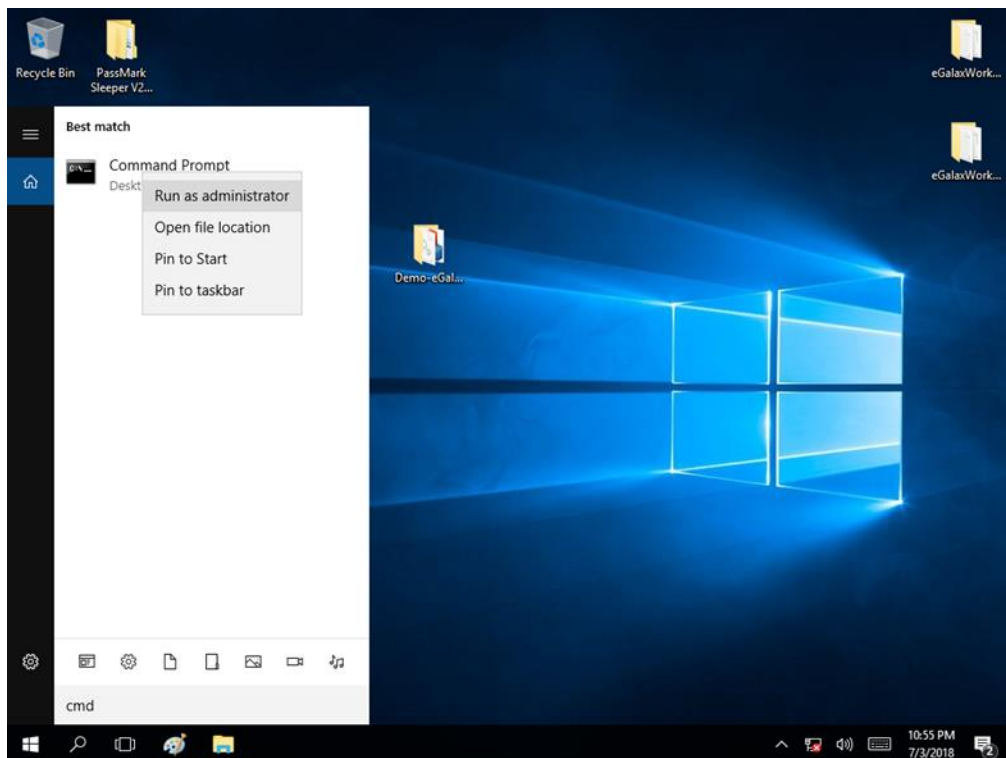
## 7.7 Watchdog Driver

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

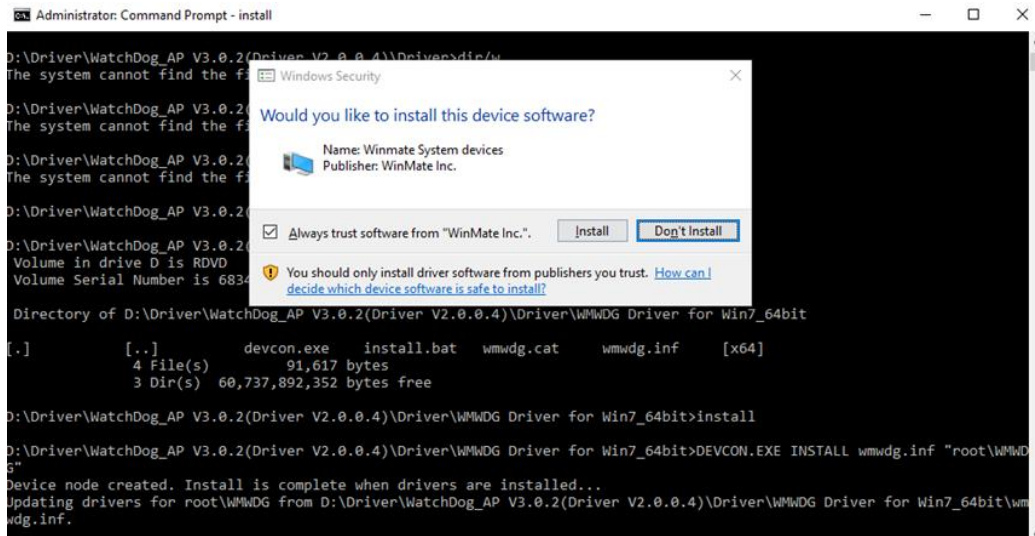
Follow instructions below to install **Watchdog** driver.

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

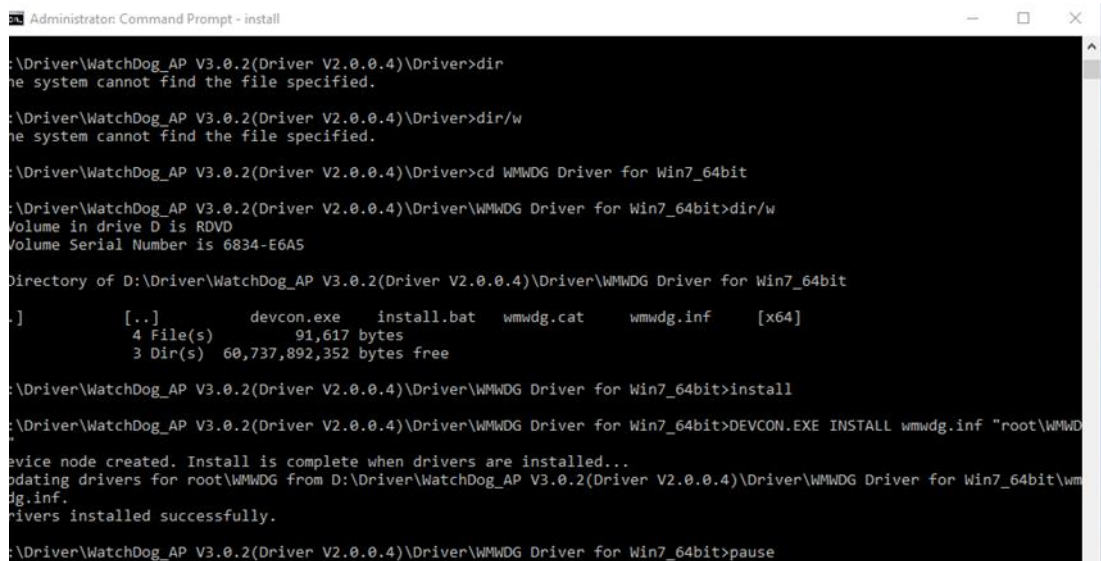
Open the Driver (Download from Winmate Download Center) and select Watchdog driver.



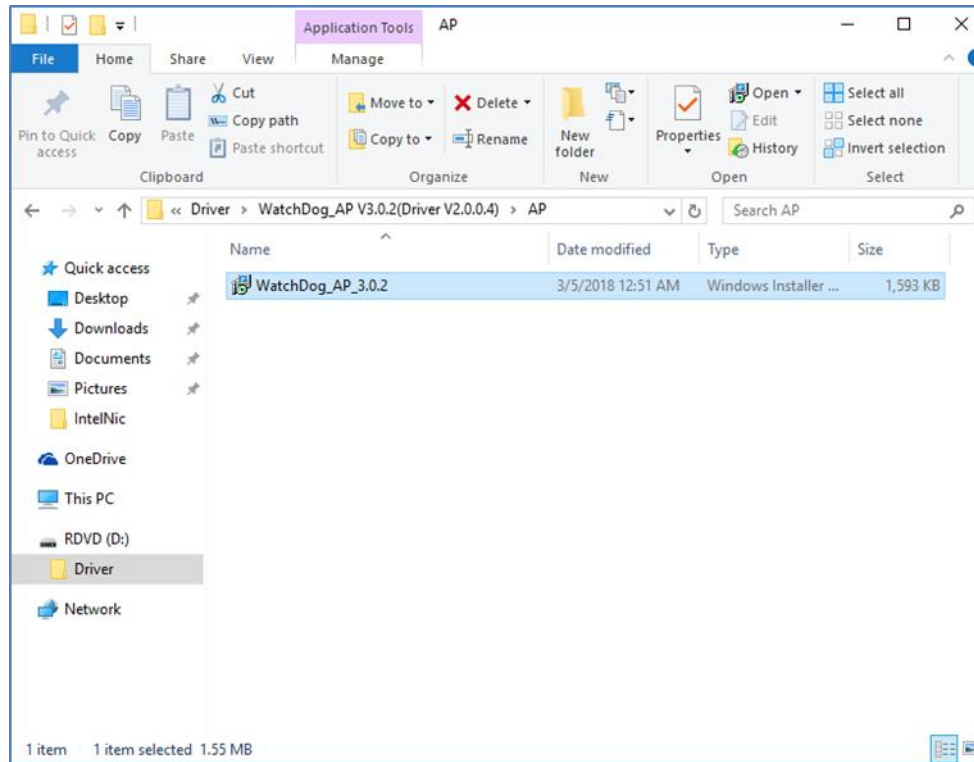
- When Windows Security dialog appear, select install to continue the Installation.



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

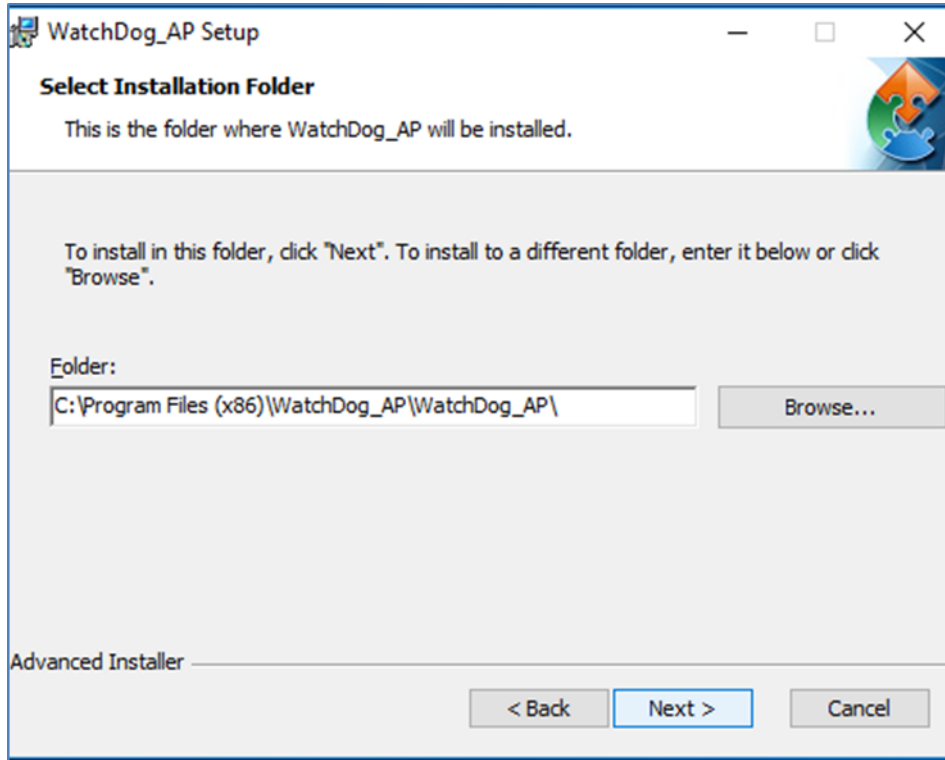




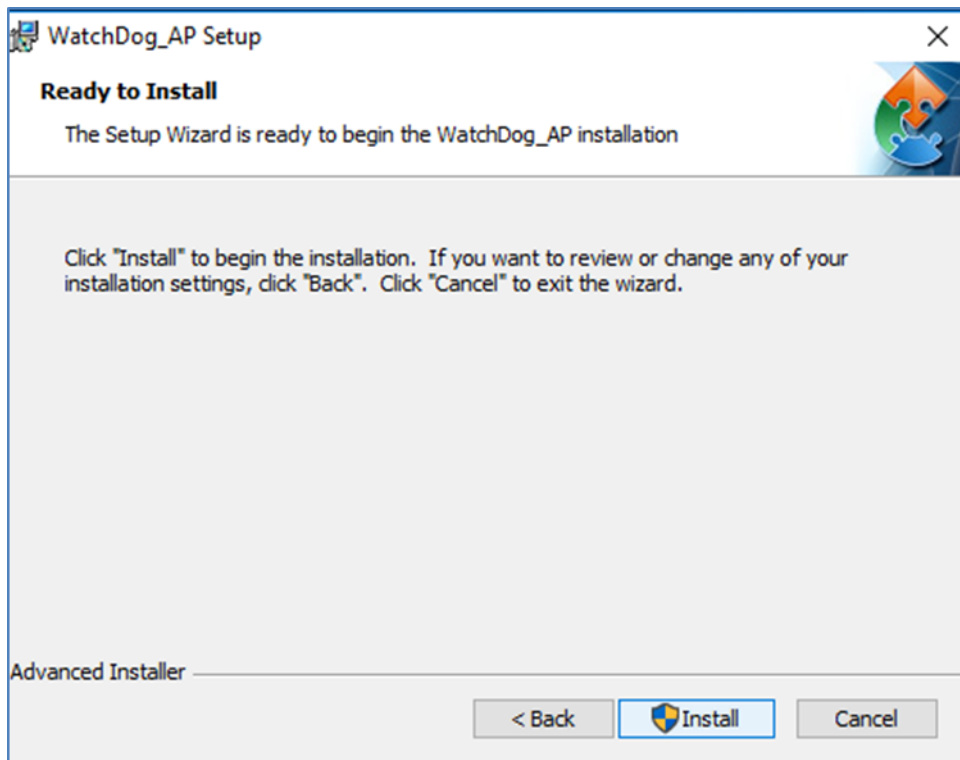
5. Open the Driver and select **Watchdog AP**.6. Select **Next**.



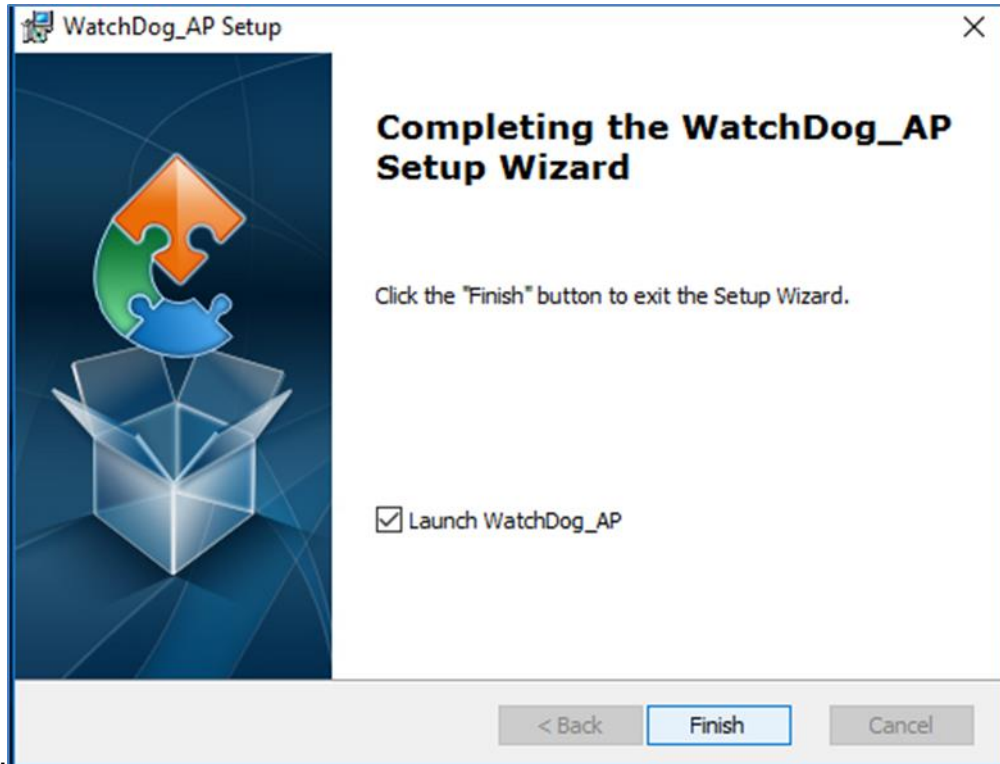
7. The installed storage location is displayed, select **Next** to continue.



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





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

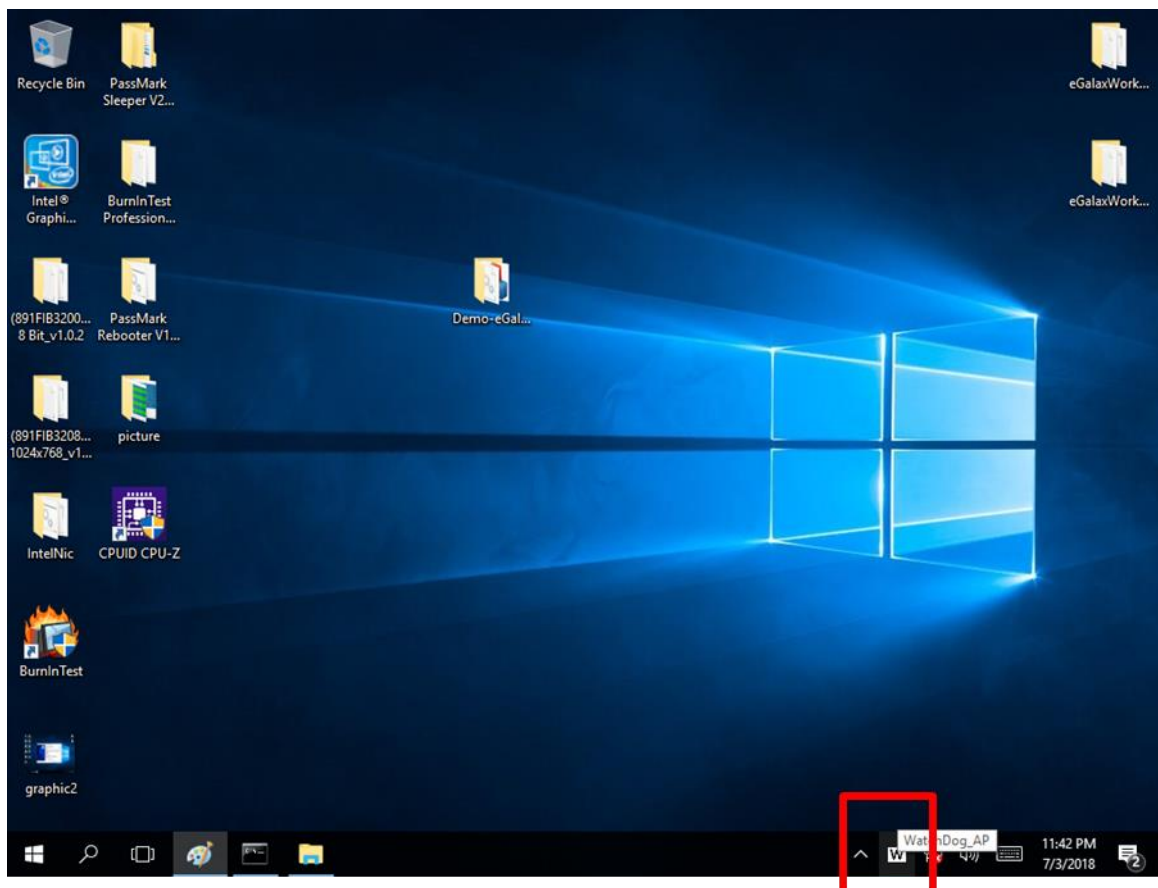


## 7.8 How to Enable Watchdog

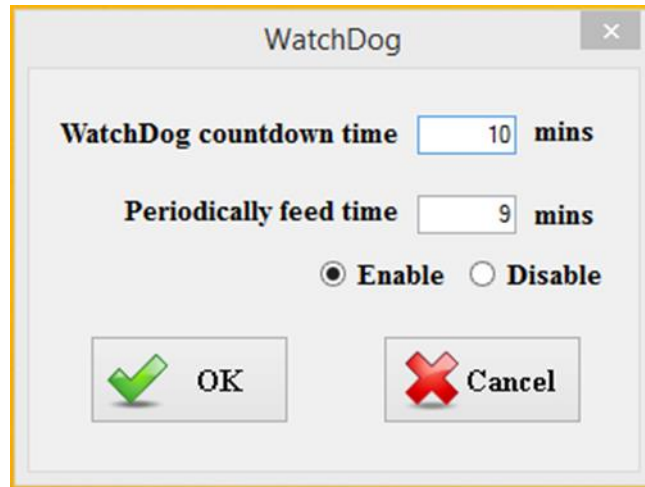
To enable Watchdog, you need to download Winmate Watchdog utility. Find more information on Watchdog in “Watchdog Guide” that you can download from Winmate Download Center or File Share. Refer to the User Manual for more details.

To enable watchdog in Watchdog AP follow the instructions below:

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



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



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

### 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.

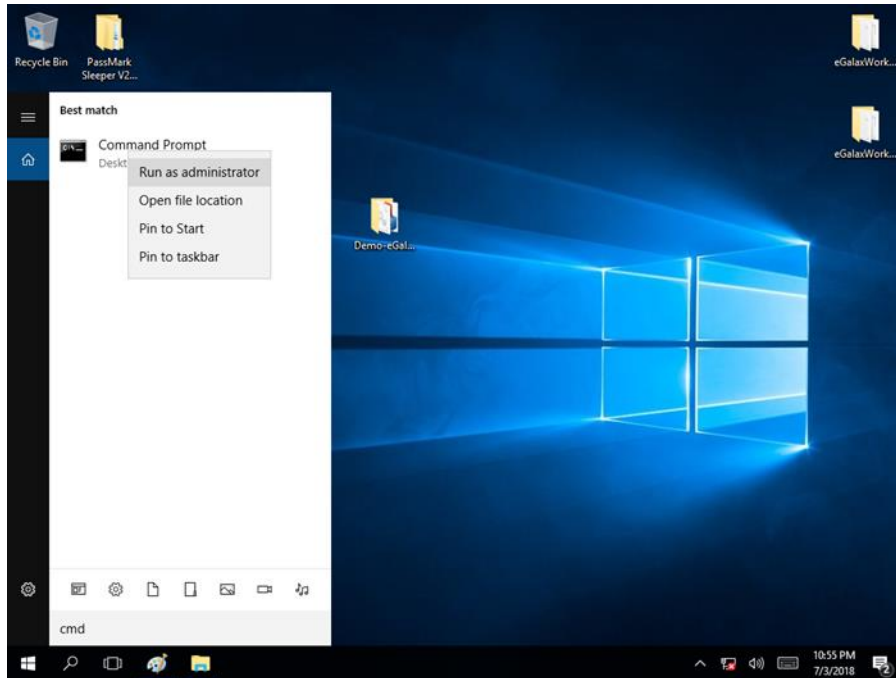
Every 9 min watchdog timer will be reset to 10

## 7.9 Digital IO 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 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.

```
Administrator: Command Prompt
[.]
WMDIO 64bit Driver Installation Guide v101.pdf      WMDIO Driver for Win7_32bit.zip
WMDIO Driver for Win7_64bit.zip
      3 File(s)      227,270 bytes
      2 Dir(s)      60,734,410,752 bytes free

D:\Driver\WMDIO APP v1.0.0.3\Driver\5.0.6.0>CD WMDIO Driver for Win7_64bit

D:\Driver\WMDIO APP v1.0.0.3\Driver\5.0.6.0\WMDIO Driver for Win7_64bit>DIR/W
Volume in drive D is RVDV
Volume Serial Number is 6834-E6A5

Directory of D:\Driver\WMDIO APP v1.0.0.3\Driver\5.0.6.0\WMDIO Driver for Win7_64bit

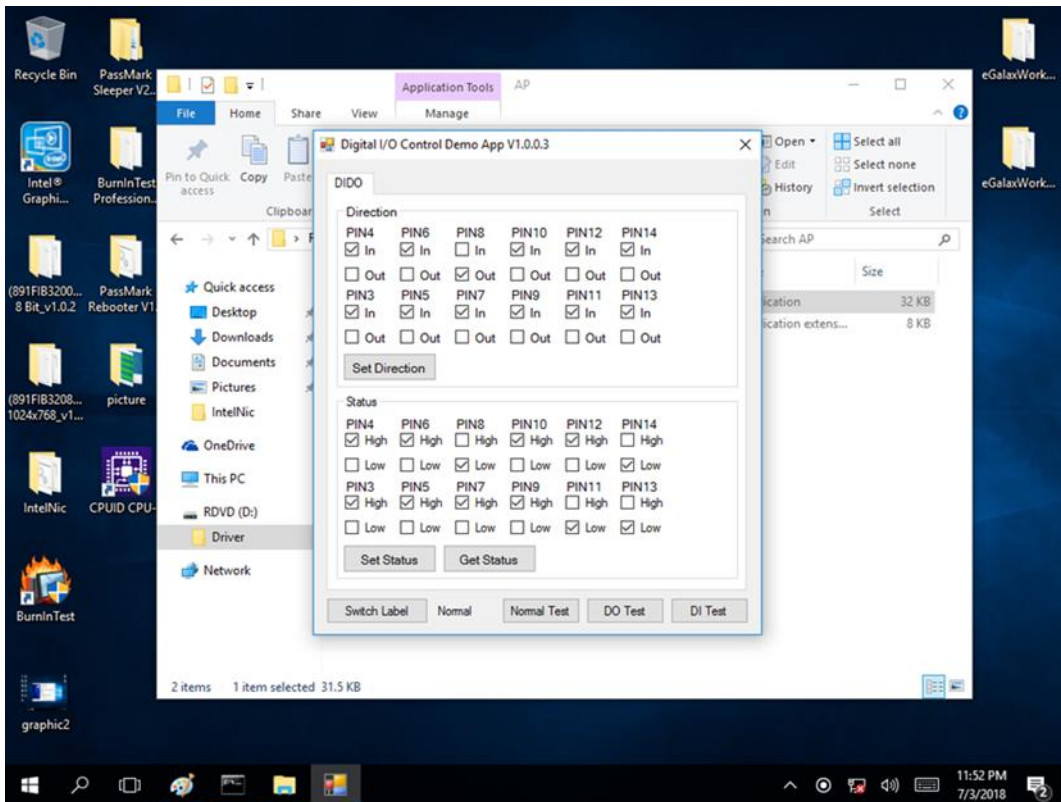
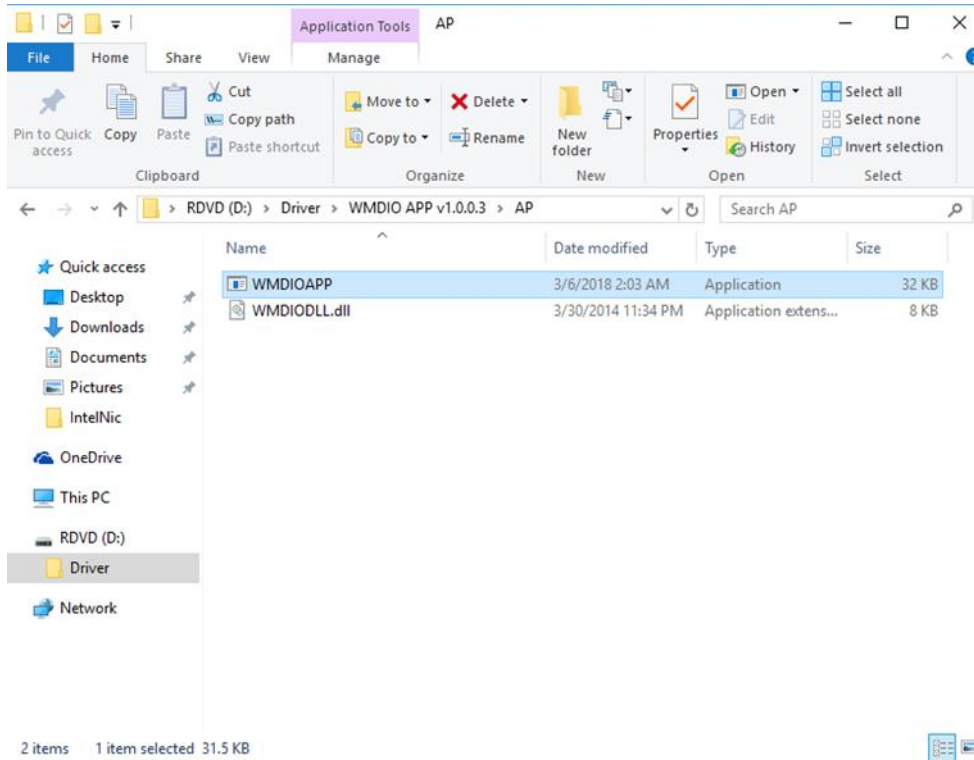
[.]
      4 File(s)      devcon.exe   install.bat  wmdio.cat   wmdio.inf   [x64]
      3 Dir(s)      60,736,315,392 bytes free

D:\Driver\WMDIO APP v1.0.0.3\Driver\5.0.6.0\WMDIO Driver for Win7_64bit>INSTALL

D:\Driver\WMDIO APP v1.0.0.3\Driver\5.0.6.0\WMDIO Driver for Win7_64bit>DEVCON.EXE INSTALL wmdio.inf "root\WMDIO"
Device node created. Install is complete when drivers are installed...
Updating drivers for root\WMDIO from D:\Driver\WMDIO APP v1.0.0.3\Driver\5.0.6.0\WMDIO Driver for Win7_64bit\wmdio.inf.
Drivers installed successfully.

D:\Driver\WMDIO APP v1.0.0.3\Driver\5.0.6.0\WMDIO Driver for Win7_64bit>pause
Press any key to continue . . .
```

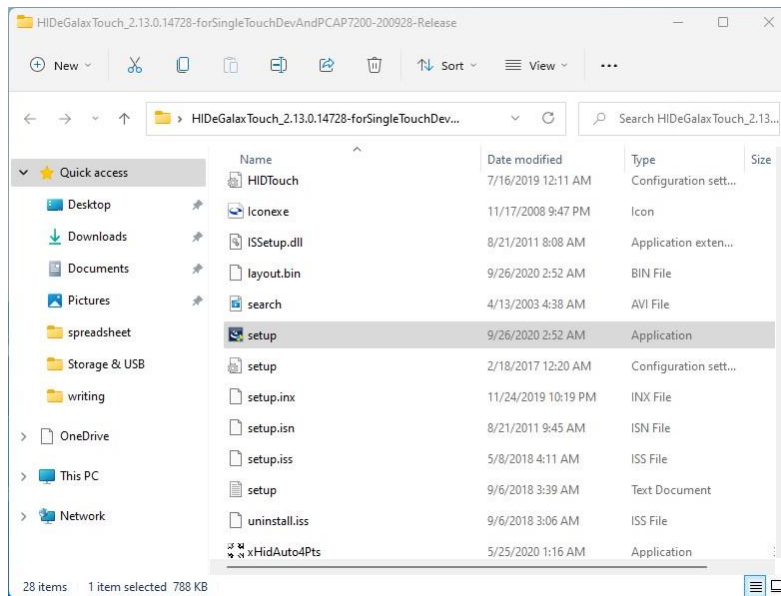
6. Open the Driver and select **Digital IO AP**.



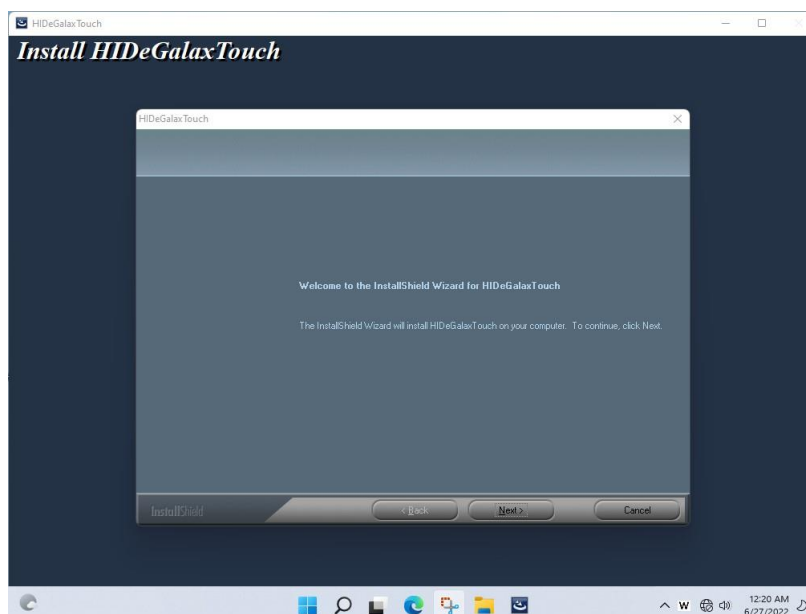
## 7.10 Resistive Touch Driver for Windows 11 System

Follow the instructions below to install the touch driver.

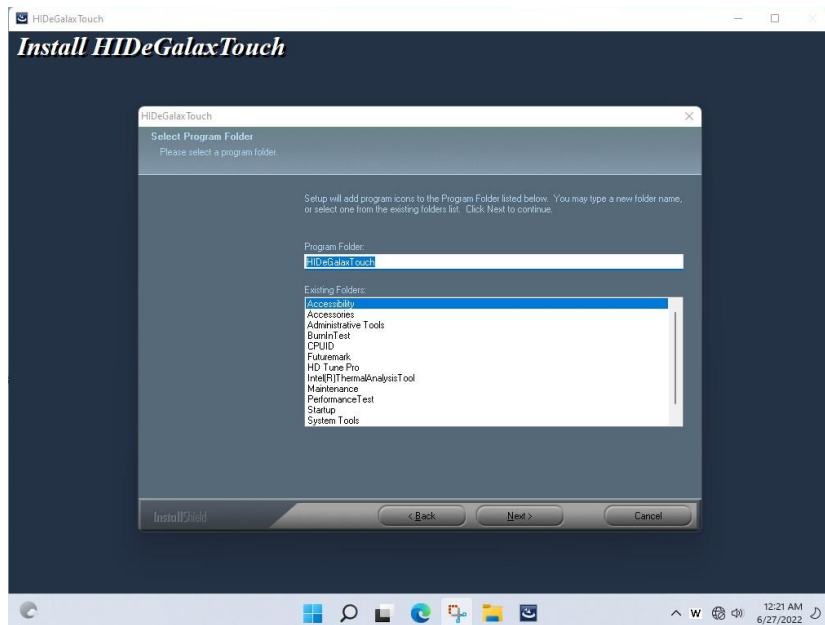
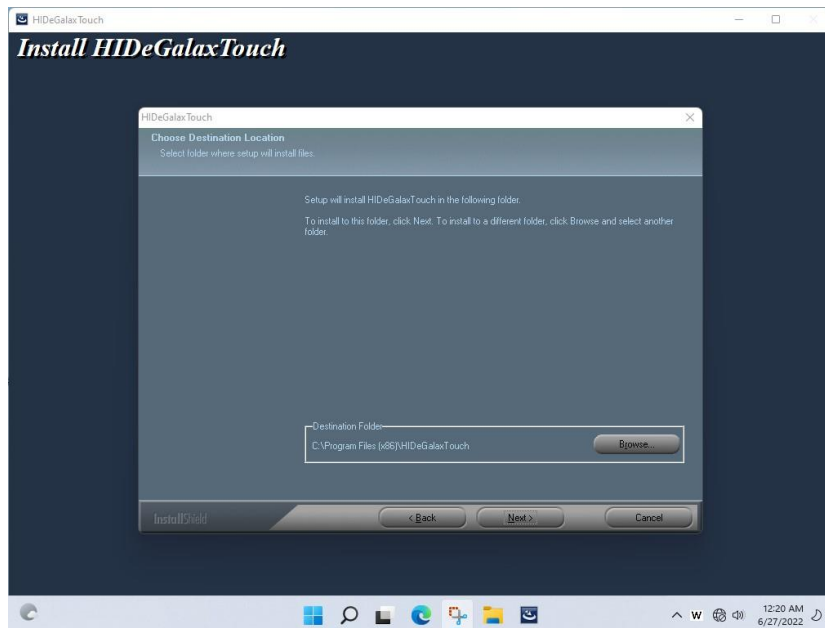
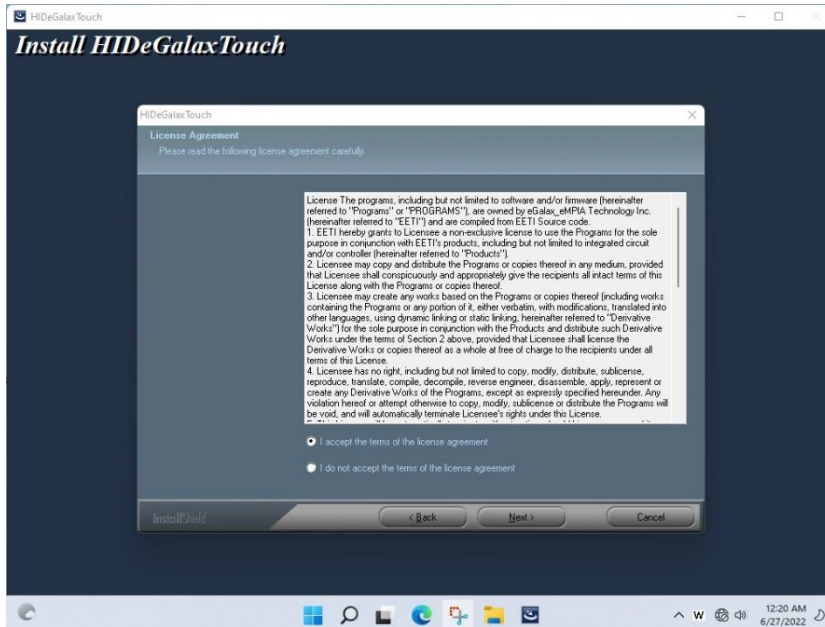
### 1. Click setup



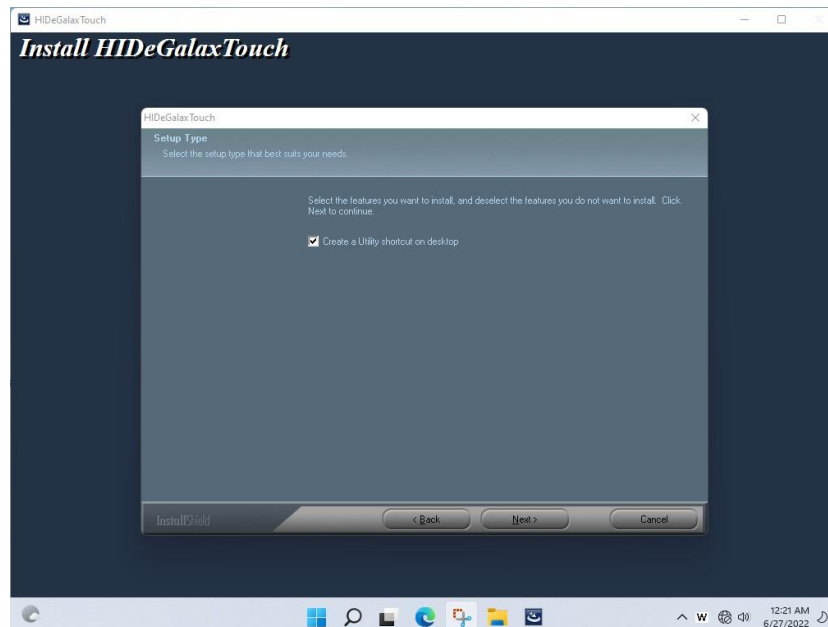
### 2. Click Next to continue



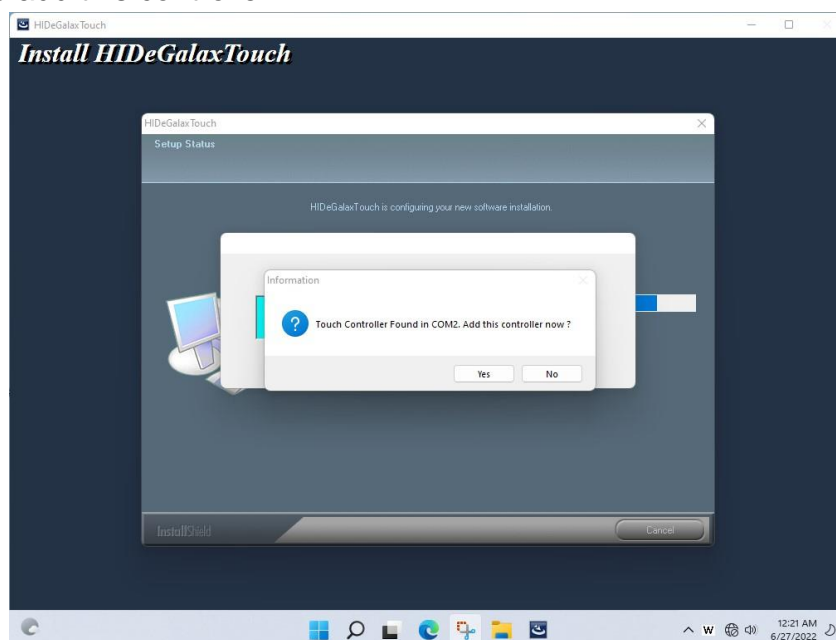




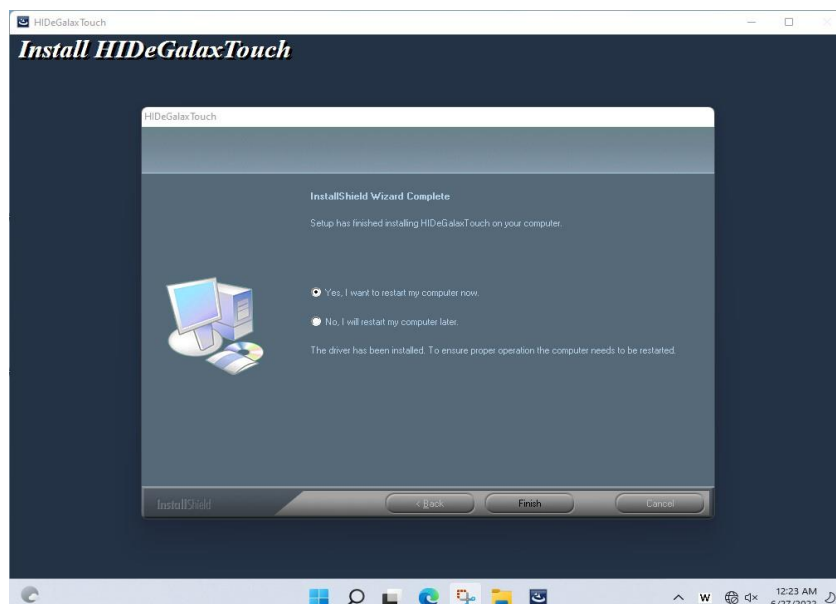




3. Click Yes to add this controller



4. Restart the computer now and finish the setup.



## Chapter 8: Technical Support

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

### 8.1 Drivers

The list of drivers available for IE32 3.5" SBC:

Item	Driver
1	Chipset Driver
2	Graphic Driver
3	ME Driver
4	SST Driver
5	Audio Driver
6	Ethernet Driver
7	Watchdog Driver/AP
8	Digital IO Driver/AP
9	Windows 11 Resistive Touch Driver

To find the Drivers, please download them from the download center or contact us.

### 8.2 Software Development Kit (SDK)

The list of SDK available for IE32 3.5" SBC:

Item	File Type	Description
1	SDK	Watchdog SDK
2	SDK	Digital IO SDK

To find the SDK, please download them from the download center or contact us.

# Appendix

## Appendix A: Specifications

	Model Name			
	W07IE3S-GCT1	W07IE3S-GC01HB	W10IE3S-GCH2	R12IE3S-GCM2(HB)
<b>Display</b>				
Size/Type	7" TFT (Wide)	7" TFT (Wide)	10.1" TFT (Wide)	12.1" TFT
Resolution	1024 x 600	1024 x 600	1280 x 800	1024 x 768
Brightness	320 nits	1000 nits	350 nits	500 nits 1000 nits(Optional)
Contrast Ratio	1000:1(typ.)	700:1(typ.)	800:1(typ.)	1000:1(typ.)
Viewing Angle	70,75,75,75	75,75,75,70	85,85,85,85	89,89,89,89
Max Colors	16.7M	262K (6 bit)	16.7M	16.7M
Touch	PCAP touch	PCAP touch	PCAP touch	PCAP touch
<b>System</b>				
Processor	Intel® Celeron® N6211 (Up to 3.0 GHz) Intel® Celeron® N6210 (Up to 2.6 GHz) (Optional)			
System Memory	SO-DIMM,DDR4 3200MHz, 4GB,8GB (Optional), 16GB (Optional)			
Storage	M.22242 B-key SSD 128GB M.22242 B-key SSD up to 512GB (Optional) SATAIII for 2.5" SSD/HDD up 1TB (Optional)			
Operating System	Windows 11 IoT Enterprise (64 bit) (Optional) Windows 11 Pro (64 bit) (Optional) Windows 10 IoT Enterprise (64 bit) (Optional) Linux Ubuntu 22.04 (Optional)			
<b>Input/ Output</b>				
COM Port	1 x RS-232/422/485 (Default RS232)			
USB Port	2 x USB 3.2 Gen 2x1 (Type-A)			
Ethernet	2 x RJ 45			
Speaker	N/A	1 x 1 Watt Speaker	1 x 2 Watt Speaker	2 x 2 Watt Speaker
HDMI	1 x HDMI 2.0b			
<b>Power Specifications</b>				
Power Input	12V DC in			12V DC in (Optional 9-36V DC)
<b>Mechanical Specifications</b>				
Cooling	Fanless			
Mounting	VESA Mount (75 x 75mm) ; Panel Mount	RAM Mount, Panel Mount (Optional VESA 75x75 mm)	Panel Mount, VESA Mount (75x75)	VESA Mount (75 x 75mm) ; Panel Mount
<b>Environment Considerations</b>				
Operating Temp.	0°C to +50°C			
Operating Humidity	10% to 90% (non-condensing)			
Storage Temp	-20°C to +60°C			
IP Rating	Front IP65			
<b>Standards and Certification</b>				
Safety	CE, FCC			

	Model Name			
	R15IE3S-GCC3(HB)	R19IE3S-GCM1	W22IE3S-GCA3	W24IE3S-GCA2
<b>Display</b>				
Size/Type	15" TFT	19" TFT	21.5" TFT (Wide)	23.8" TFT (Wide)
Resolution	1024 x 768	1280 x 1024	1920 x 1080	1920 x 1080
Brightness	300 nits 1000 nits (optional)	250 nits	250 nits	250 nits(Optional)
Contrast Ratio	2000:1(typ.)	1000:1(typ.)	1000:1(typ.)	3000:1(typ.)
Viewing Angle	88,88,88,88	85,85,80,80	89,89,89,89	89,89,89,89
Max Colors	16.2M	16.7M	16.7M	16.7M
Touch	PCAP touch (Optional anti-glare coating)	PCAP touch	PCAP touch	PCAP touch
<b>System</b>				
Processor	Intel® Celeron® N6211 (Up to 3.0 GHz) Intel® Celeron® N6210 (Up to 2.6 GHz) (Optional)			
System Memory	SO-DIMM,DDR4 3200MHz, 4GB,8GB (Optional), 16GB (Optional)			
Storage	M.22242 B-key SSD 128GB M.22242 B-key SSD up to 512GB (Optional) SATAIII for 2.5" SSD/HDD up 1TB (Optional)			
Operating System	Windows 11 IoT Enterprise (64 bit) (Optional) Windows 11 Pro (64 bit) (Optional) Windows 10 IoT Enterprise (64 bit) (Optional) Linux Ubuntu 22.04 (Optional)			
<b>Input/ Output</b>				
COM Port	1 x RS-232/422/485 (Default RS232)			
USB Port	2 x USB 3.2 Gen 2x1 (Type-A)			
Ethernet	2 x RJ 45			
Speaker	2 x 2 Watt Speaker	N/A	N/A	N/A
HDMI	1 x HDMI 2.0b			
<b>Power Specifications</b>				
Power Input	12V DC in (Optional 9-36V DC)	12V DC in		
<b>Mechanical Specifications</b>				
Cooling	Fanless			
Mounting	VESA Mount (100x100mm), Panel Mount	VESA Mount (100x100mm), Panel Mount	VESA Mount (100 x 100 mm, 200x200mm) ; Panel Mount	VESA Mount (100x100mm), Panel Mount
<b>Environment Considerations</b>				
Operating Temp.	0°C to +50°C			
Operating Humidity	10% to 90% (non-condensing)			
Storage Temp	-20°C to +60°C			
IP Rating	Front IP65			
<b>Standards and Certification</b>				
Safety	CE, FCC			







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