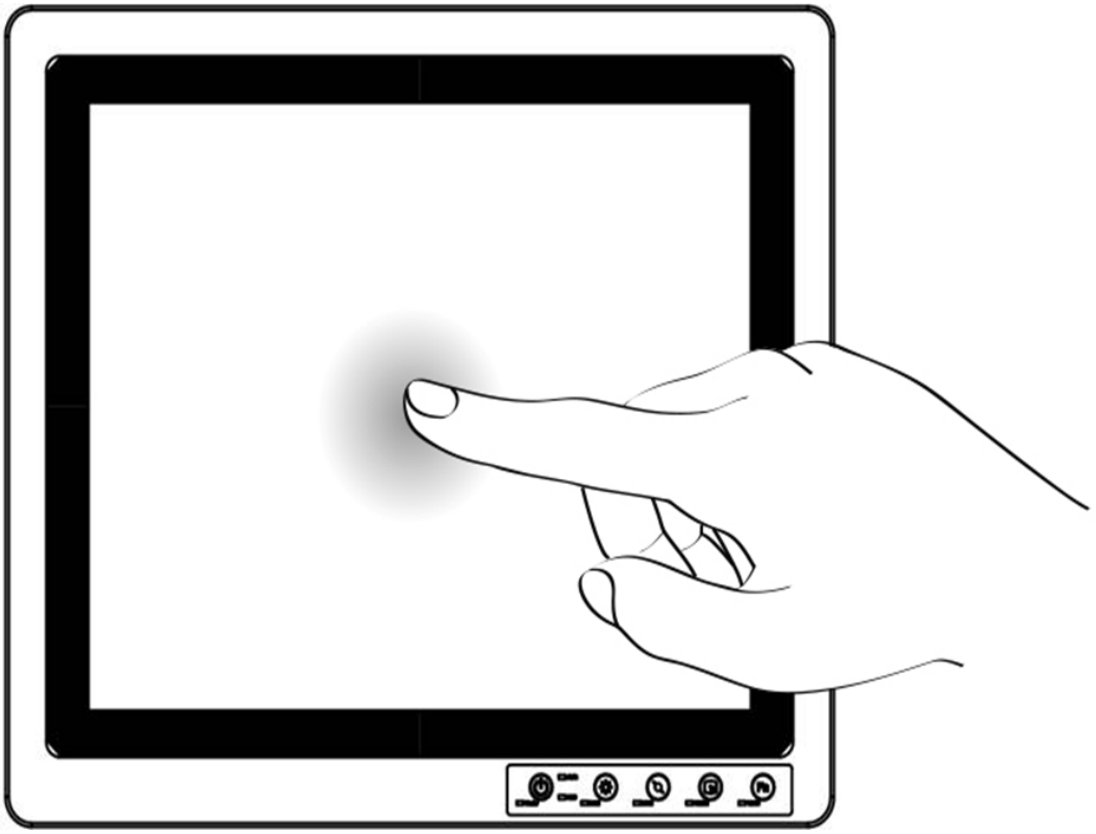
ATEX Panel PC

R19IHAT-66EX-T for ATEX Zone II and C1D2



User Manual

Document Version 1.3
Document Part Number: 9171190I10

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

Contents

Preface

Copyright Notice

Trademark Acknowledgement

Disclaimer

We reserve the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. We assume no responsibility or liability for the use of the described product(s), conveys no license or title under any patent, copyright, or masks work rights to these products, and makes 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 warranty that such application will be suitable for the specified use without further testing or modification.

Warranty

Our warranty 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 its option, repair or replace the defective product at no charge to the customer, provided it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in the 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 1W20Axxxxxxxx means October of year 2020.

Customer Service

We provide service guide for any problem as follow 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 have the following information ready before you call:

- Product serial number
- Peripheral attachments
- 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. Please do not hesitate to call or e-mail us.

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

Warning!/ Avertissement!
An Electrical Shock Warning indicates the potential harm from electrical hazards and how to avoid the potential problem.
Un Avertissement de Choc Électrique indique le potentiel de chocs sur des emplacements électriques et comment éviter ces problèmes.

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

Safety Information

Warning!/ Avertissement!

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.

Débranchez toujours complètement le cordon d'alimentation de votre châssis chaque fois que vous travaillez avec le matériel. N'effectuez pas de connexions lorsque l'appareil est sous tension. Les composants électroniques sensibles peuvent être endommagés par des surtensions soudaines. Seul le personnel électronique expérimenté doit ouvrir le châssis du PC.

Caution/ Attention

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.

Mettez-vous toujours à la terre pour éliminer toute charge statique avant de toucher la carte CPU. Les appareils électroniques modernes sont très sensibles aux charges d'électricité statique. Par mesure de sécurité, utilisez toujours un bracelet antistatique avec mise à la terre. Placez tous les composants électroniques dans une surface antistatique ou un sac antistatique lorsqu'ils ne sont pas dans le châssis.

Safety Precautions

- Please read these safety instructions carefully.
  Veuillez lire attentivement ces consignes de sécurité.
- Please keep this user's manual for later reference.
  Veuillez conserver ce manuel d'utilisation pour référence ultérieure.
- Please disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
  Veuillez débrancher cet équipement de toute prise secteur avant de le nettoyer. N'utilisez pas de détergents liquides ou en spray pour le nettoyage. Utilisez un chiffon humide.
- Do not touch the LCD panel surface with sharp or hard objects.
  Ne touchez pas la surface du panneau LCD avec des objets pointus ou durs.
- For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
  Pour les équipements enfichables, la prise de courant doit être installée à proximité de l'équipement et doit être facilement accessible.
- Keep this equipment away from humidity.
  Conservez cet équipement à l'abri de l'humidité.
- Place this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
  Placez cet équipement sur une surface fiable pendant l'installation. Le faire tomber ou le laisser tomber pourrait causer des dommages.

- The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
  Les ouvertures sur l'enceinte sont pour la convection d'air. Protégez l'équipement contre la surchauffe. NE PAS COUVRIR LES OUVERTURES.
- Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
  Assurez-vous que la tension de la source d'alimentation est correcte avant de connecter l'équipement à la prise de courant.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
  Positionnez le cordon d'alimentation de manière à ce que personne ne puisse marcher dessus. Ne placez rien sur le cordon d'alimentation.
- All cautions and warnings on the equipment should be noted.
  Toutes les mises en garde et avertissements sur l'équipement doivent être notés.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
  Si l'équipement n'est pas utilisé pendant une longue période, débranchez-le de la source d'alimentation pour éviter les dommages causés par une surtension transitoire.
- Never pour any liquid into an opening. This could cause fire or electrical shock.
  Ne versez jamais de liquide dans une ouverture. Cela pourrait provoquer un incendie ou un choc électrique.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
  Ne jamais ouvrir l'équipement. Pour des raisons de sécurité, seul le personnel de service qualifié doit ouvrir l'équipement.
- This equipment is designed to be used in restricted access location. Only service persons or trained persons are allowed to access this equipment.
  Cet équipement est conçu pour être utilisé dans un endroit à accès restreint. Seules les personnes de service ou les personnes formées sont autorisées à accéder à cet équipement.
- If any of the following situations arises, get the equipment checked by service personnel:
  Si l'une des situations suivantes survient, faites vérifier l'équipement par le personnel de service:
  - The power cord or plug is damaged.
    Le cordon d'alimentation ou la prise est endommagé.
  - Liquid has penetrated into the equipment.
    Du liquide a pénétré dans l'équipement.
  - The equipment has been exposed to moisture.
    L'équipement a été exposé à l'humidité.
  - The equipment does not work well, or you cannot get it to work according to the user's manual.
    L'équipement ne fonctionne pas bien, ou vous ne pouvez pas le faire fonctionner conformément au manuel d'utilisation.
  - The equipment has been dropped and damaged.
    L'équipement est tombé et a été endommagé.

- The equipment has obvious signs of breakage.
  L'équipement présente des signes évidents de casse.

- Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20°C (-4°F) or above 70°C (158°F). It may damage the equipment.
  Ne laissez pas ce matériel dans un environnement non contrôlé où la température de stockage est inférieure à -20 ° C (-4 ° F) ou au-dessus de 70 ° C (158 ° F) . Il peut endommager le matériel.

- **CAUTION** – Use recommended mounting apparatus to avoid risk of injury.
  ATTENTION - Utilisez recommandé appareil de montage pour éviter les risques de blessure.

- **WARNING** – Only use the connection cords which comes along with the product, when in doubt, please contact the manufacturer.
  AVERTISSEMENT – Utilisez uniquement les cordons de connexion qui vient avec le produit , en cas de doute , s'il vous plaît contactez le fabricant.

- Provision shall be made to provide transient protection device to be set at a level not exceeding 140% of the rated voltage at the power supply terminals of the apparatus.
  Des dispositions seront prises pour fournir dispositif de protection contre les transitoires à être fixé à un niveau ne dépassant pas 140 % de la tension nominale aux bornes d'alimentation de l'appareil.

- **WARNING** – Explosion Hazard – Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
  AVERTISSEMENT - Risque d'explosion - Ne débranchez pas l'équipement que l'alimentation est coupée ou que la zone est connue pour être non dangereux

- **WARNING** – Explosion Hazard – Do not apply any audio connectors in Hazardous Location.
  AVERTISSEMENT - Risque d'explosion - Ne pas appliquer tous les connecteurs audio dans des environnements dangereux .

- **WARNING** – The equipment should be adequately protected from direct light when installed indoor or outdoor.
  AVERTISSEMENT - L'équipement doit être adéquatement protégé de la lumière directe lors de l'installation intérieure ou extérieure.

- **WARNING** – DO NOT OPEN, MAINTAIN OR SERVICE IN AN AREA WHERE AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.
  AVERTISSEMENT - NE PAS OUVRIR , maintenir ou SERVICE DANS UN ENDROIT OÙ UNE ATMOSPHERE EXPLOSIVE PEUT ETRE PRESENTE .

- THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C, D OR NON-HAZARDOUS LOCATIONS ONLY.
  Cet équipement est utilisable en Classe I, Division 2, Groupes A, B , C , D LIEUX OU non dangereux.

- **WARNING** - EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2;
  AVERTISSEMENT - RISQUE D'EXPLOSION - substitution de composants peut nuire à la conformité Classe I, Division 2 ;

- **WARNING** - EXPLOSION HAZARD - DO NOT REPLACE PARTS UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS;

AVERTISSEMENT - RISQUE D'EXPLOSION - NE PAS remplacer les pièces que l'alimentation est coupée ou que la zone est connue pour être non dangereux;

- **WARNING** - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS;
  AVERTISSEMENT - RISQUE D'EXPLOSION - NE PAS déconnecter l'équipement que l'alimentation est Coupée ou la région est connue pour être non dangereux;
- **WARNING** - Do not use USB Port while the hazardous atmosphere is present.
  AVERTISSEMENT - Ne pas utiliser le port USB tandis que l'atmosphère dangereuse est présente.

Specific Conditions of Use

- Contradicts IEC 60079-0:2011 clause 8.3 for EPL Gc
- **WARNING** – In locations where high external humidity and internal temperature variations (e.g. frequent on-off cycles) may cause condensation inside the equipment, the interior should be periodically inspected.
- When installed, the equipment shall be subjected to an electric strength test using a test voltage of 500 Vac applied between the circuit and earth for 60 s. Alternatively, a voltage of 20% higher may be applied for 1 s. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5 mA.
- When the device is mounted in a hazardous area, connection and disconnection of the connectors while live is only permitted if the potentially explosive atmosphere is shown to be absent.
- The “9-36” Vdc rated supply shall be protected such that transients are limited to a maximum of 60Vac or 85 Vdc; no such protection is required for the signal lines.
- When the equipment is installed in a location where the ambient temperature is expected to exceed 55ºC, the cable shall have a temperature rating of 85ºC minimum.

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.

Chapter 1: Introduction

1.1 Overview

Class1 Division2 certification for equipment was created to ensure employee safety in explosive atmospheres. Today many countries have made it a requirement for organizations operating in certain industries to use equipment that meets the regulatory compliance. This includes technologies used in potentially explosive atmospheres. The Winmate 19” HazLoc PPC is the first of its kind to offer the Class1 Division2 certification, ensuring safe and reliable data collection and processing in Hazardous Locations. This Panel PC features robust processing power with the 1.5 GHz Intel Tiger Lake core i5-1145G7E. The panel PC also offers brilliant visibility with its true flat design, transflective sunlight-viewable, projected capacitive touchscreen with 1280 x 1024 pixel resolution, all in a compact form factor.

1.2 Features

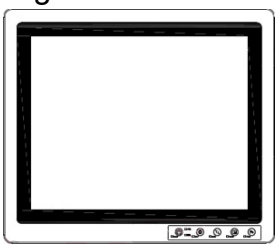
- Intel® 11th Tiger Lake Core™ i3/i5/i7
- 19” SXGA High brightness panel, 800 nits (Optional 1000 nits)
- Sunlight readable, transflective, projected capacitive touch LCD panel
- Fanless, streamlined enclosure for highly efficient heat dissipation
- Front side buttons, one dedicated button to enable/disable touch screen interface
- Built to withstand extreme temperatures -40 to 70 deg. C with built in intelligent heater
- 9-36 V DC input with isolation (There is no tolerance for the DC input voltage)
- Operable in 5-95% humidity level

1.3 Package Contents

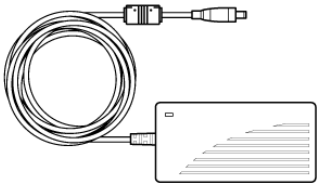
Before using this Panel PC, please make sure that all the items listed below are present in your package:

Standard Accessories:

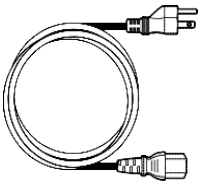
Before using this Panel PC, please make sure that all the items listed below are present in your package:



Panel PC

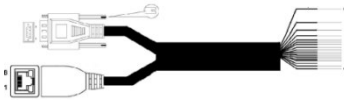


24V 150W AC to DC Power adapter (for Testing only)



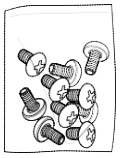
Power cord

Open wire power cable



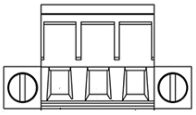
LAN + COM combo cable

USB cable



VESA Mounting Screws

Mounting Clips & Screws



3 Pins Terminal Block For Power

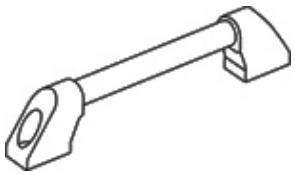
8 Pins Terminal Block For LAN

4 Pins Terminal Block For USB

10 Pins Terminal Block For COM

Optional Accessories:

Wi-Fi Antenna extension cable (Optional, Non-Ex type)



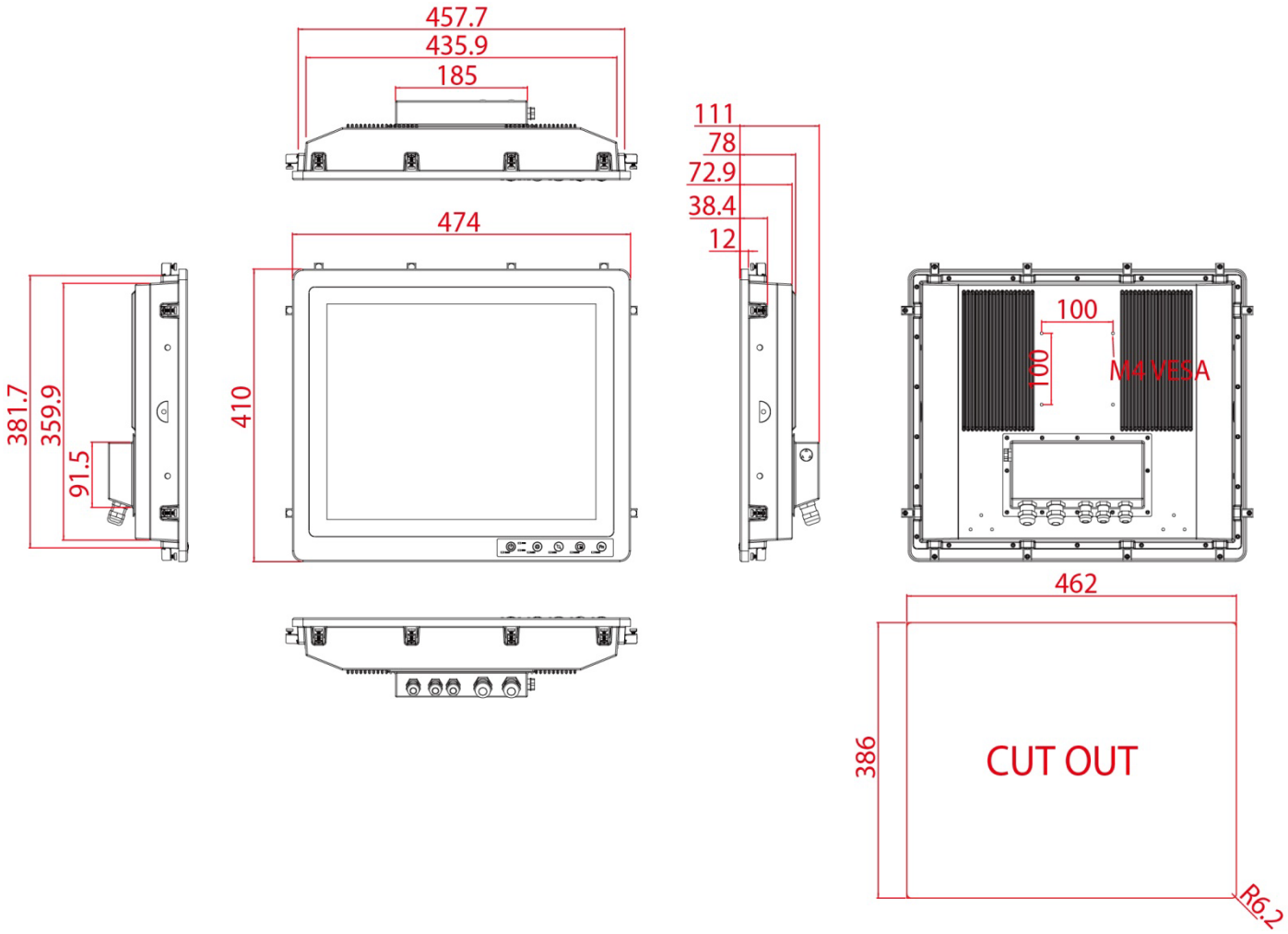
Side Handle (Optional)

Note: All cables are for testing only, **Do Not** use these cables under Hazardous area.

1.4 Product Overview

Unit: mm

Front View



1.5 Front Buttons

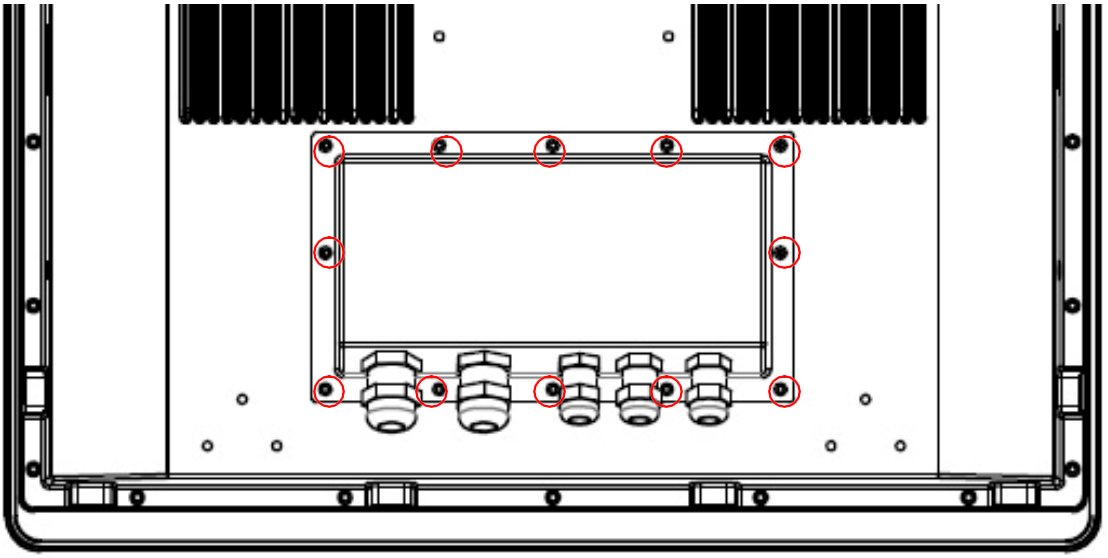
Front Button & LED Indicators

Button Type	Function
	Power on/off
	Increase the brightness of the Panel
	Decrease the brightness of the Panel
	Suspend the touch's function temporarily
	Programmable function key configured by Hot Tab Utility

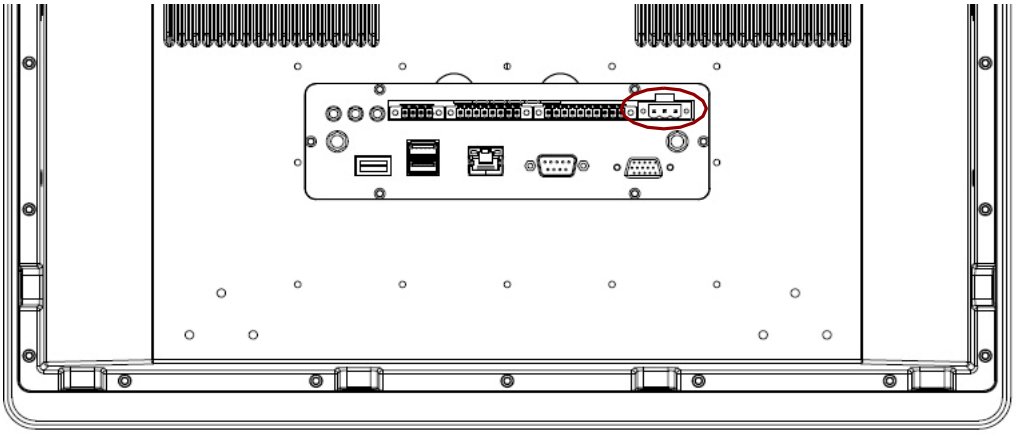
Chapter 2: Getting Started

2.1 Turning ON Your Device

1. Remove the I/O protection cover plate.



2. Connect the Power adapter to the device.

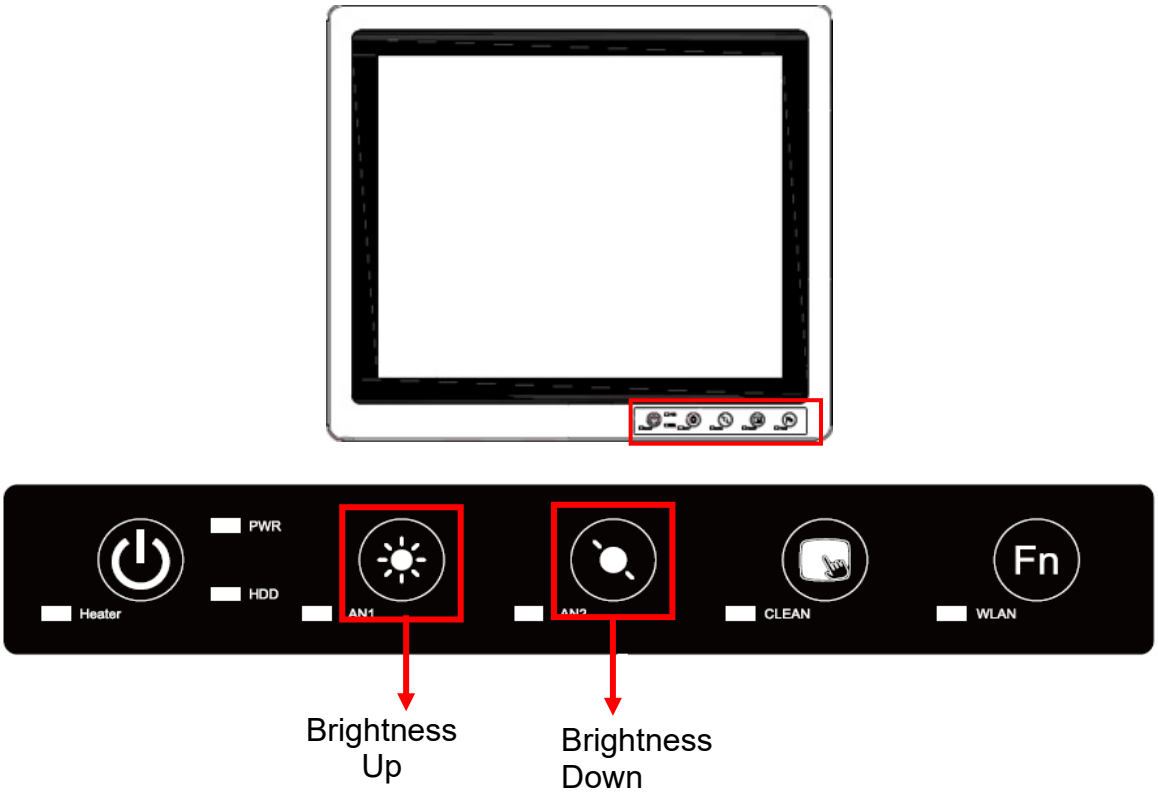


3. Plug the power adapter power cord to an electrical outlet.
4. Touch the Power button on the front to turn on the device.

Note:
When the system hangs, press the Reset button to restart the device. Please make sure the unit is grounded to earth before operation

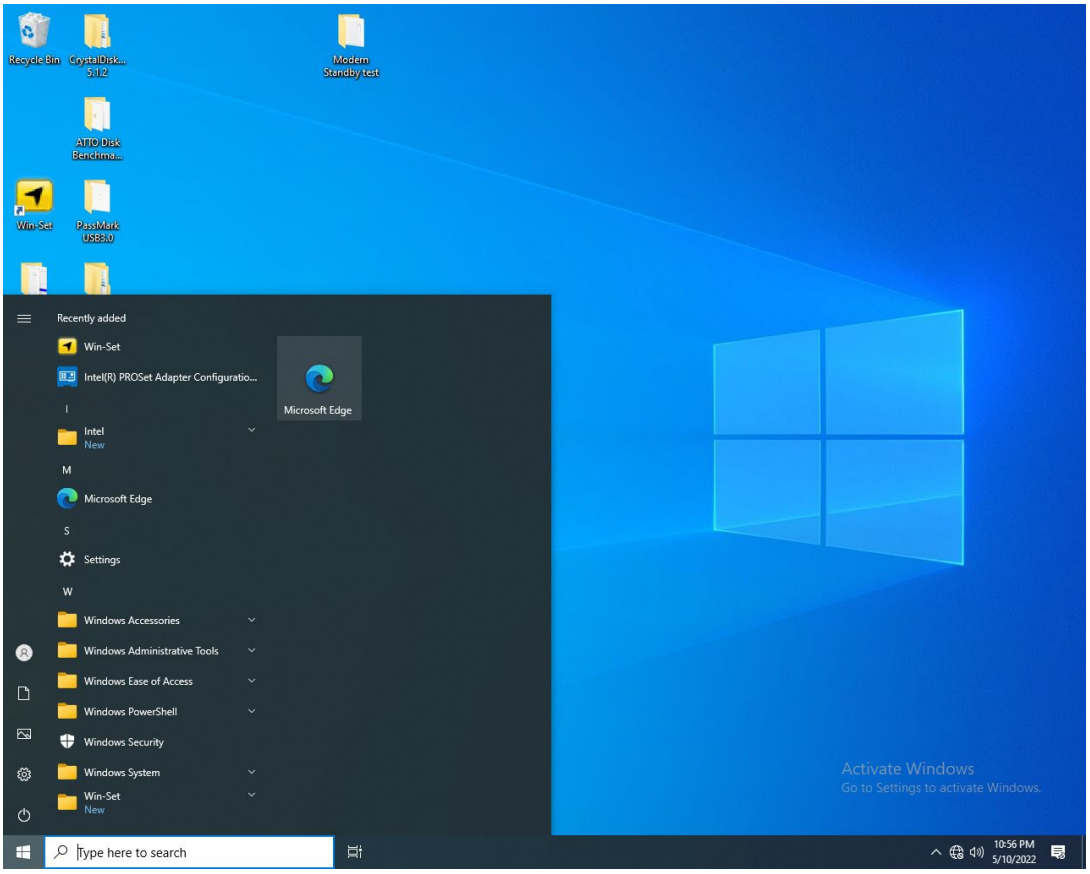
2.2 Adjusting the LCD Display Brightness

Use the OSD membrane buttons on the front bottom side to increase / decrease the display brightness.



2.3 Turning Off Your Device

To shut down your device, do the following: Tap Windows icon > **Shut down**.



Wait for your Panel PC to completely turn off before disconnecting the power cord (if necessary).

Chapter 3: Installation

3.1 Wiring Requirements

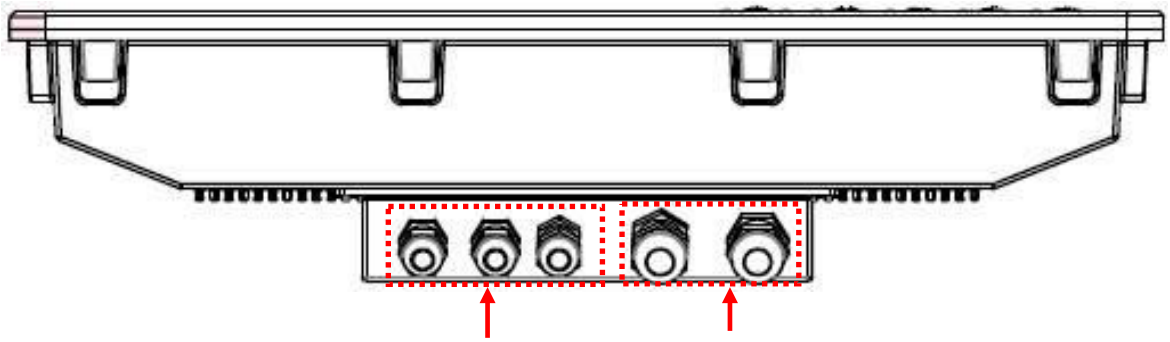
The following common safety precautions should be observed before installing any electronic device:

- 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.

Caution/ Attention

- 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.
  Ne faites pas passer le câblage de signal ou de communication et le câblage d'alimentation dans le même conduit. Pour éviter les interférences, les fils avec des caractéristiques de signal différentes (c'est-à-dire des interfaces différentes) doivent être acheminés séparément.
- Be sure to disconnect the power cord before installing and/or wiring your device.
  Assurez-vous de débrancher le cordon d'alimentation avant d'installer et/ou de câbler votre appareil.
- 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.
  Vérifiez le courant maximum possible pour chaque calibre de fil, en particulier pour les cordons d'alimentation. Respectez tous les codes électriques dictant le courant maximum autorisé pour chaque calibre de fil.
- If the current goes above the maximum ratings (80 W), the wiring could overheat, causing serious damage to your equipment.
  Si le courant dépasse les valeurs nominales maximales (80 W), le câblage pourrait surchauffer et endommager gravement votre équipement.
- 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.
  Soyez prudent lorsque vous manipulez l'appareil. Lorsque l'appareil est branché, les composants internes génèrent beaucoup de chaleur, ce qui peut rendre le boîtier extérieur trop chaud au toucher.

The unit is available with different pass through glands for cable connections (required to maintain enclosure protection rating). These glands are water and gas tight and must be tightened with a torque described in the gland manufacturer's instructions provided with the unit. Cables must be passed through the glands and wired to the associated I/O connectors.

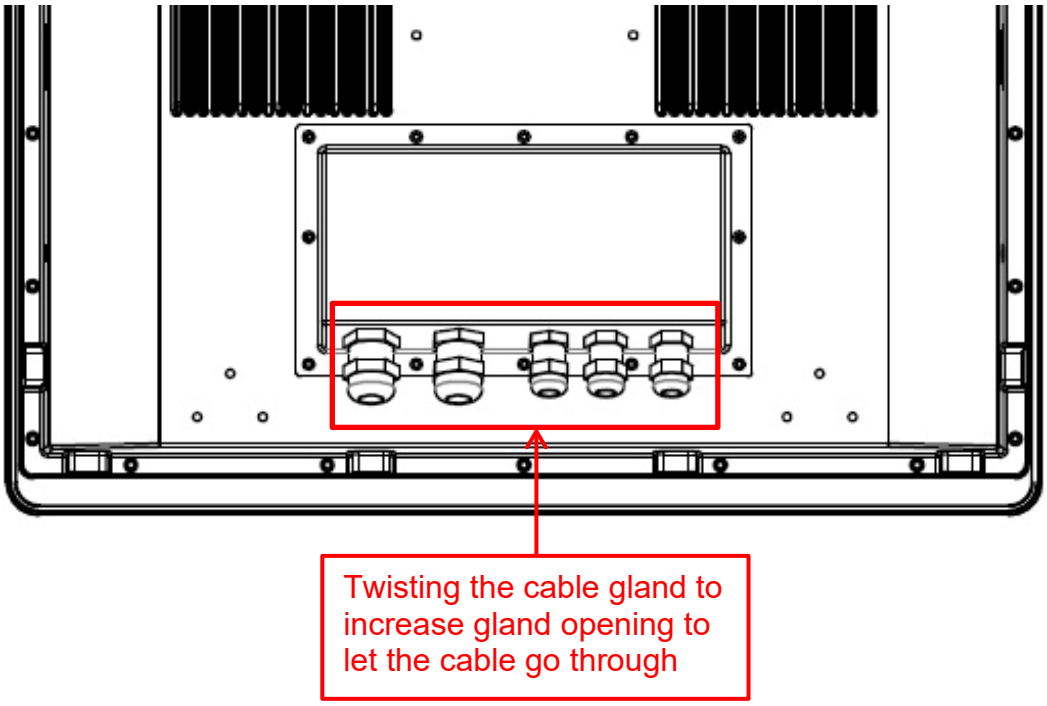


MBA12-08-L13-Ex
Gland
Cable range 5.4~8mm

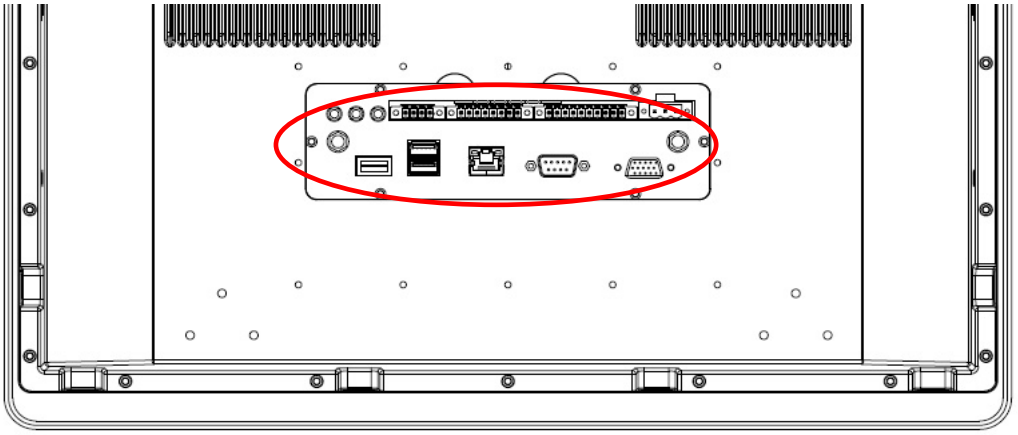
MBA16-10-Ex Gland
Cable Range 7.5~10.2mm

3.2 Wiring

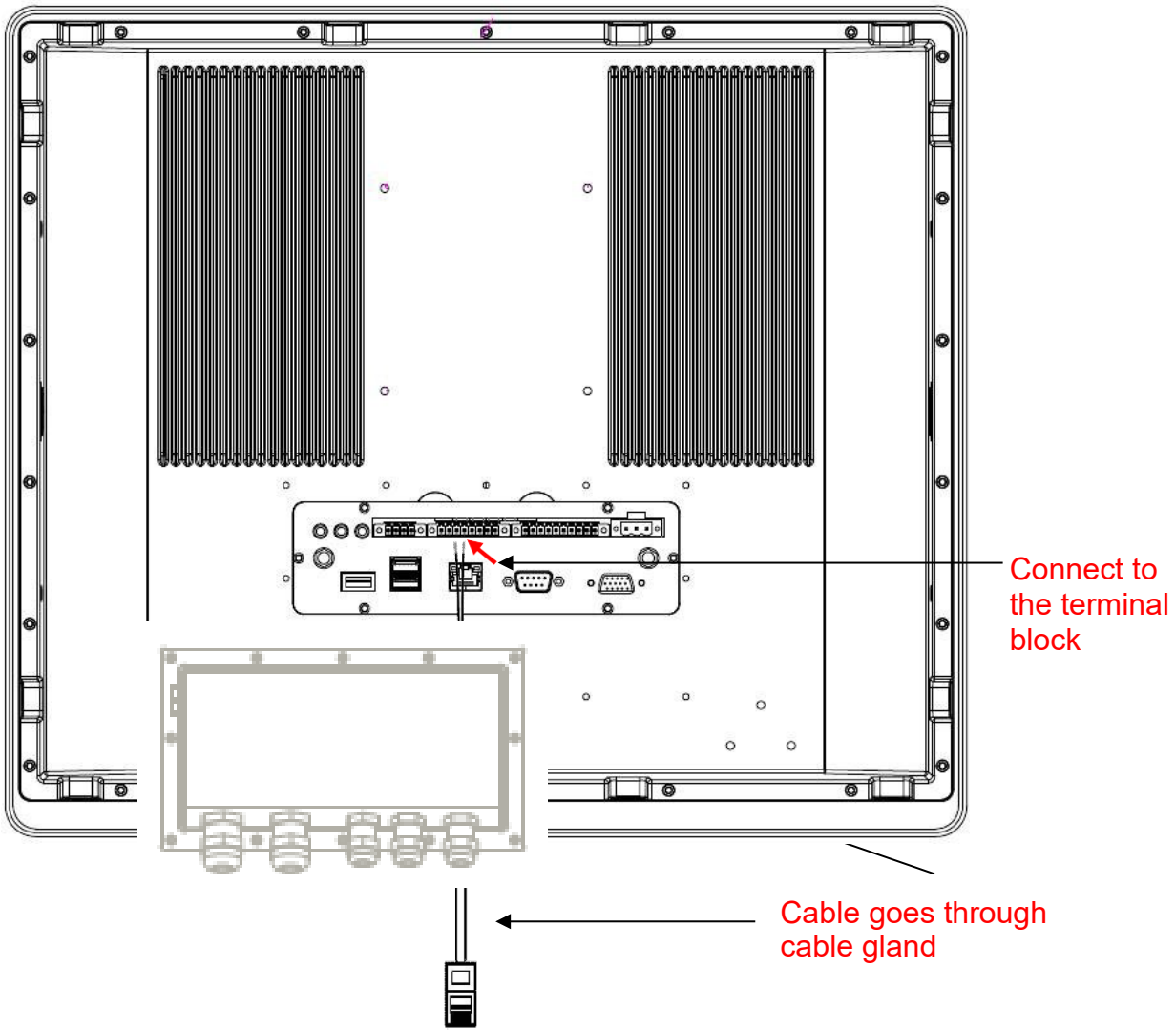
1. Release the screws to remove the I/O protection cover and twisting the cable gland to increase gland opening for later cable go through



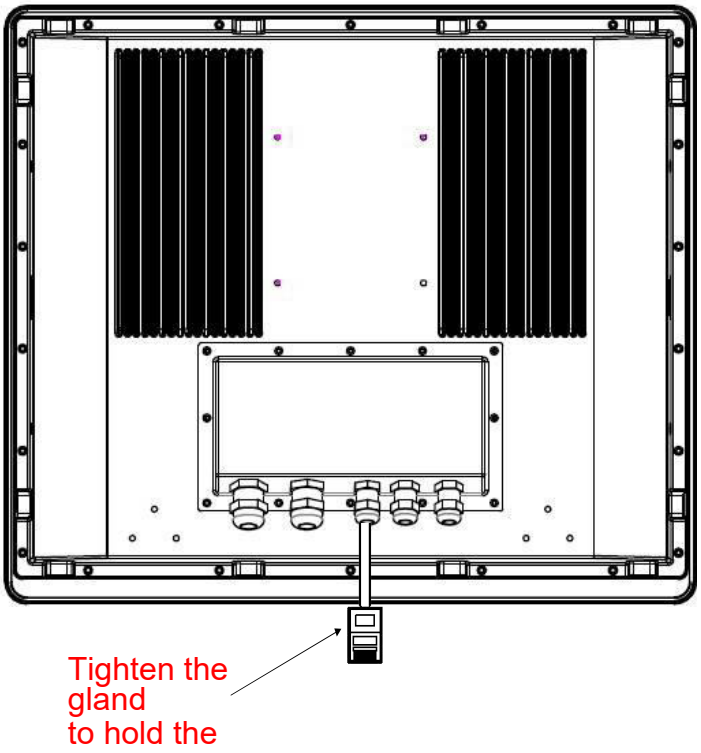
2. I/O cover has been removed and internal I/O ports will be seen.



3. Loosen the cable gland and let the cable go through to connect the internal terminal block connector.

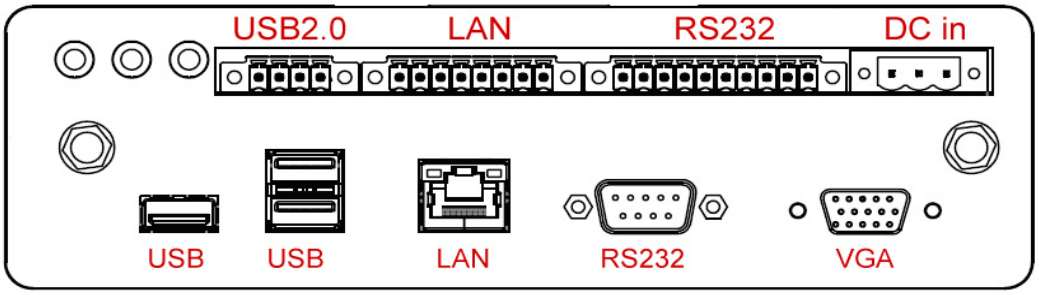


4. Tighten the cable gland and screw the I/O protection cover plate back.

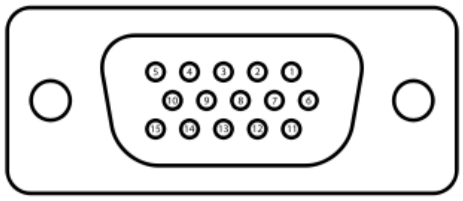


3.3 Pin Assignments

The pin assignments of the connectors are as follows:

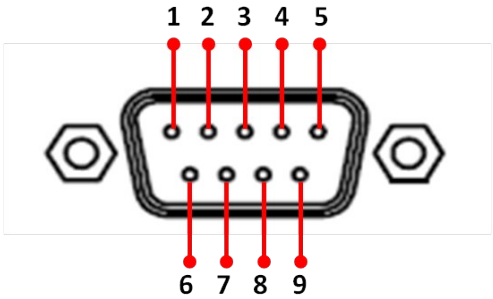


VGA Port (Only used in safe area)



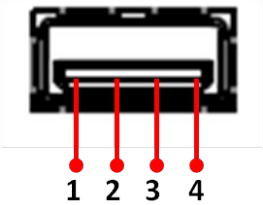
Pin No	Signal Name	Pin No	Signal Name
1	R_FILTER	2	G_FILTER
3	B_FILTER	4	NC
5	GND	6	GND
7	GND	8	GND
9	VGA5V	10	GND
11	NC	12	DAC_SDAT0
13	3VHSYNC0	14	3VVSYNC0
15	DAC_SCL0		

COM Port (Only used in safe area)



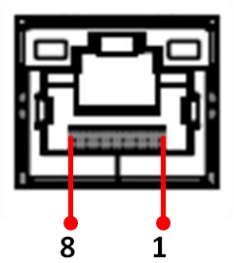
Pin No	Signal Name	Pin No	Signal Name
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

USB Port (Only used in safe area)



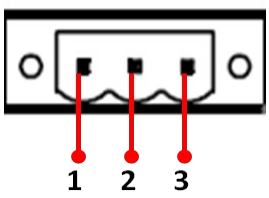
Pin No	Signal Name	Pin	Signal Name
1	VCC	2	D-
3	D+	4	GND

LAN1 Port (Only used in safe area)



Pin No	Signal Name	Pin No	Signal Name
1	MDI0_IN+	2	MDI0_IN-
3	MDI1_IN+	4	MDI2_IN+
5	MDI2_IN-	6	MDI1_IN-
7	MDI3_IN+	8	MDI3_IN-

Power terminal block

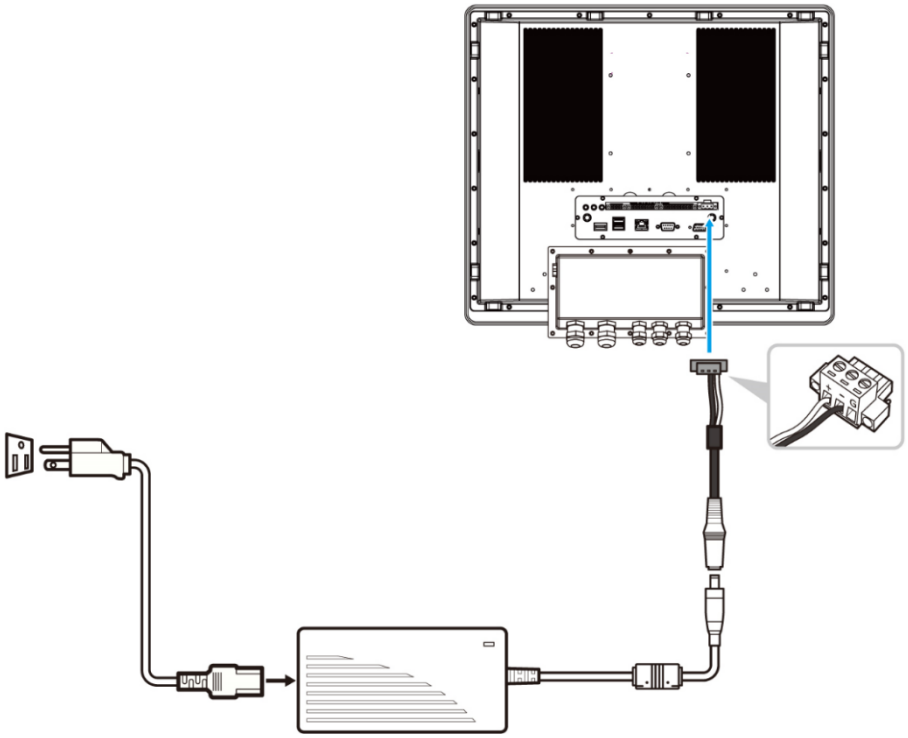


Pin No	Signal Name	Pin No	Signal Name
1	VCC+	2	VCC-
3	GND		

*Power wire for VCC should be AMW 1015 18AWG 600V or above.

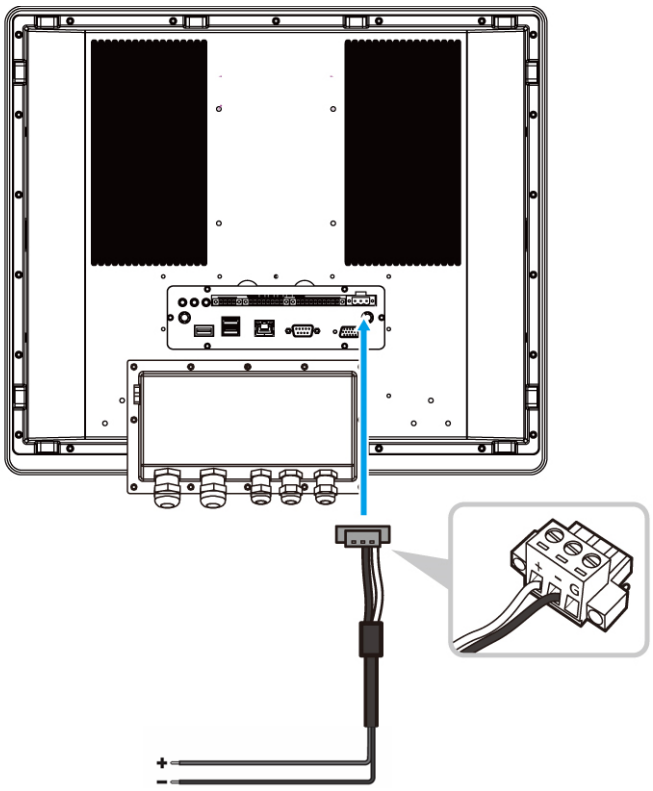
To connect the Panel PC to AC power source:

1. Plug the DC Plug of AC adapter to the Panel PC DC IN Jack.
2. Connect the AC adapter to the power cord.
3. Plug the power cord to a working AC outlet. The device will boot automatically.



To connect the Panel PC DC power source:

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



*The wire for GND: Equipotential bonding connection facilities on the outside of electrical equipment shall provide effective connection of a conductor with a cross-sectional area of at least 4 mm², AMW 1015 10AWG 600V is recommended.

COM Port

Pin No	Signal Name	Pin No	Signal Name
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	+V5

LAN2 Port

Pin No	Signal Name	Cable Color	Pin No	Signal Name	Cable Color
1	MDIO3-	Brown	2	MDIO3+	White/ Brown
3	MDIO2-	White/ Blue	4	MDIO2+	Blue
5	MDIO1-	Green	6	MDIO1+	White/ Green
7	MDIO0-	Orange	8	MDIO0+	White/ Orange

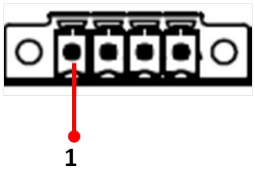
Ethernet connection pin Assignments for T568A

RJ4-45 Pin No.	Wire Color	10BASE-T/100 BASE -T Signal	1000 BASE -T Signal
1	White/Green	Transmit+	BI_DA+
2	Green	Transmit-	BI_DA-
3	White/Orange	Receive+	BI_DB+
4	Blue	Unused	BI_DC+
5	White/Blue	Unused	BI_DC-
6	Orange	Receive-	BI_DB-
7	White/Brown	Unused	BI_DD+
8	Brown	Unused	BI_DD-

Ethernet connection pin Assignments for T568B.

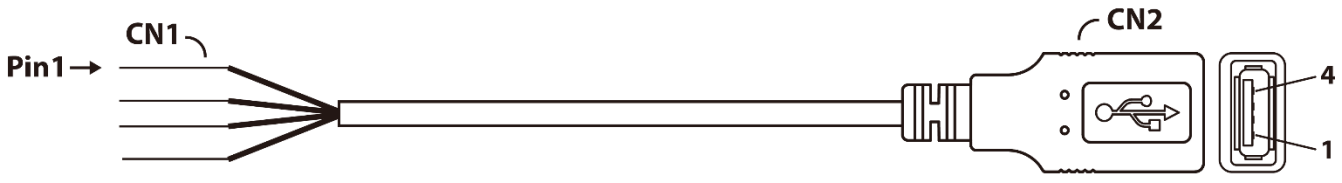
RJ4-45 Pin No.	Wire Color	10BASE-T/100 BASE -T Signal	1000 BASE -T Signal
1	White/Orange	Transmit+	BI_DA+
2	Orange	Transmit-	BI_DA-
3	White/Green	Receive+	BI_DB+
4	Blue	Unused	BI_DC+
5	White/Blue	Unused	BI_DC-
6	Green	Receive-	BI_DB-
7	White/Brown	Unused	BI_DD+
8	Brown	Unused	BI_DD-

USB Port



Pin No	Signal Name	Pin No	Signal Name
1	VCC	2	D-
3	D+	4	GND

The external USB cable



Pin No	Signal Name	Cable Color	Pin No	Signal Name	Cable Color
CN1-1	VCC	Red	CN2-1	VCC	Red
CN1-2	D-	White	CN2-2	D-	White
CN1-3	D+	Green	CN2-3	D+	Green
CN1-4	GND	Black	CN2-4	GND	Black

Note:

This adapter was certified by UL, CUL TUV/GS CE, FCC, BSMI, EK, DOIR+C- TICK, CCC, PSE.

Warning!/ Avertissement!

Ensure that the external power source is OFF before connecting or disconnecting the DC IN jack.

Assurez-vous que la source d'alimentation externe est éteinte avant de connecter ou de déconnecter la prise DC IN.

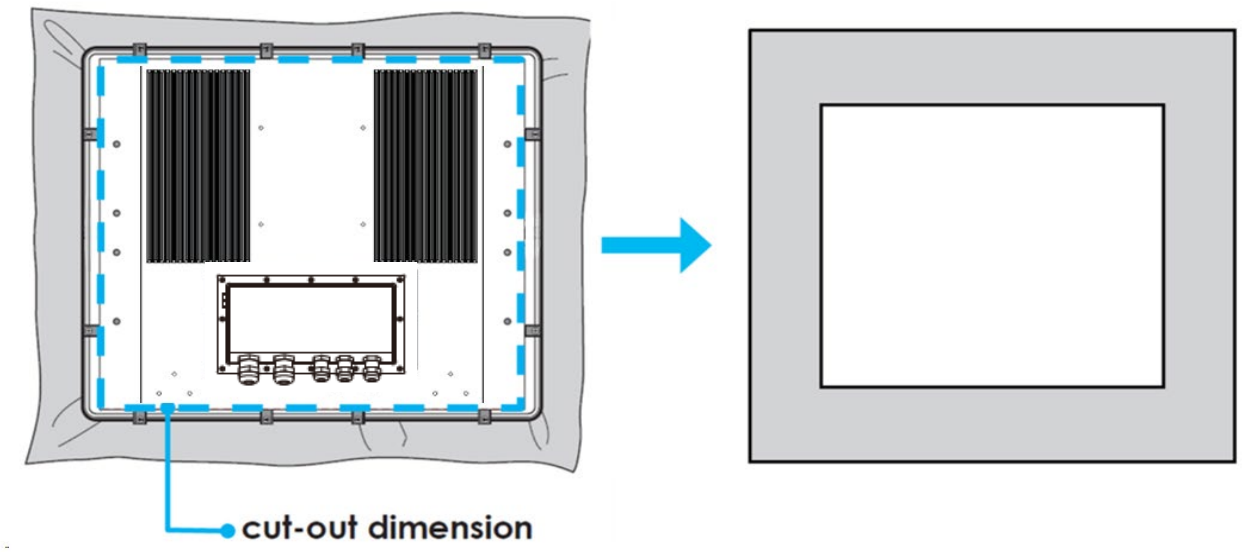
Chapter 4: Mounting Solution

4.1 Clamp Mount

With the mounting clamps and screws, it provides fast and easy mounting of the 19” Panel PC onto an instrument panel or wall panel

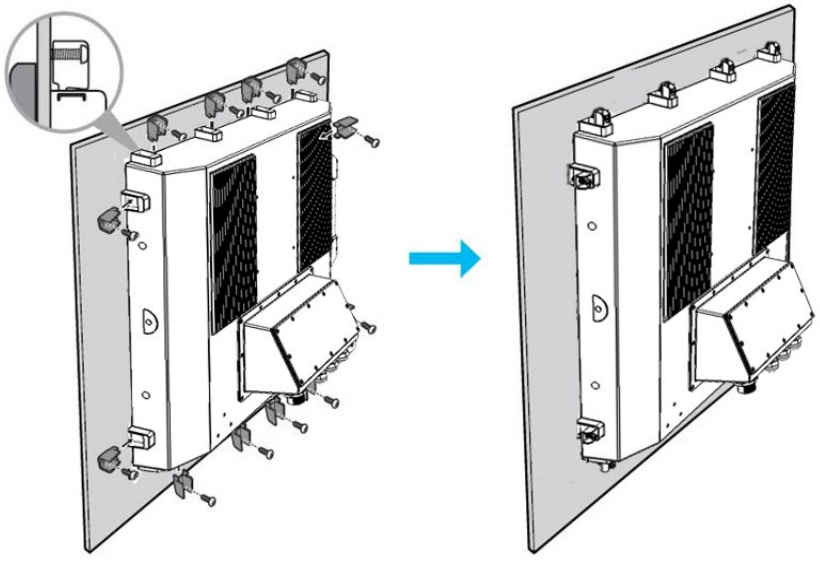
To mount the device to a sub frame or panel, do the following:

1. Prepare a customized fixture for the specific dimension of the display unit
2. Turn off the device and disconnect the power source and other peripherals
3. Cut a hole on the sub frame or panel according to the cut-out dimensions



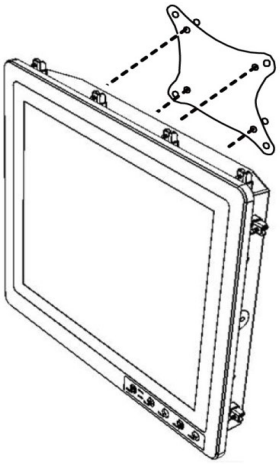
Cutout dimensions: 462 x 386 mm (W x H)

4. Install the device properly onto the cut-out area of the sub frame or panel
5. Hook the mounting clamp into the corresponding mounting pair slots of the display. Then fasten the clamp with the included mounting screw to secure its position on the sub frame or panel. Repeat the same procedure for the remaining mounting clamps



4.2 VESA Mount

Dimensions: 100 x 100mm
Screw Hole Diameter: M4 x 5 mm
Direction: Compatible with swimming arms mounting kits.



Chapter 5: 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

5.1 How and When to Use BIOS Setup

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

IMPORTANT:

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

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

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

BIOS Navigation Keys

The following keys are enabled during POST:

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

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

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

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

NOTE:

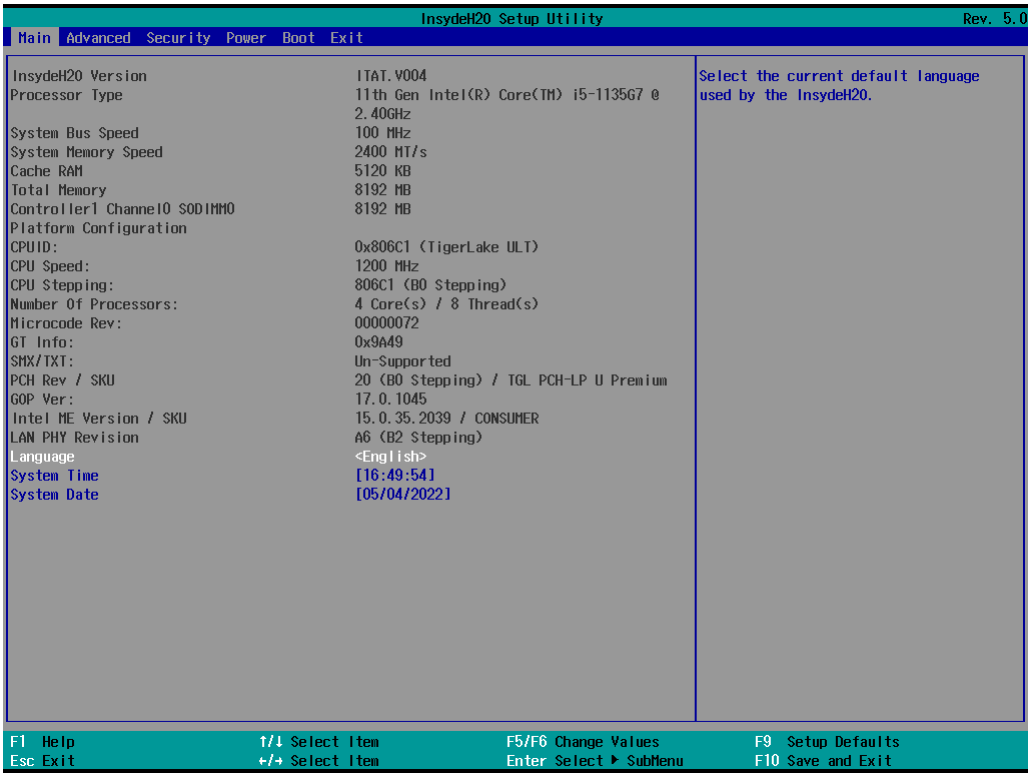
You can press the F1, F2, F3, F4, –/+, and Esc keys by connecting a USB keyboard to your computer.

5.2 BIOS Functions

5.2.1 Main Menu

The Main menu displays the basic information about your system including BIOS version, processor RC version, system language, time, and date.

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



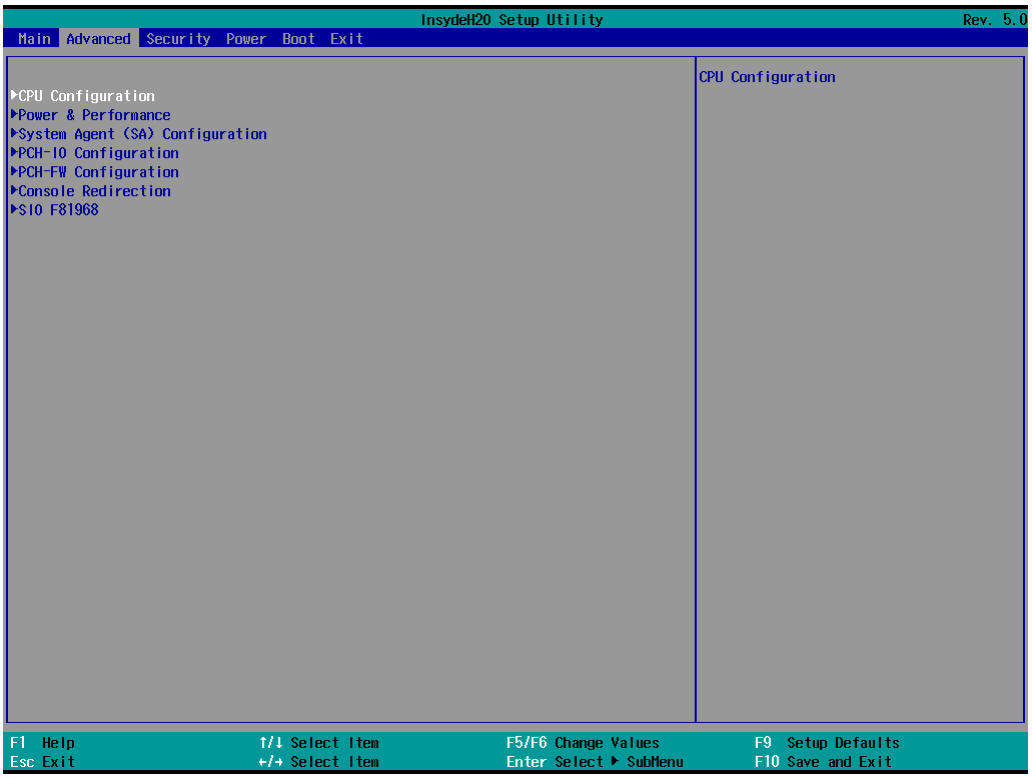
BIOS Setting	Description	Setting Option	Effect
Language	Displays the system language. [English] is set up by default.	Adjustment of the language	Set the language in other language. The language in this device is English.
System Time	This is current time setting. The time is maintained by the battery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

5.2.2 Advanced

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

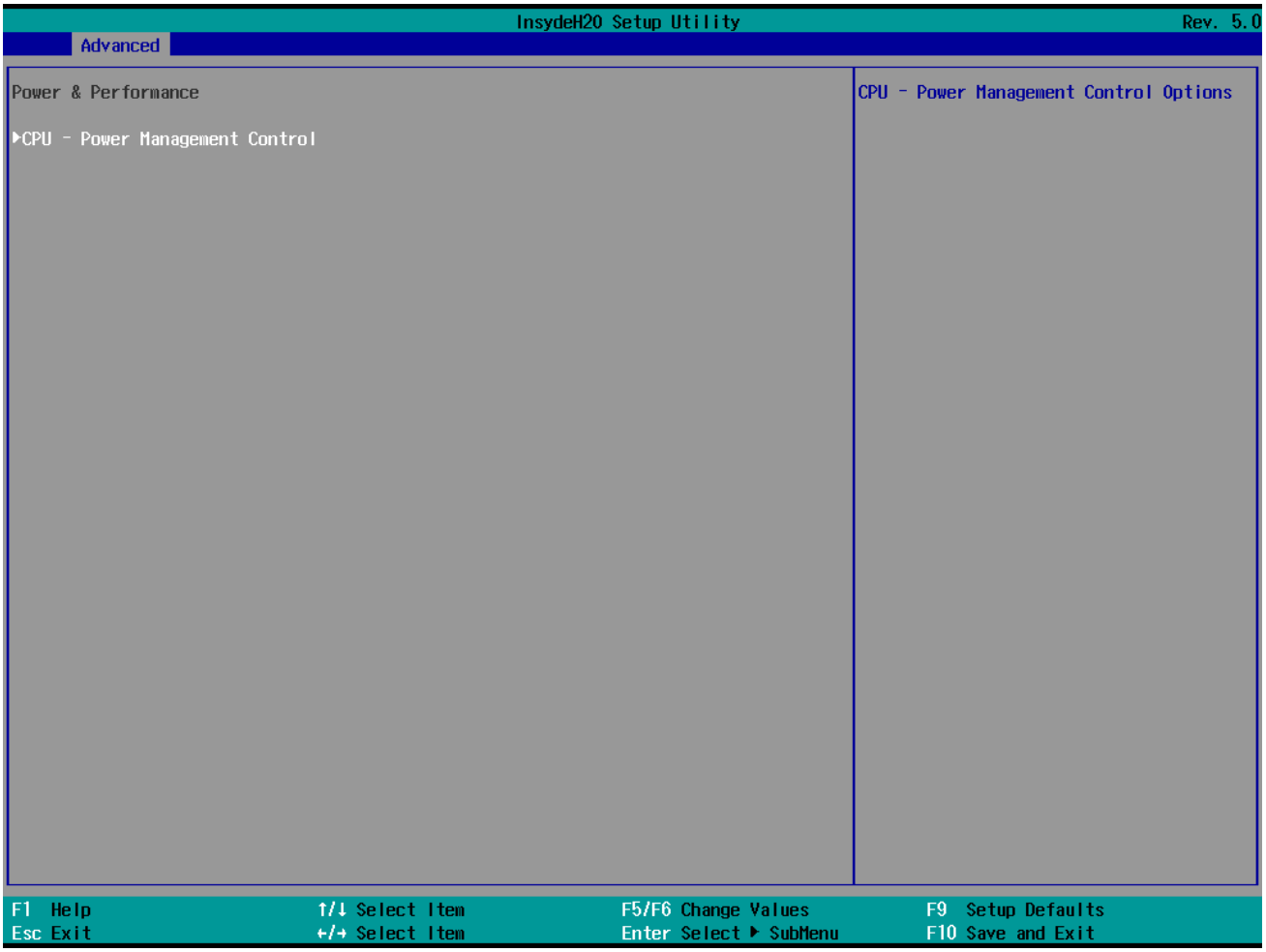
CAUTION

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

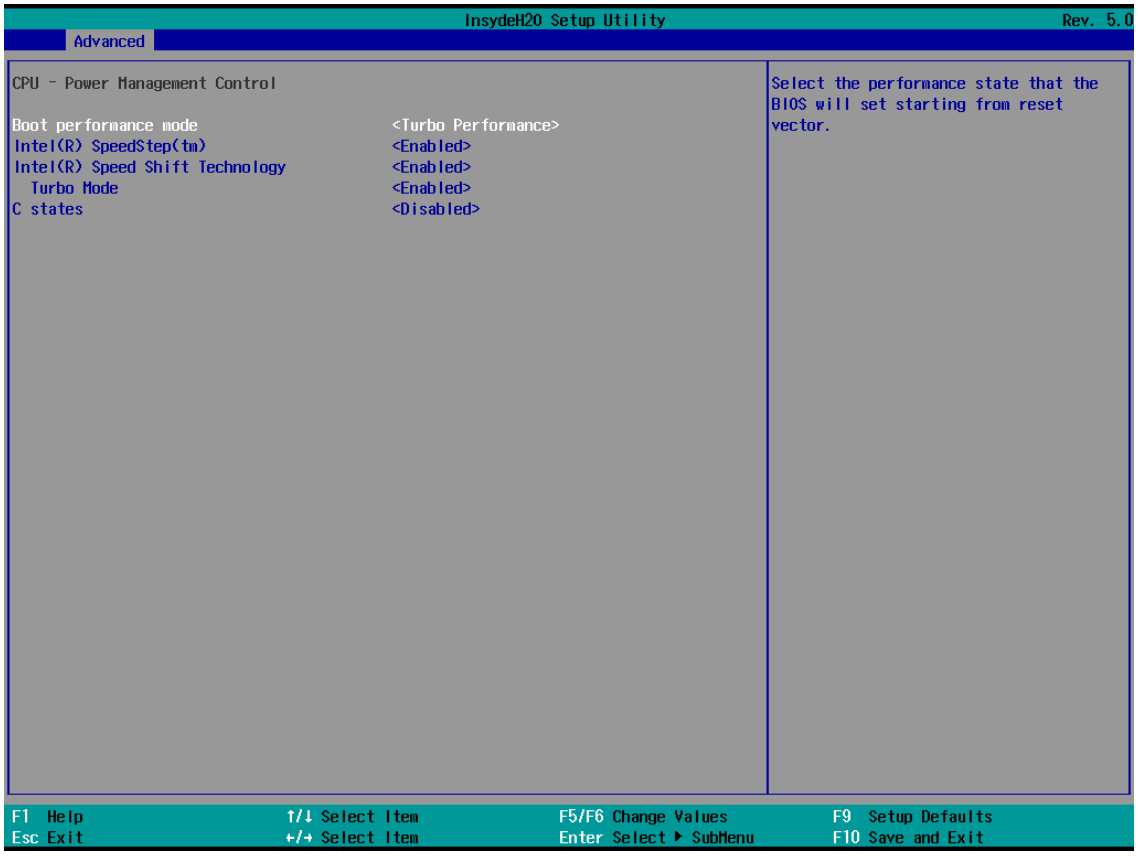


BIOS Setting	Description	Setting Option	Effect
CPU Configuration	Configures Trusted Computing parameters	Enter	Opens submenu
Power & Performance	Configures Power & Performance parameters	Enter	Opens submenu
System Agent Configuration	Configures System Agent Configuration parameters	Enter	Opens submenu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

5.2.2.1 Power & Performance

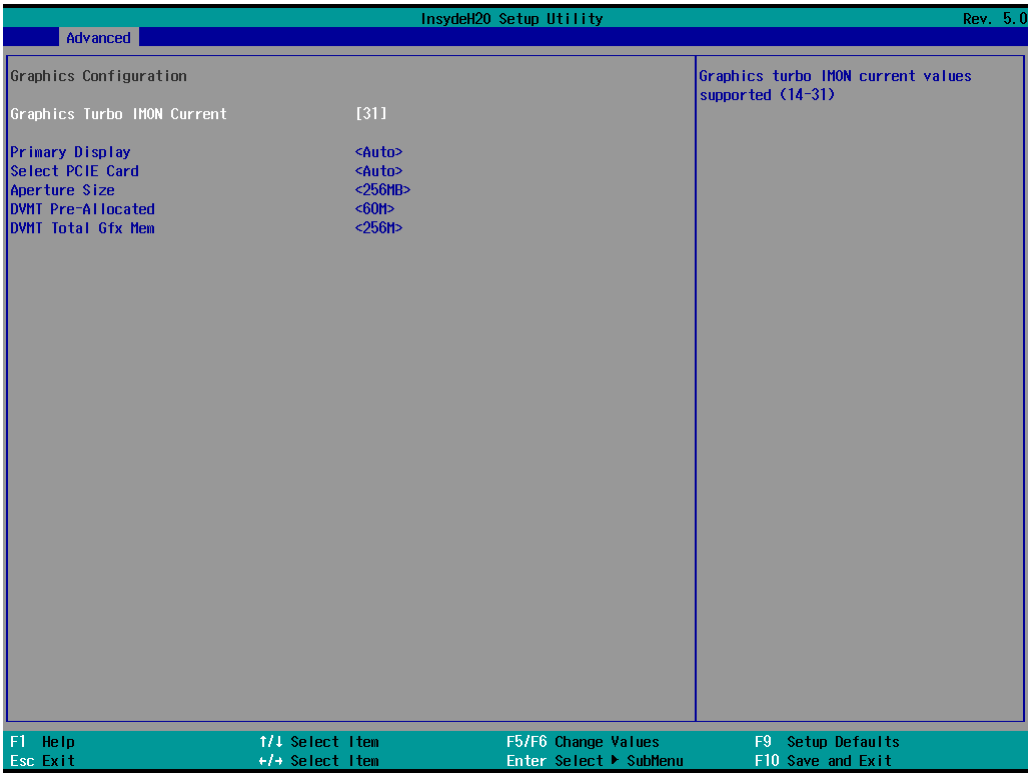


BIOS Setting	Description	Setting Option	Effect
CPU – Power Management Control	Configure CPU – Power Management Control parameters	Enter	Enters sub-menu



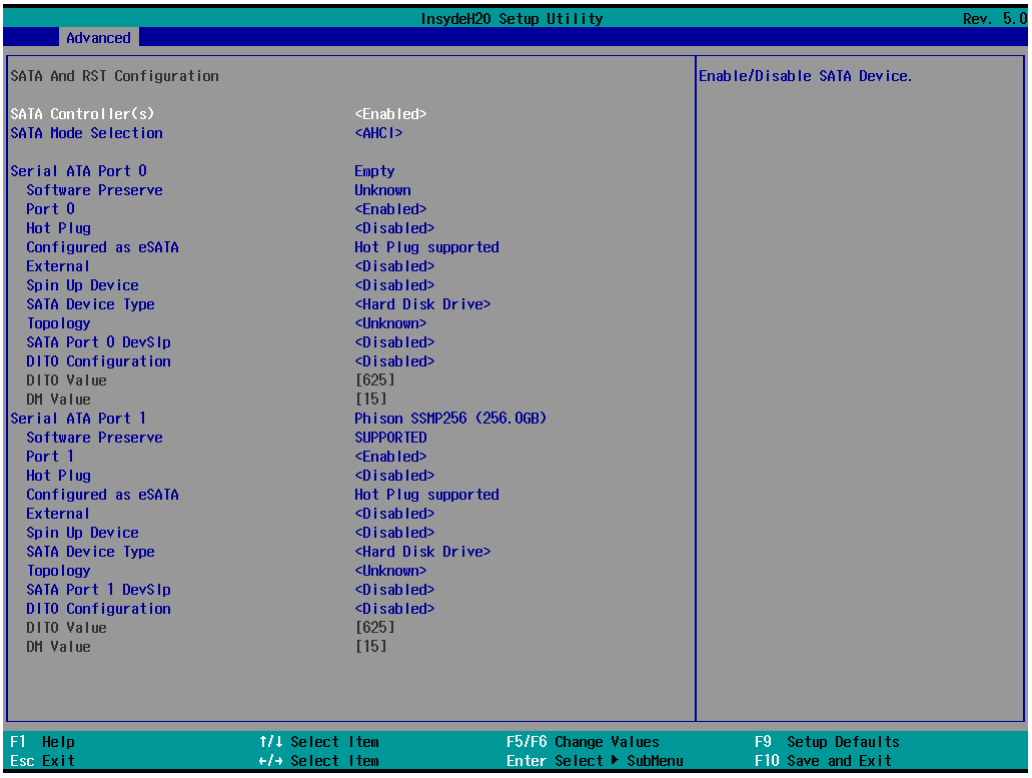
BIOS Setting	Description	Setting Option	Effect
Boot Performance Mode	Configure Boot Performance Mode parameters	- Max non-turbo performance - Max battery - Turbo Performance	Select the performance state that the BIOS will set starting from reset vector
Intel SpeedStep (ta)	Configure Intel SpeedStep (ta) parameters	Enabled/ Disabled	Allows more than two frequency ranges to be supported
Intel Speed Shift Technology	Configure Intel Speed Shift Technology parameters	Enabled/ Disabled	Enable/ Disable Intel Speed Shift Technology support. Enabling will expose the CPP v2 interface to allow for hardware-controlled P-states
-Turbo Mode	*Enable or disable Turbo Mode*	*Enabled/ Disabled*	*Enable/ Disable processor Turbo Mode (requires EMTTM enabled too). Auto means enabled, unless max turbo ratio is bigger than 16 – SKL AO W/A*

5.2.2.2 PCH-IO Configuration

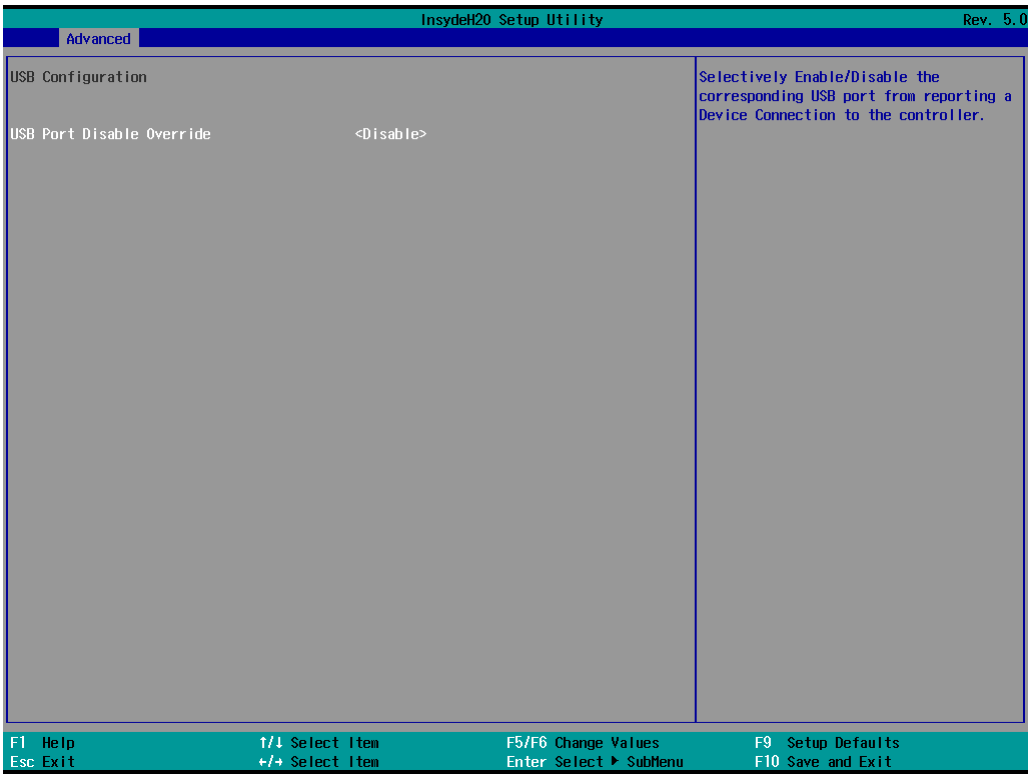


BIOS Setting	Description	Setting Option	Effect
PCI Express Configuration	Configure PCI Express settings	Enter	Opens sub-menu
SATA And RST Configuration	Configure SATA And RST settings	Enter	Opens sub-menu
USB Configuration	Configure USB settings	Enter	Opens sub-menu
State After G3			S0 = Auto power ON after power failure S5 = Keep power OFF after power failure

5.2.2.3 SATA and RST Configuration

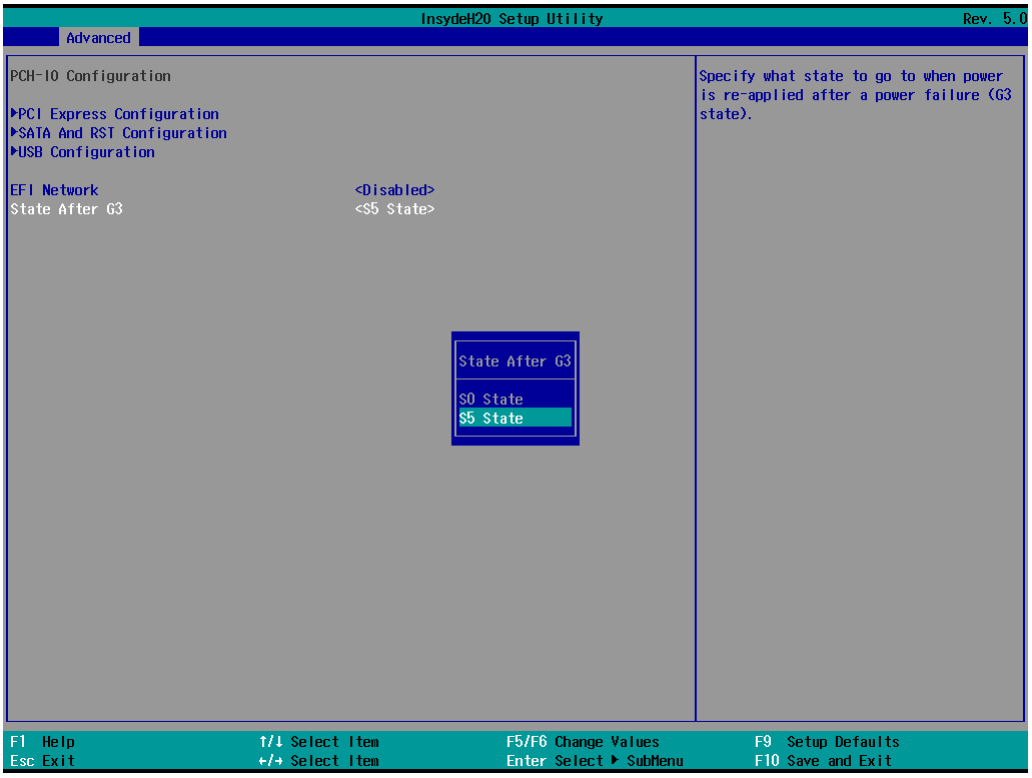


5.2.2.4 USB Configuration



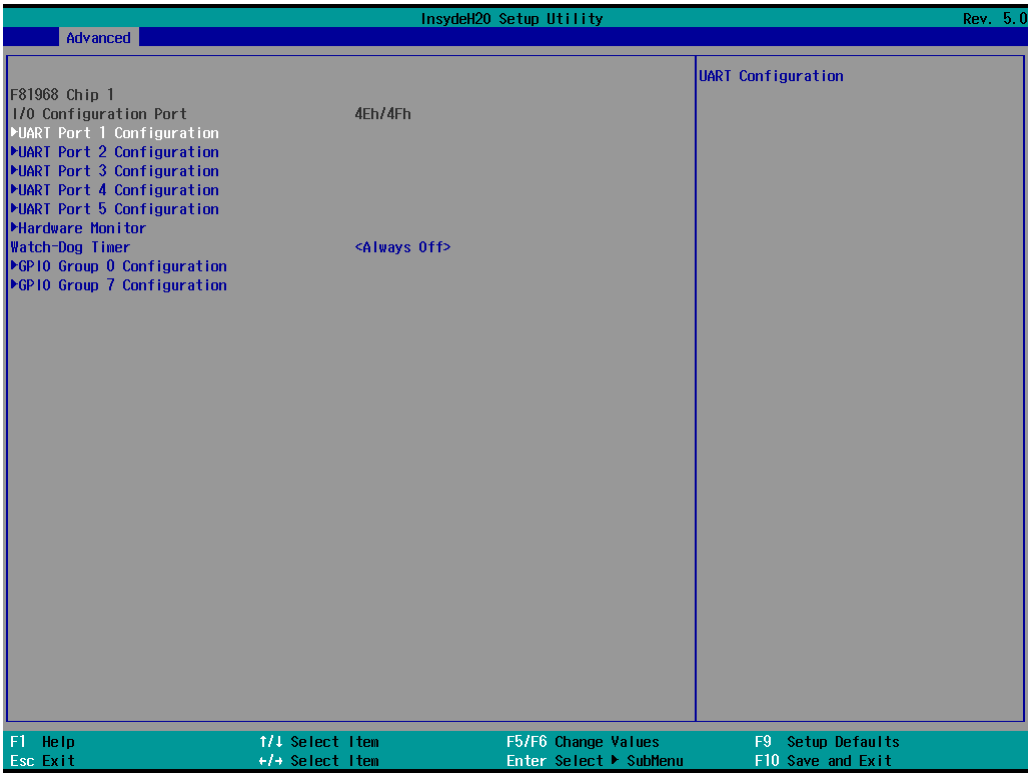
BIOS Setting	Description	Setting Option	Effect
USB Port Disable Override	USB Port Disable Override configuration	Disable Select Per-Pin	Selectively Enable/ Disable the corresponding USB port from reporting a Device Connection to the controller

5.2.2.4.1 State After G3



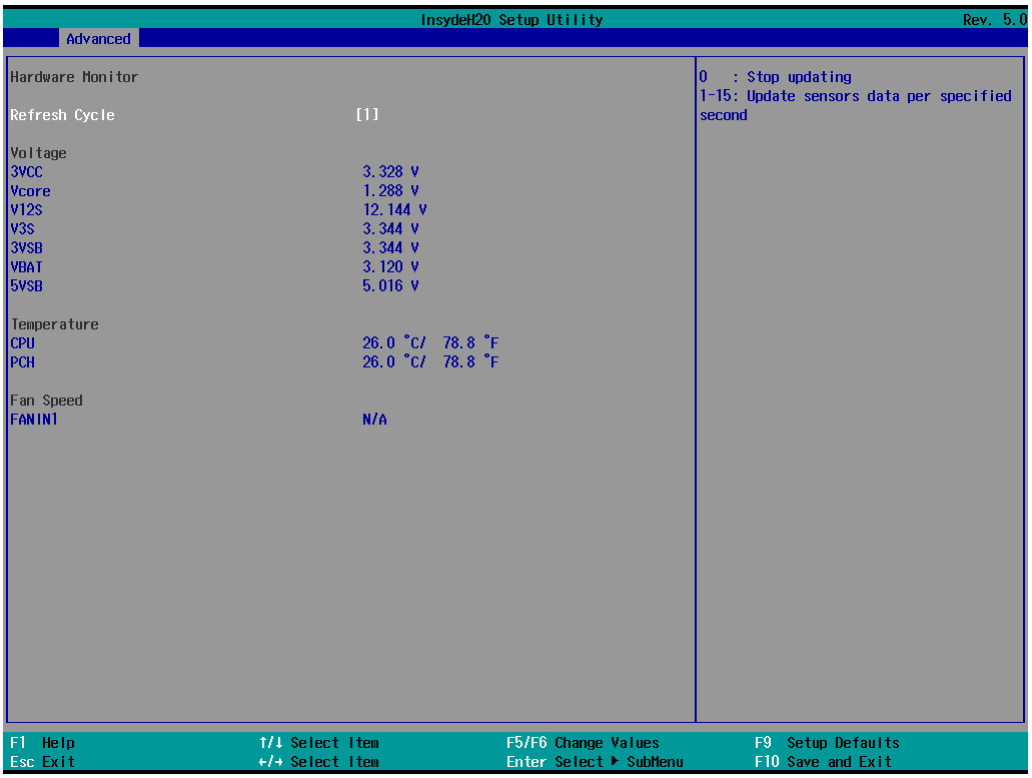
BIOS Setting	Description	Setting Option	Effect
State After G3	State After G3 configuration	S0 State S5 State	Specify what state to go to when power is re-applied after a power failure (G3 state)

5.2.2.5 SIO F81866A



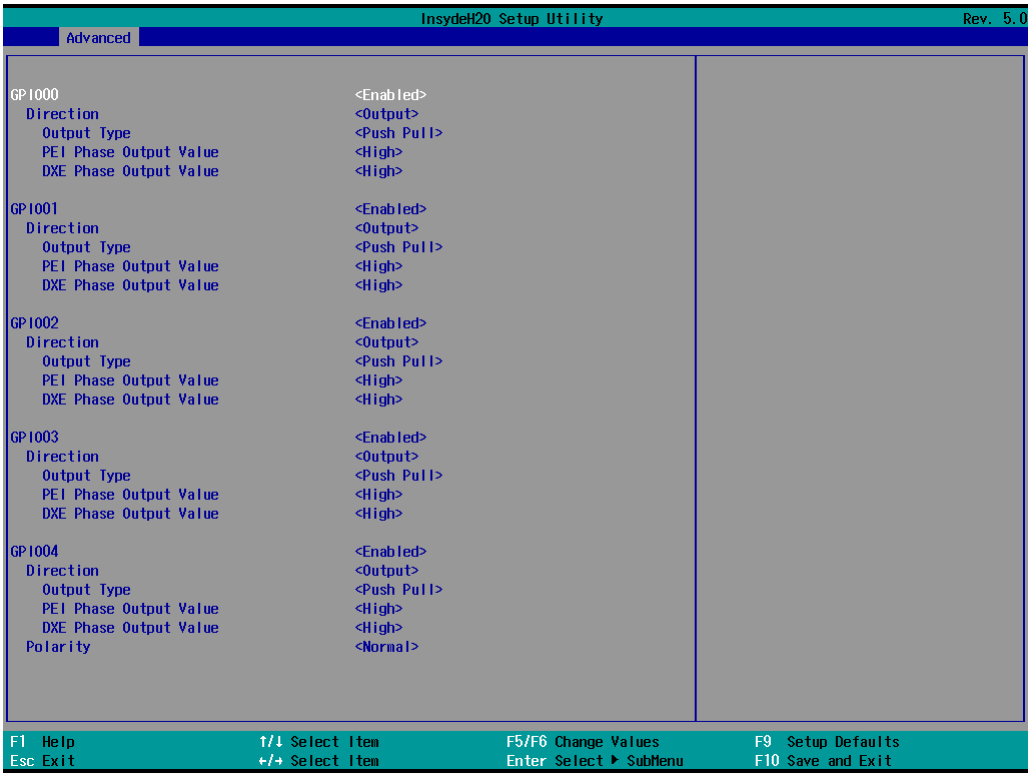
BIOS Setting	Description	Setting Option	Effect
Serial Port A ~ Serial Port D	Configure Serial port settings	Disable	No configuration
		Enable	User configuration
		Auto	EFI/OS chooses configuration
WDT	Watchdog Timer configuration	Disable Enable	Enable or disable Watchdog Timer
Hardware Monitor	Hardware Monitor	Enter	Opens sub-section
GPIO Group 0 Configuration	GPIO Group 0 Configuration	Enter	Opens sub-section
GPIO Group 1 Configuration	GPIO Group 1 Configuration	Enter	Opens sub-section

5.2.2.5.1 Hardware Monitor

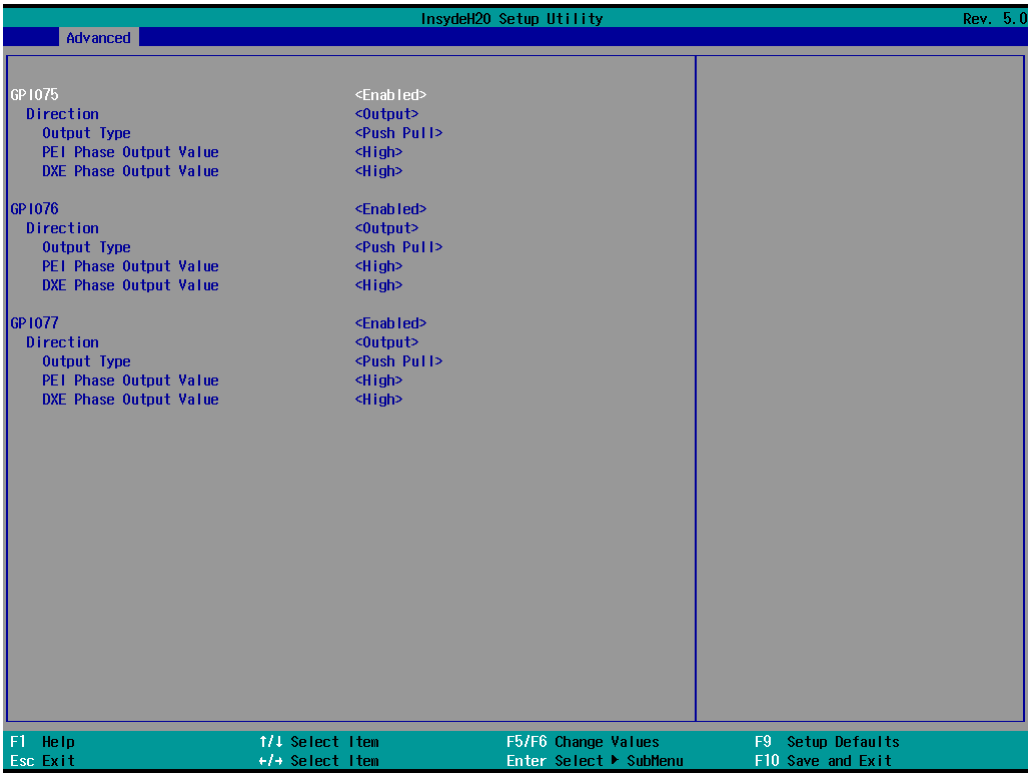


BIOS Setting	Description	Setting Option	Effect
FAN1 Mode	FAN1 Mode configuration	Manual Linear Stage	Select FAN1 Mode configuration

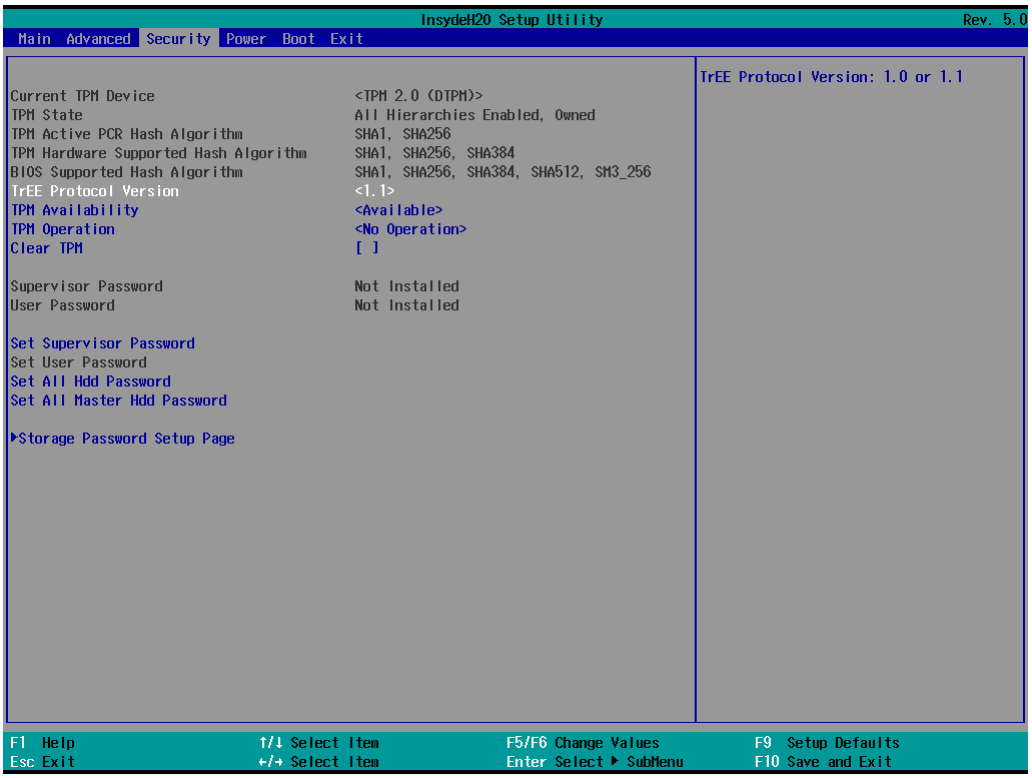
5.2.2.6 GPIO Configuration



BIOS Setting	Description	Setting Option	Effect
Internal Resistance	Internal Resistance configuration	Push Pull Open Drain	User can pull internal resistance push-pull / open-drain
Input/ Output Mode	GPIO pin configuration	Input Output	Set GPIO pin is input or output

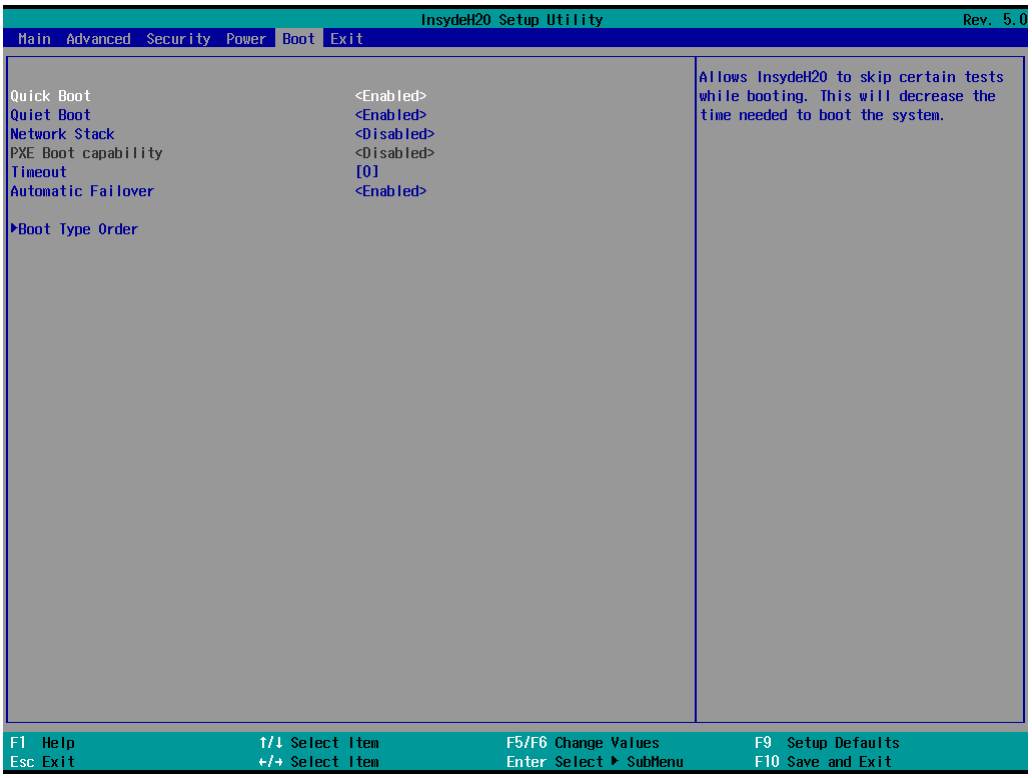


5.2.3 Security



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

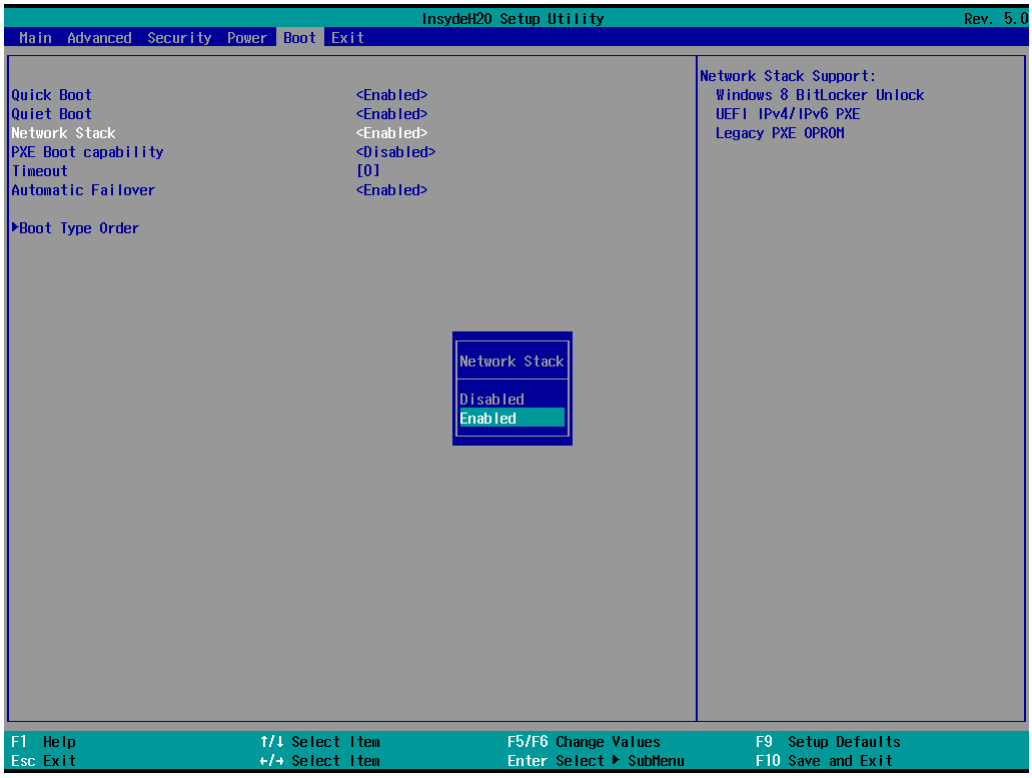
5.2.4 Boot



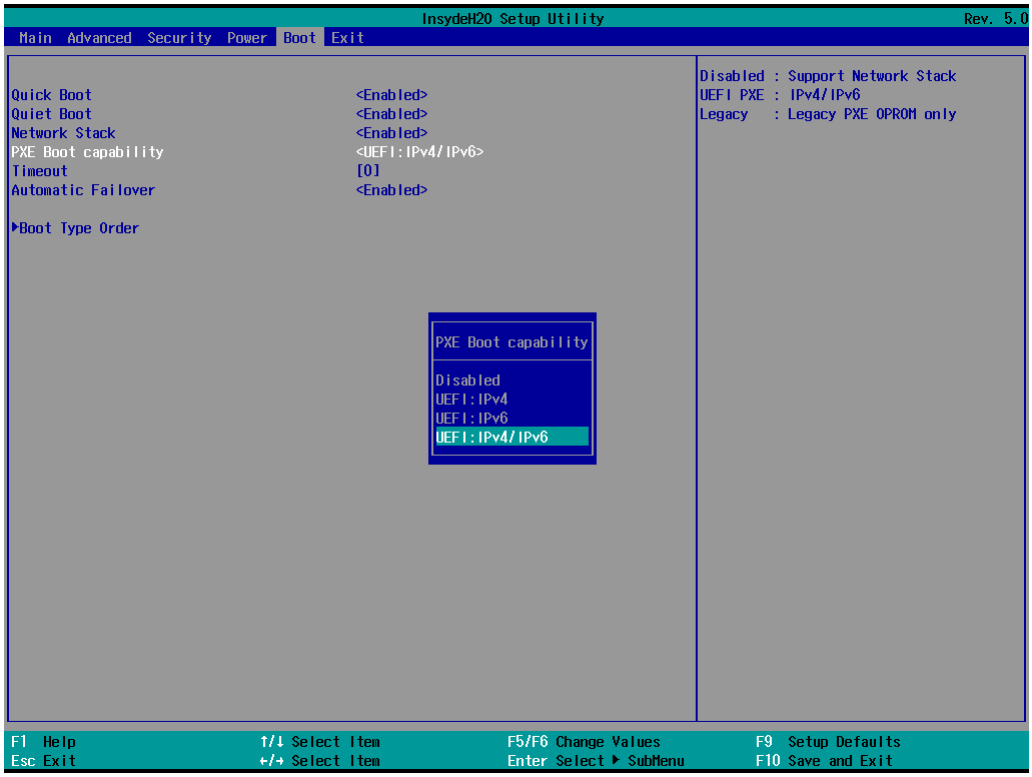
BIOS Setting	Description	Setting Option	Effect
Boot Type	Boot Type configuration	UEFI Boot Type	Select boot type to Dual type, Legacy type or UEFI type
Quick Boot	Quick Boot configuration	Enabled Disabled	Allows InsydeH20 to skip certain tests while booting. This will decrease the time needed to boot the system
Quiet Boot	Quiet Boot configuration	Enabled Disabled	Disable or enable booting in text Mode.
Network Stack	Network Stack configuration	Disabled Enabled	Network Stack Support: Windows 8 Bitlocker Unlock UEFI IPv4/ IPv6 PXE Legacy PXE OPROM
Timeout	Timeout	[Value]	Timeout settings
Automatic Failover		Enable	If boot to default device fail, it will directly try to boot next device
		Disable	If boot to default device fail, it will pop warning message then go to firmware UI
Boot Type Order	Boot Type Order	Enter	Opens sub-menu

5.2.4.1 PXE Boot

1. Press del to boot BIOS setup utility then change "Network Stack" setting to enable at Boot page.



2. Change Boot capability to UEFI:Ipv4/IPv6 that support both protocol.



3. Type F10 to save setting and exit then reboot it will auto connects media server. If you see picture as bellow please checks your server.

4. You also can press "esc" go into boot manager to choose which one LAN you want to do PXE if you have more than one LAN.

5.2.5 Exit

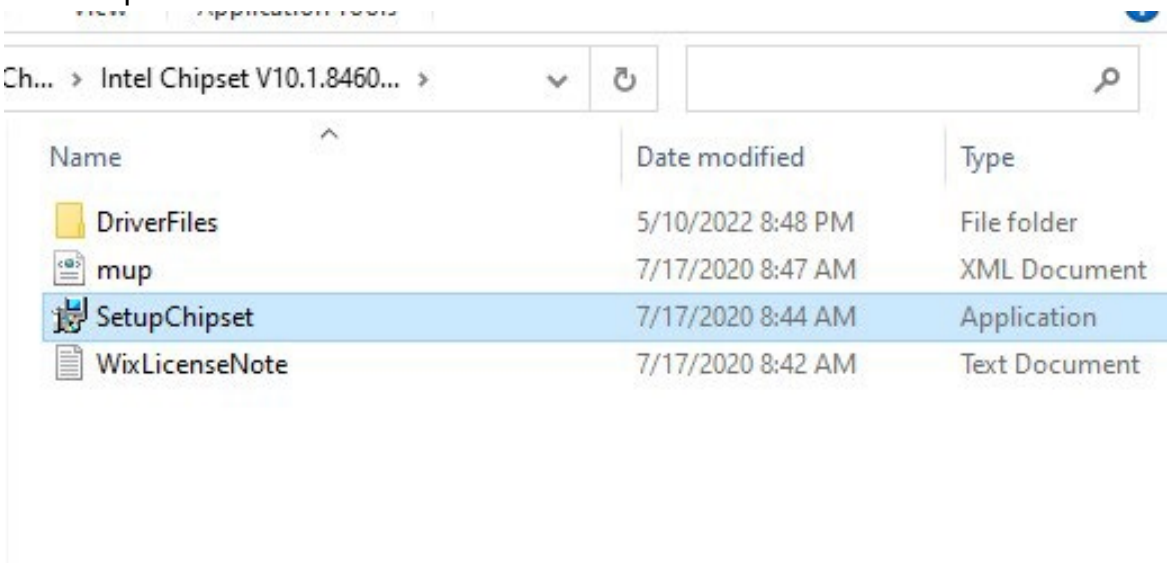

InsydeH20 Setup Utility
Rev. 5.0
Main Advanced Security Power Boot Exit
Exit Saving Changes
Save Change Without Exit
Exit Discarding Changes
Load Optimal Defaults
Load Custom Defaults
Save Custom Defaults
Discard Changes
Exit system setup and save your changes.
F1 Help
Esc Exit
↑/↓ Select Item
←/→ Select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

Chapter 6: Driver Installation

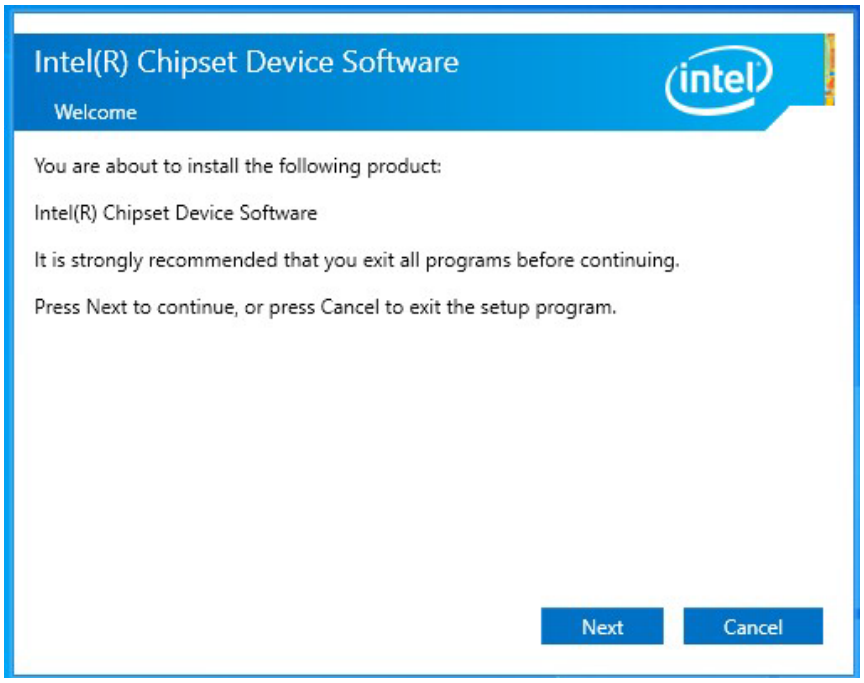
6.1 Chipset Driver Installation

The Intel Chipset Drivers should be installed first before the software drivers to enable Plug & Play INF support for Intel chipset components.

Step 1. Insert the DVD that comes with the motherboard. Open the “Intel Chipset subfolder” and click on the Setup file to install driver.



Step 2. Click on **Next** to install driver.



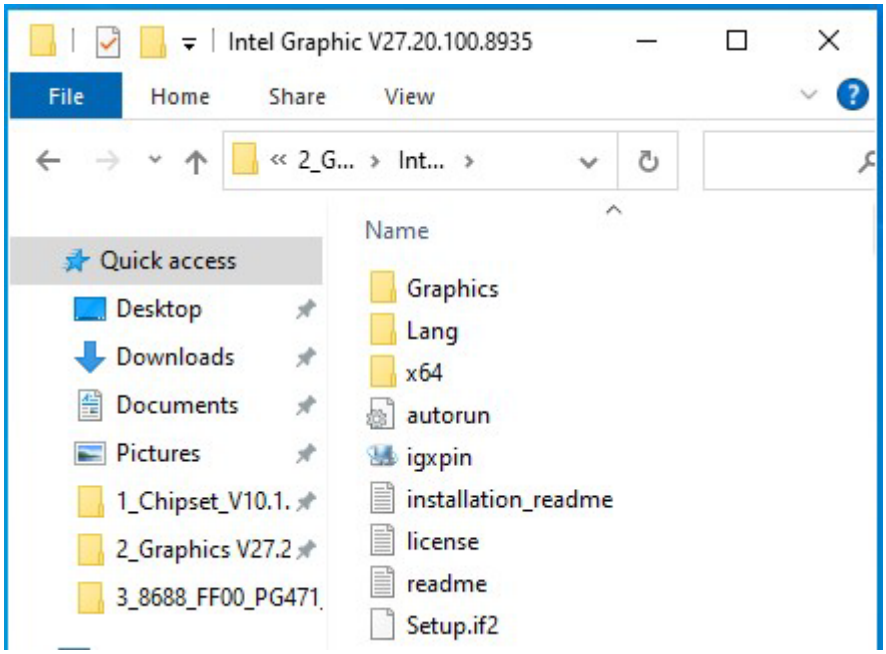
Step 3. Click **Accept** and **Install** to install driver.

Step 4. After the installation completed, click **Finish**.

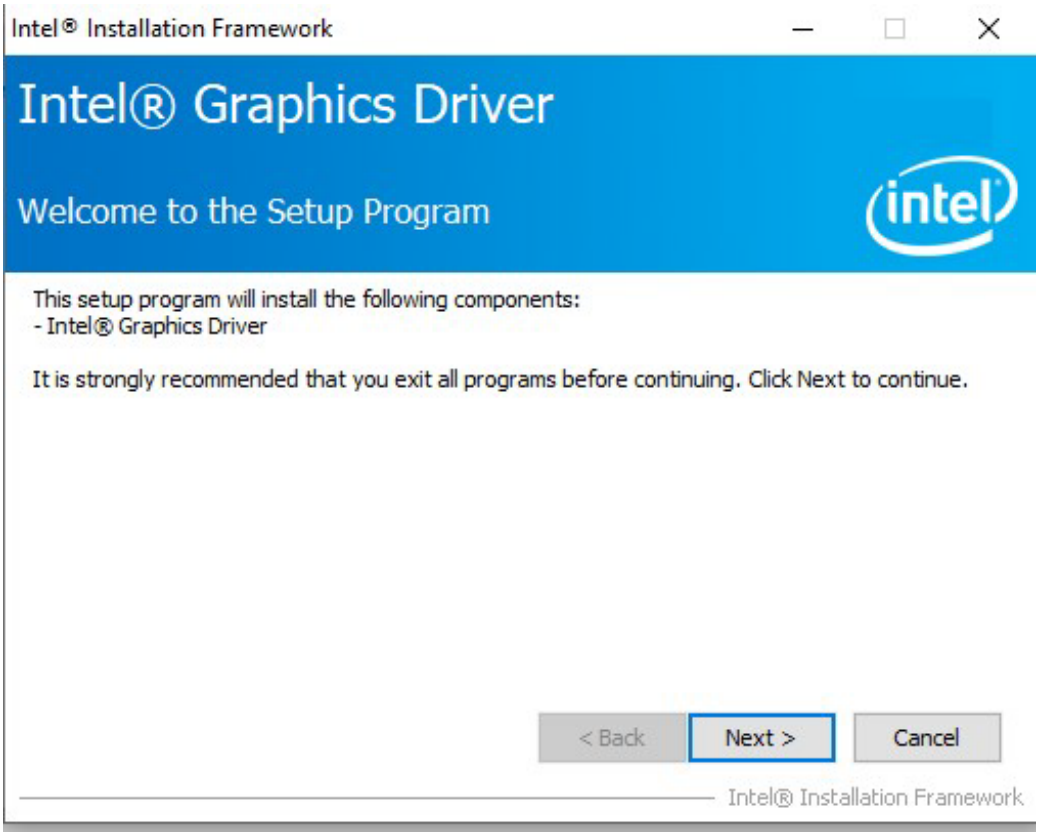
6.2 Graphic Driver Installation

ITAT Motherboard is with Intel mobile Core i5-1145G7E(Optional i3-1115G4E/i7-1185G7E) dual core CPU and with an integrated graphics controller. You need to install the Graphic driver to enable the function.

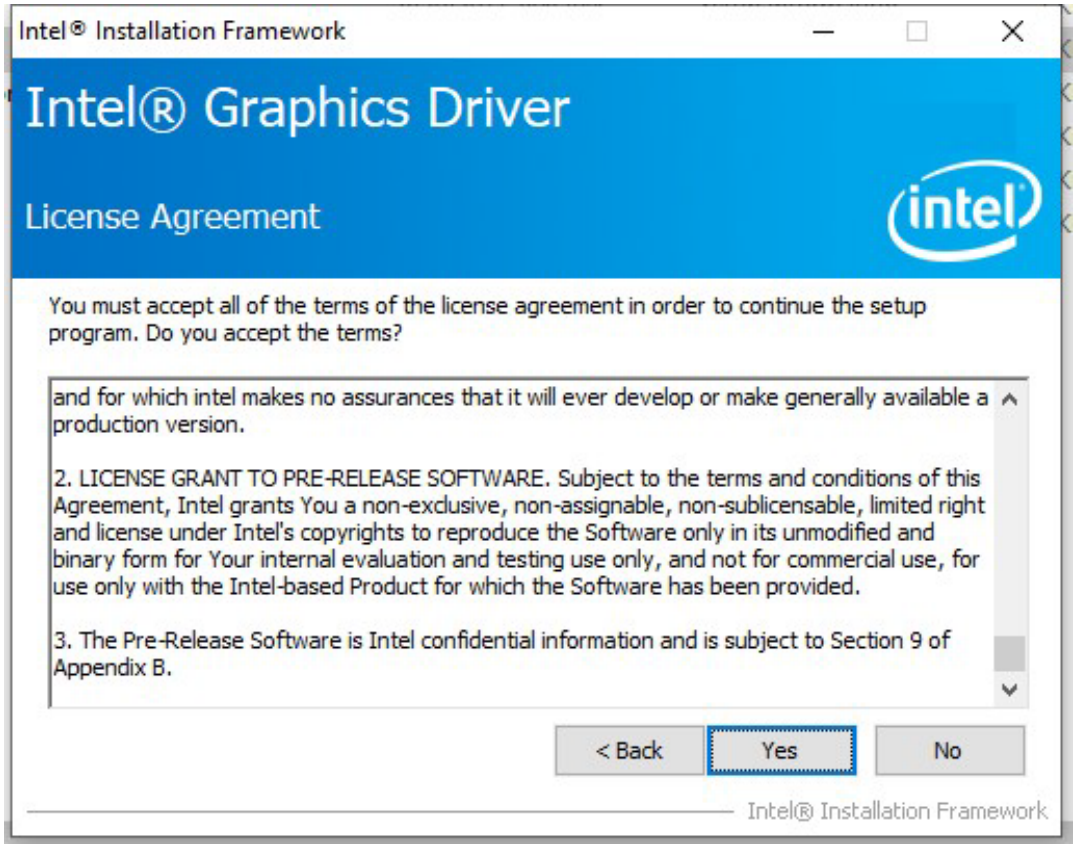
Step 1. Insert the DVD that comes with the motherboard. Open the “Intel Graphics subfolder” and click on the Setup file to install driver.



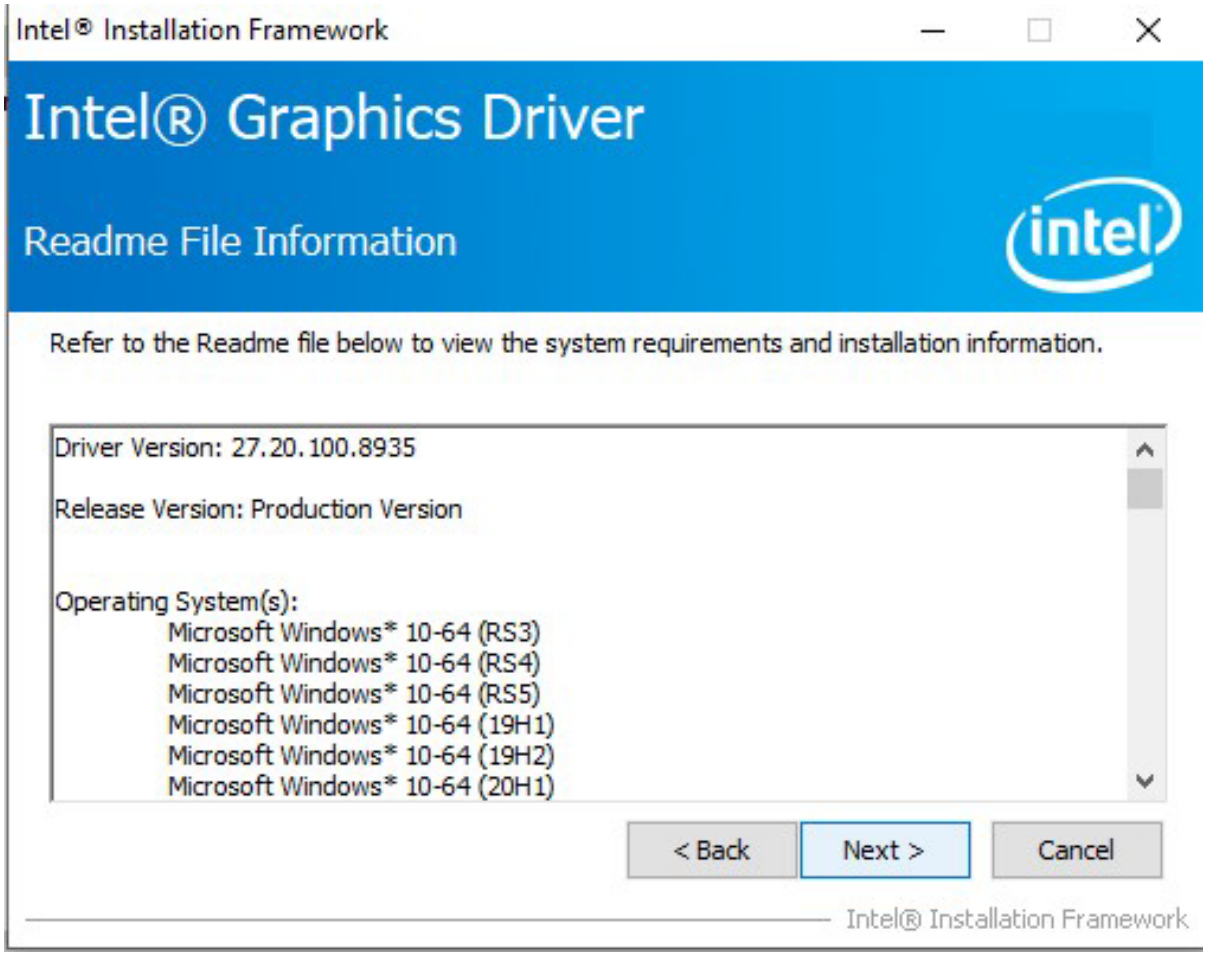
Step 2. Click **Next** to install Driver.

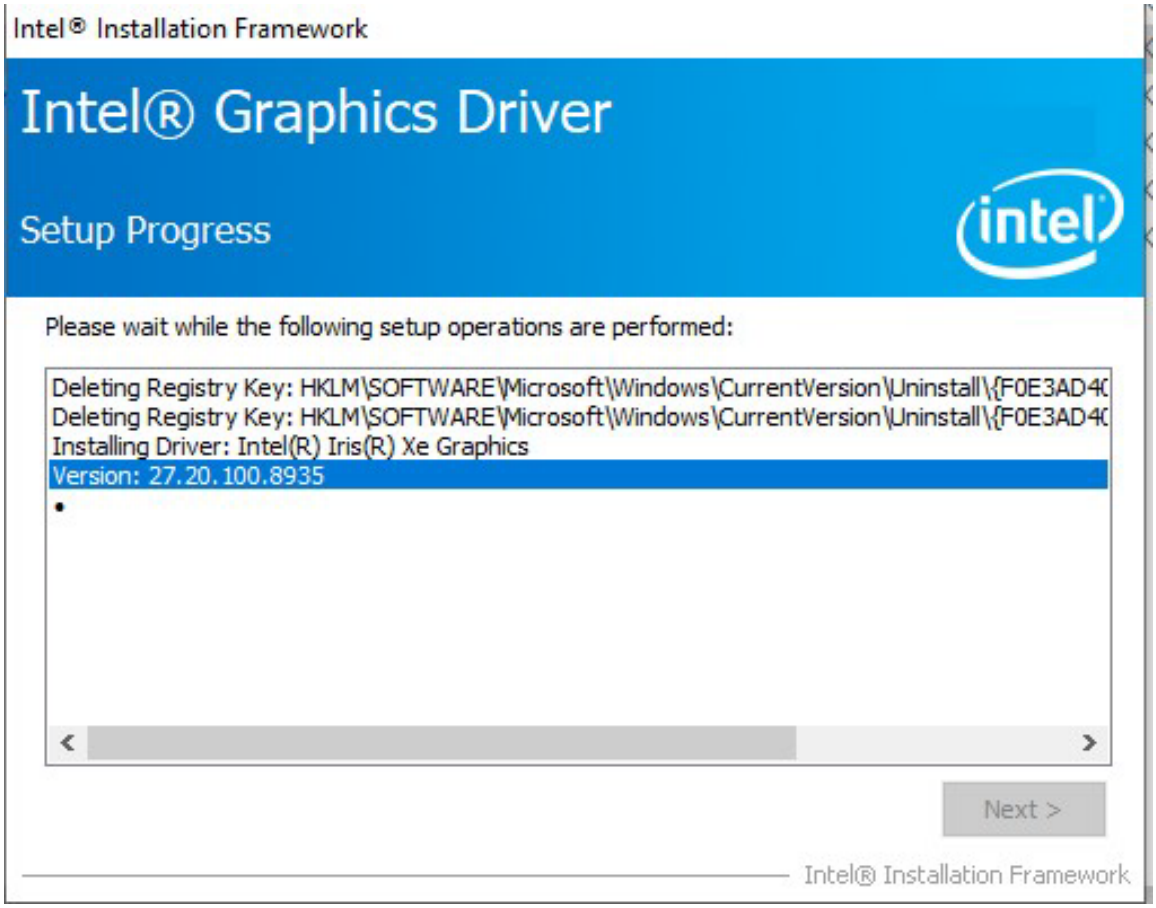


Step.3. Click **Yes** to agree License.

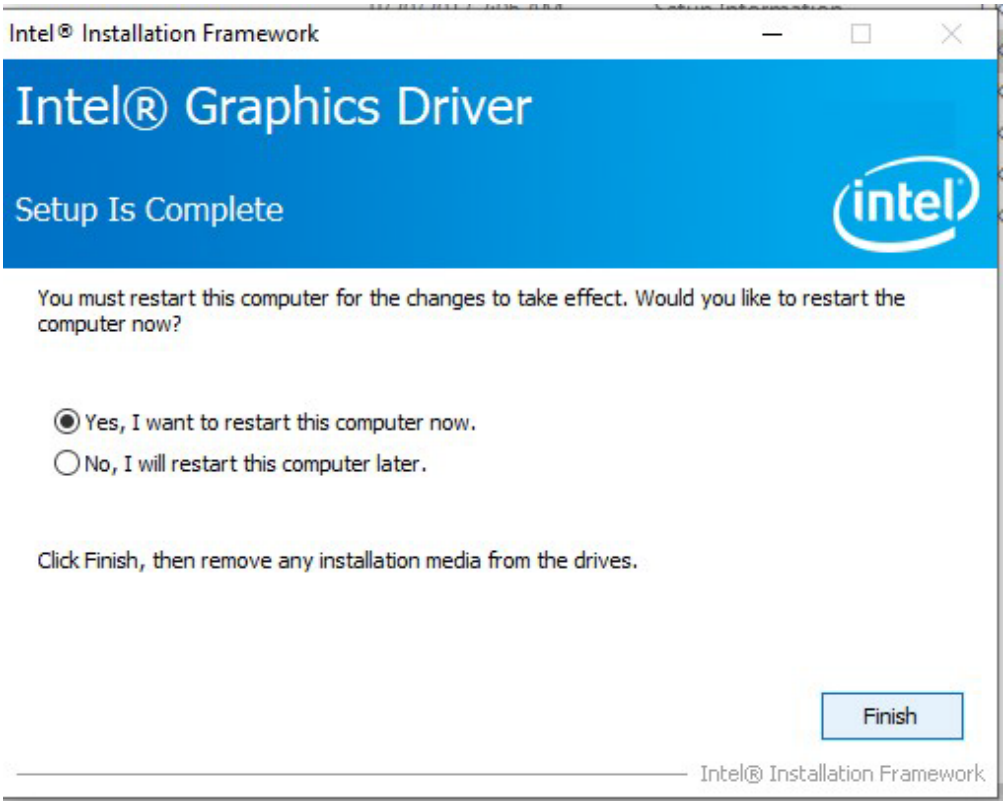


Step.4. Click on **Next** to install Driver.





Step.5. Choose “Yes, I want to restart this computer now” then click **Finish**.

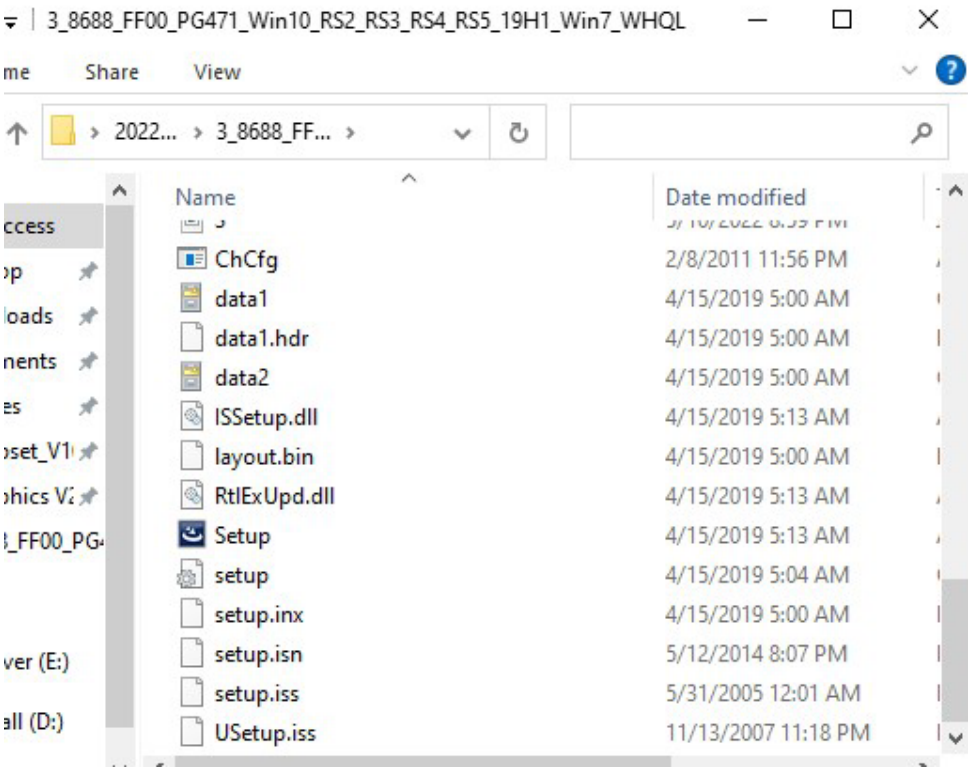


6.3 Audio Driver Installation

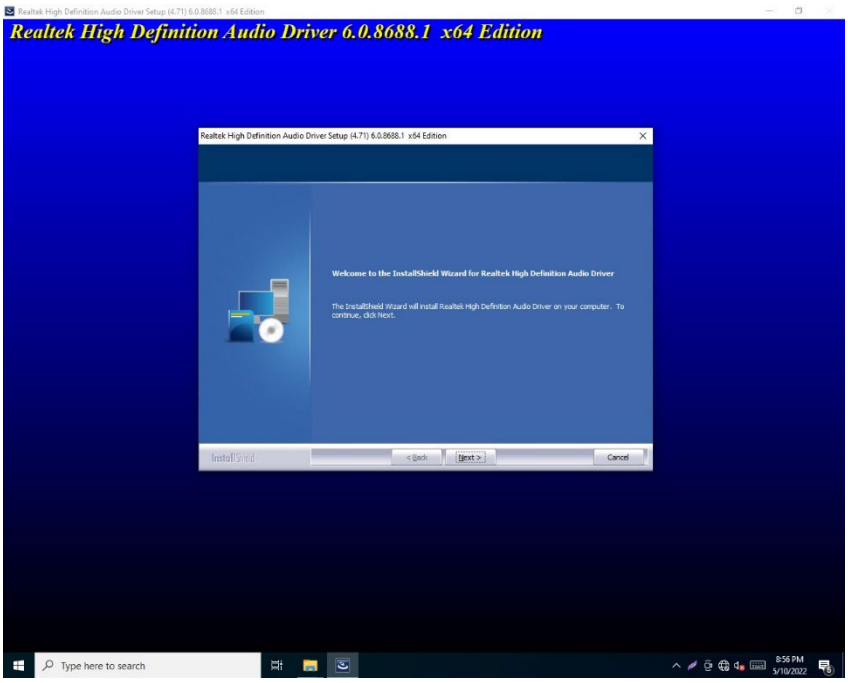
The High-Definition Audio Codecs providing ten DAC channels , plus 2 channels of independent stereo sound output (multiple streaming) through the front panel stereo outputs. The series integrates two stereo ADCs that can support a stereo microphone, and feature Acoustic Echo Cancellation (AEC), Beam Forming (BF), and Noise Suppression (NS) technology.

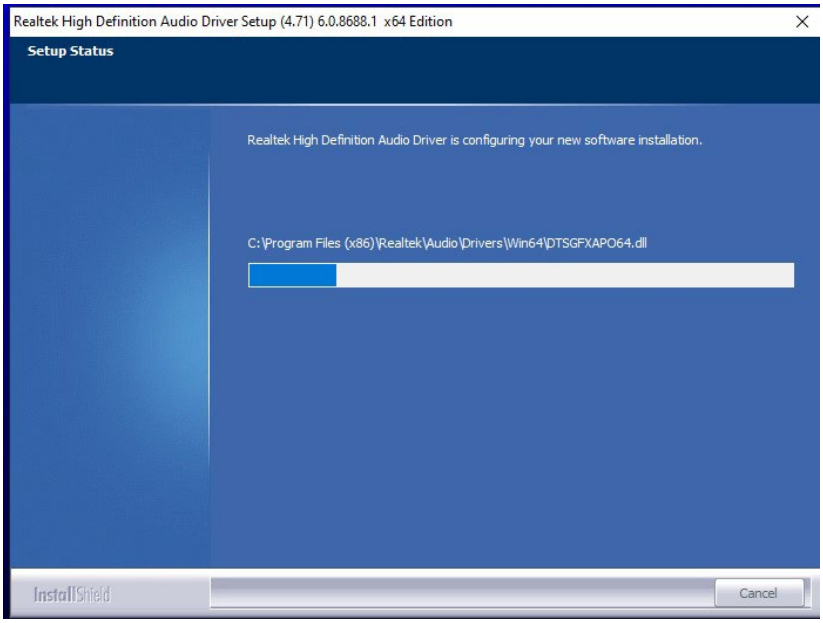
Please make sure which operating system you are using in the ITAT Motherboard before installing the Audio drivers.

STEP 1. Insert the DVD that comes with the motherboard. Open the “Audio-related subfolder” and click on the Setup file to install driver.

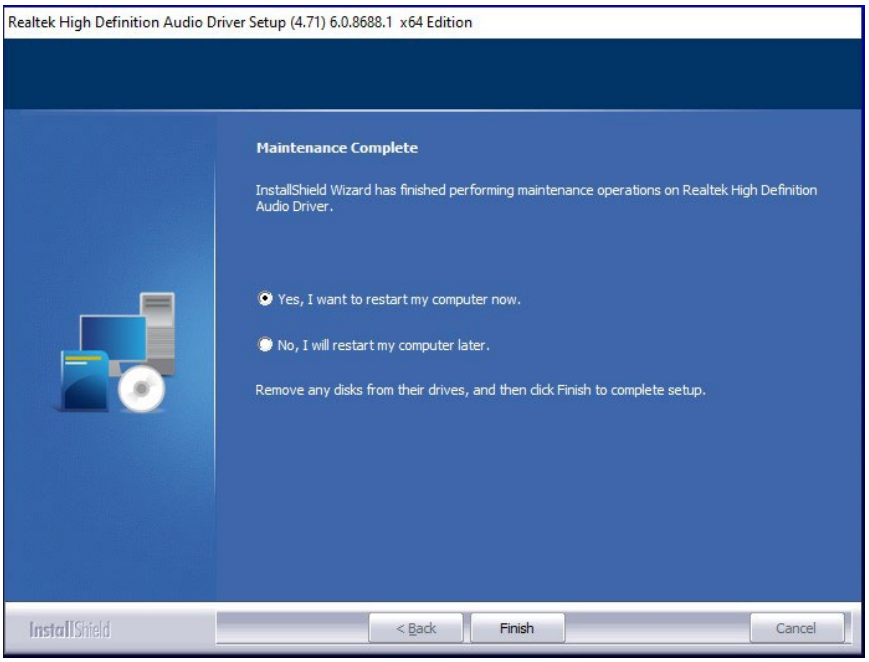


STEP 2. Click **Next** to install driver.





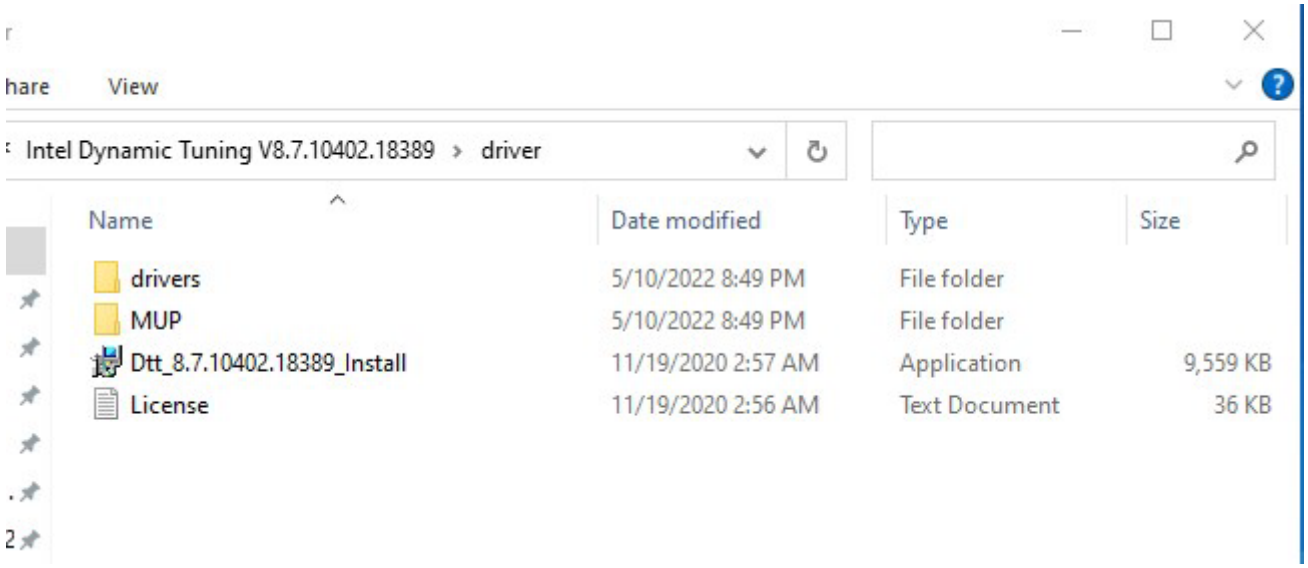
STEP 3. Choose “Yes, I want to restart this computer now” then click **Finish**.



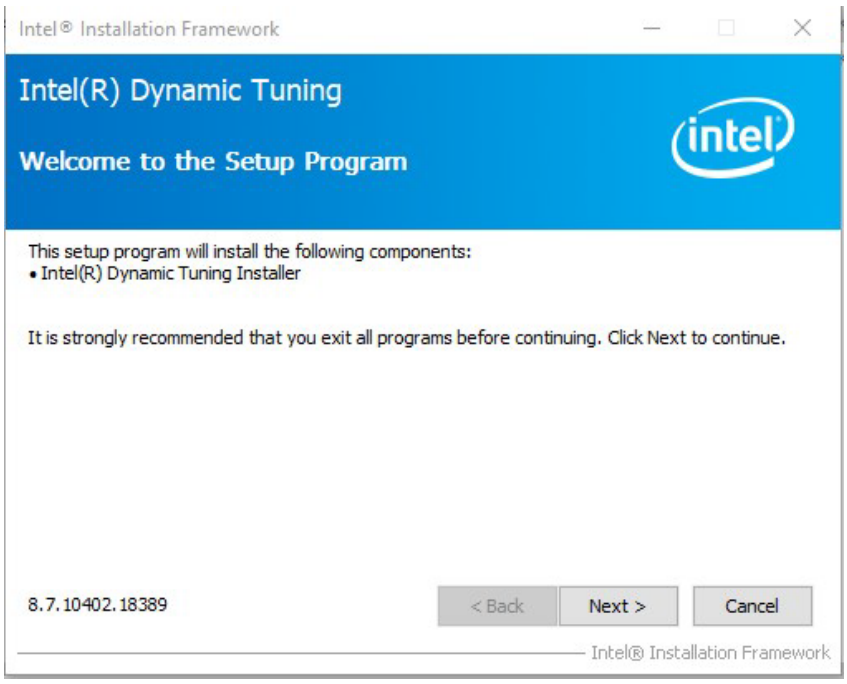
6.4 Dynamic Tuning Installation

Please make sure which operating system you are using in the ITAT Motherboard before installing the dynamic tuning drivers.

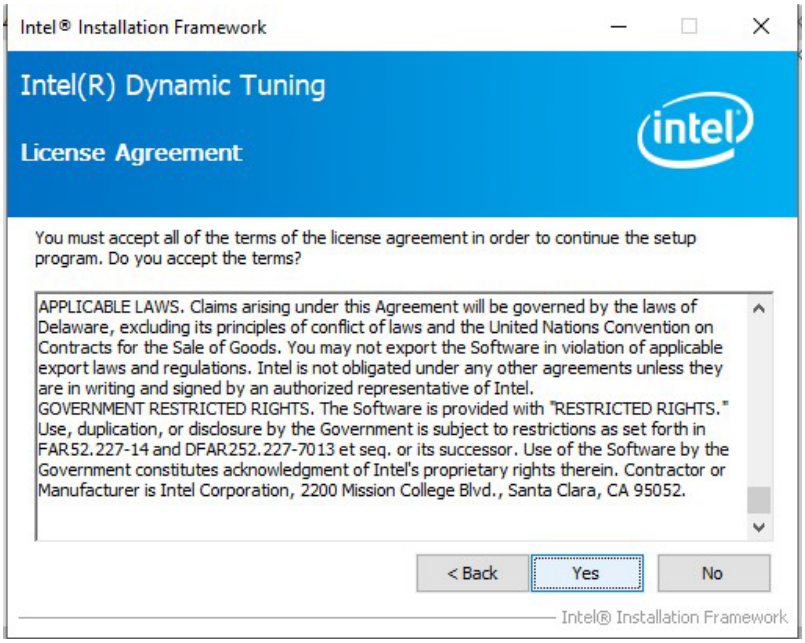
STEP 1. Insert the DVD that comes with the motherboard. Open the “driver subfolder” and click on the Setup file to install the driver.



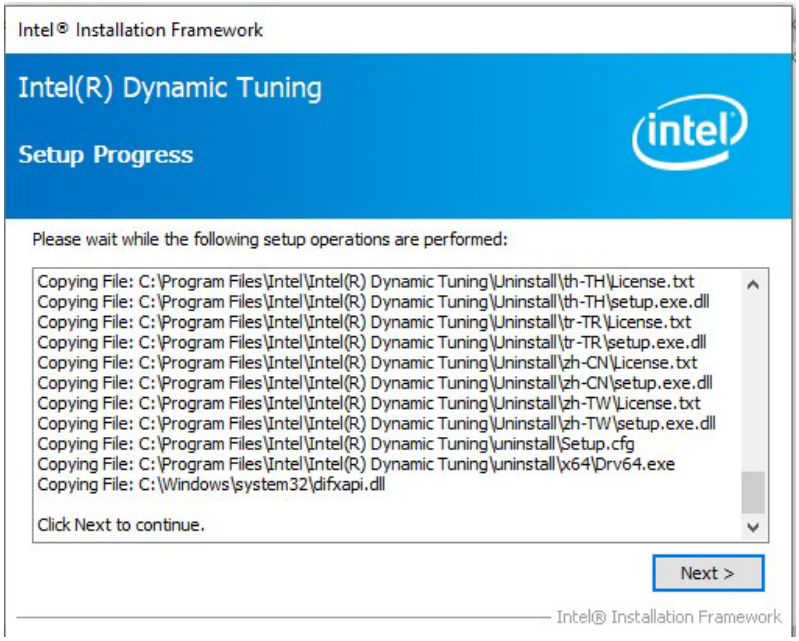
STEP 2. Click **Next** to start the installation.



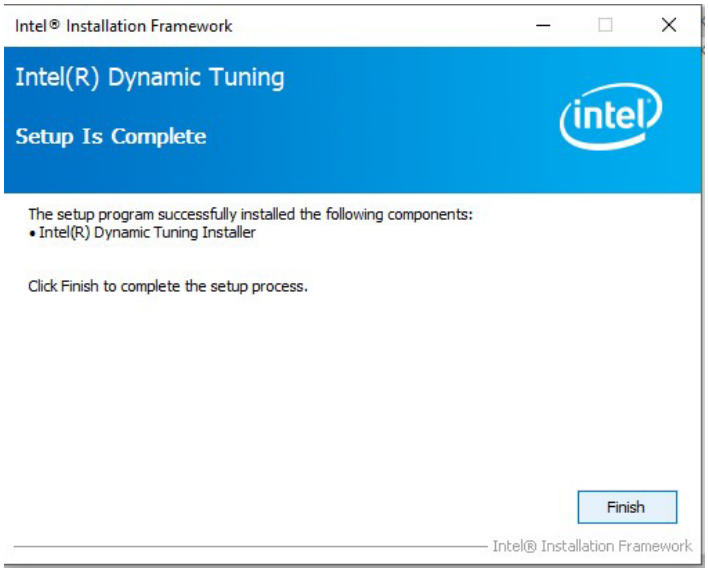
STEP 3. Click on **Yes** to agree License.



STEP 4. Click on **Next** to install driver.



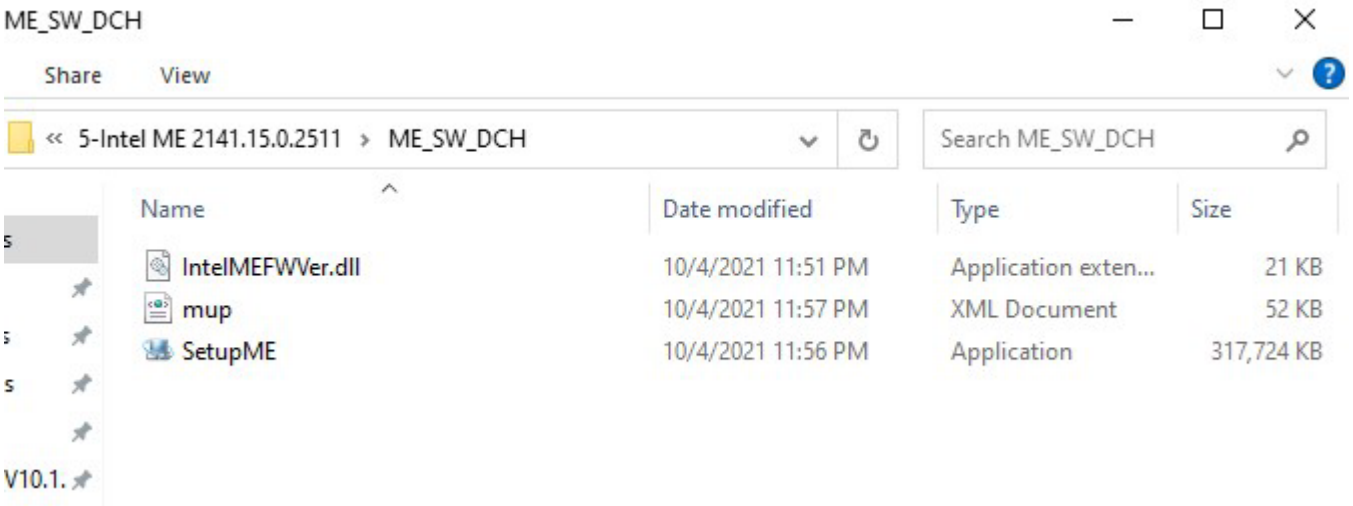
STEP 5. After the installation completed, click **Finish**.



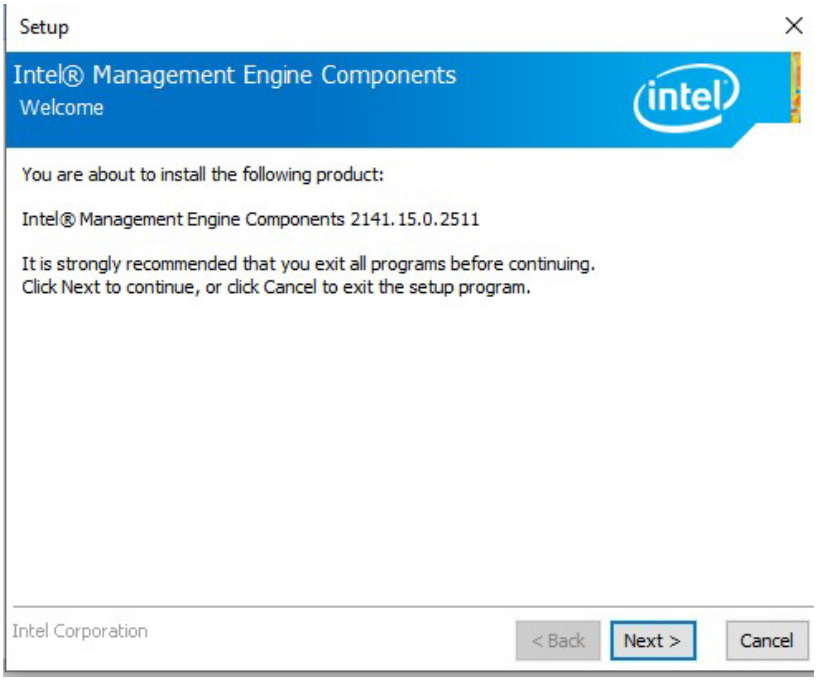
6.5 Management Engine Software Installation

This installation program installs the Intel® ME software components required for the platform on which you are installing, and installs only those components that match your platform's capabilities.

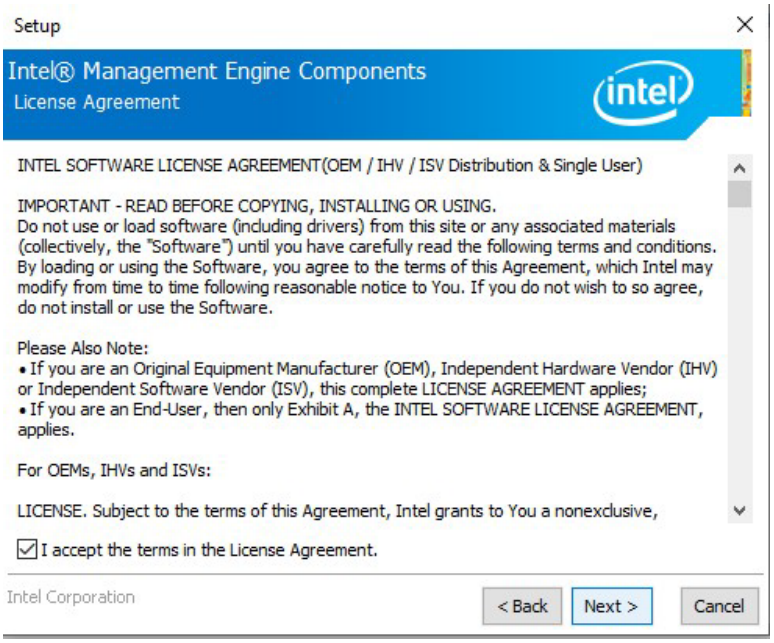
STEP 1. Insert the DVD that comes with the motherboard. Open the "ME_SW_DCH subfolder" and click on the Setup file to install driver.



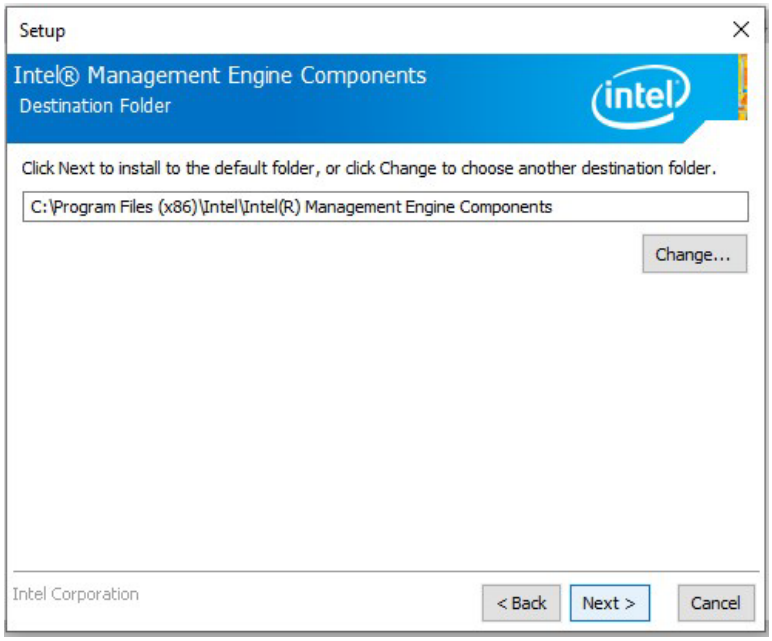
STEP 2. Click **Next**.



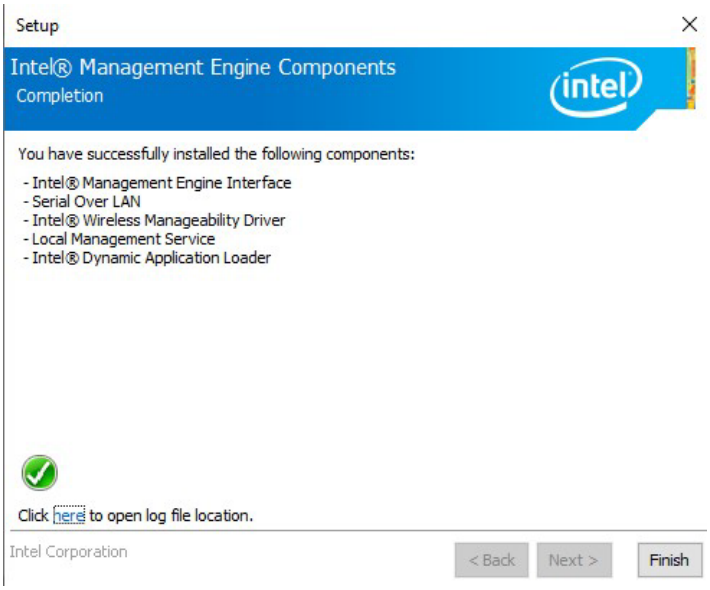
STEP 3. Check the “I accept the terms in the License Agreement” then click **Next**.



STEP 4. Choose the destination folder, then click **Next**.



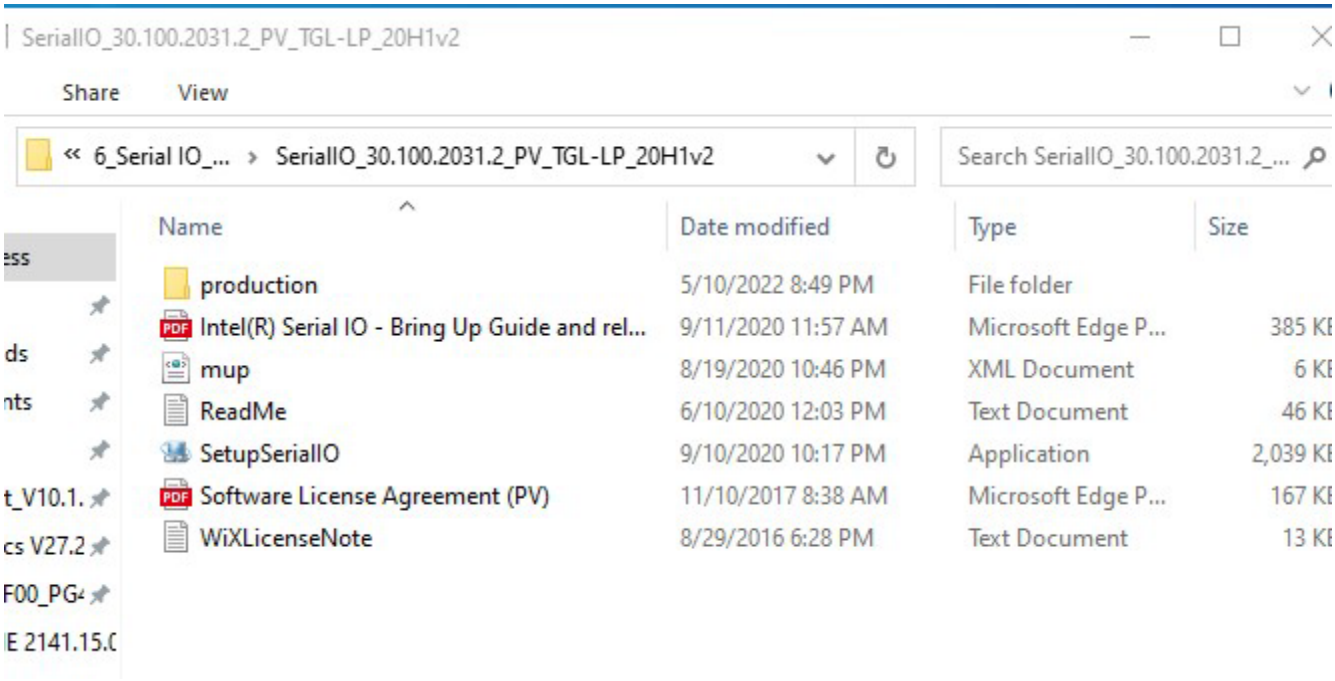
STEP 5. After the installation completed, click **Finish**.



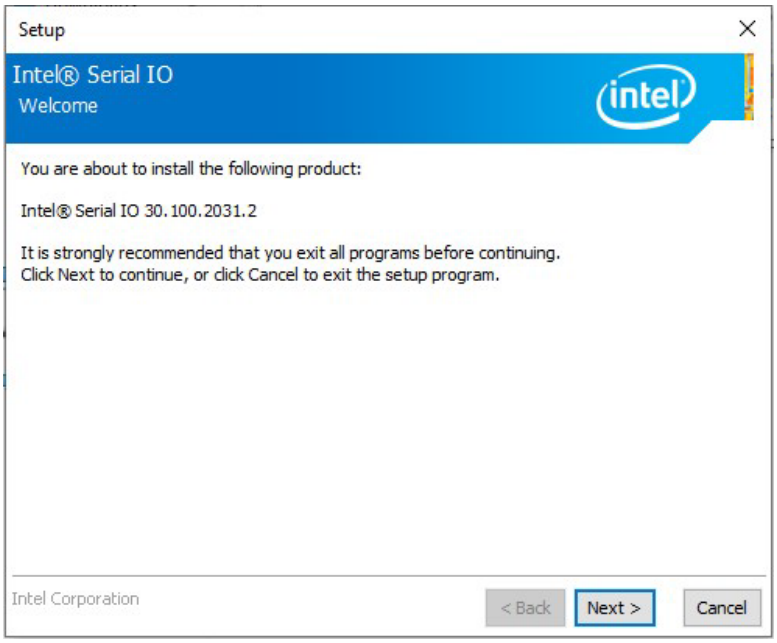
6.6 Serial IO Host Controller Installation

This installation program installs the driver for Intel Serial I/O. Intel serial I/O driver enables the communication and the transfer of data between connected devices and the system.

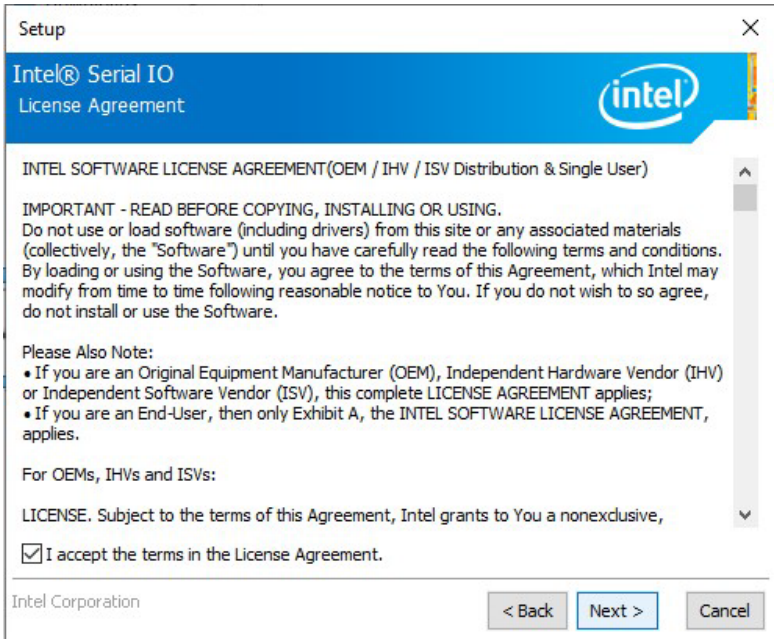
STEP 1. Insert the DVD that comes with the motherboard. Open the “Serial IO subfolder” and click on the Setup file to install driver.



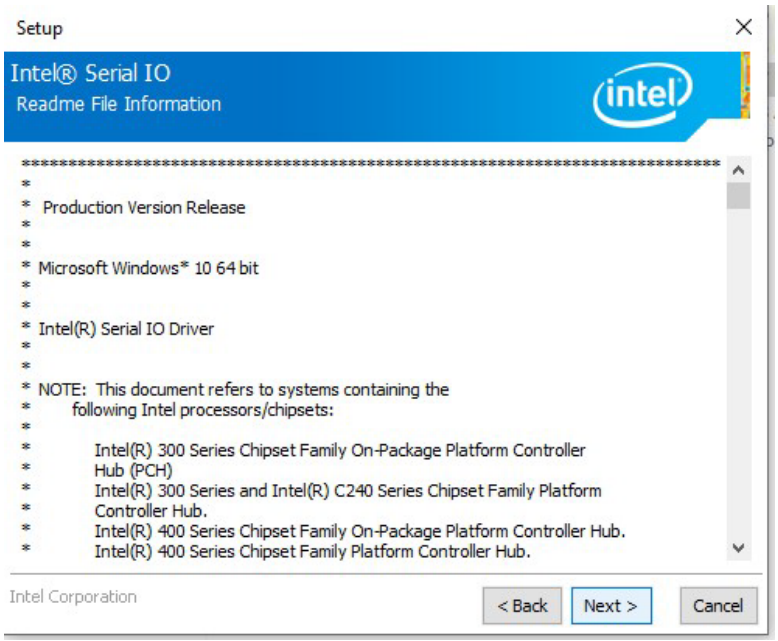
STEP 2. Click **next** to install the driver.

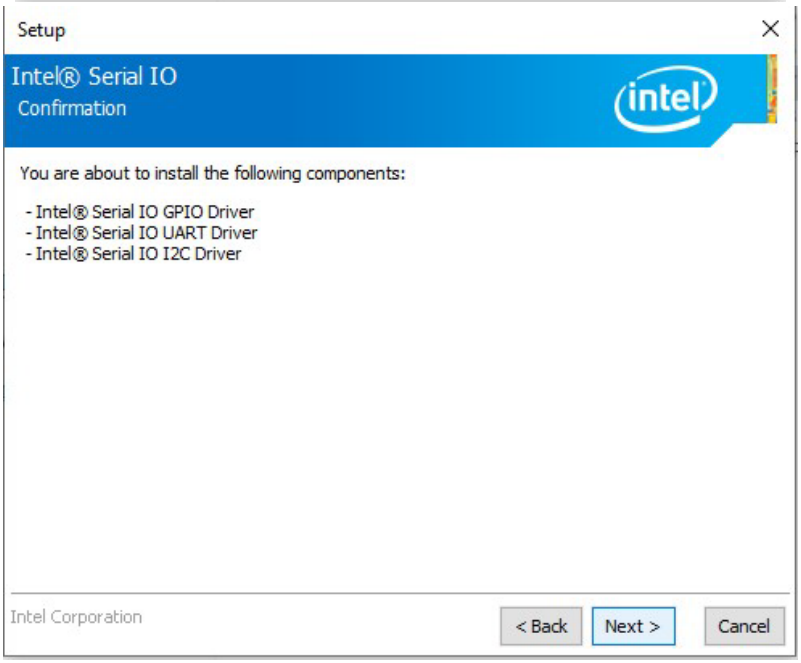


STEP 3. Check the “I accept the terms in the License Agreement” then click **Next**.

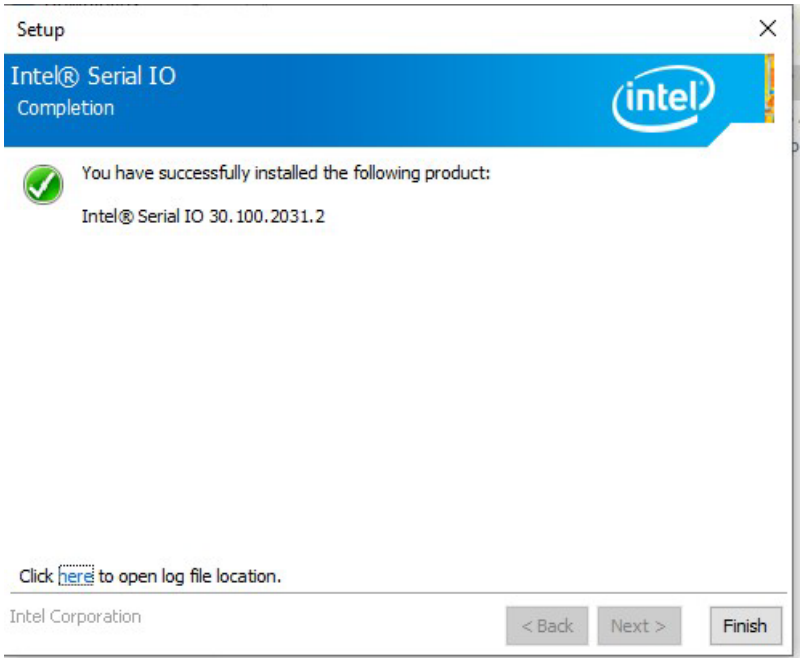


STEP 4. Click **Next**.





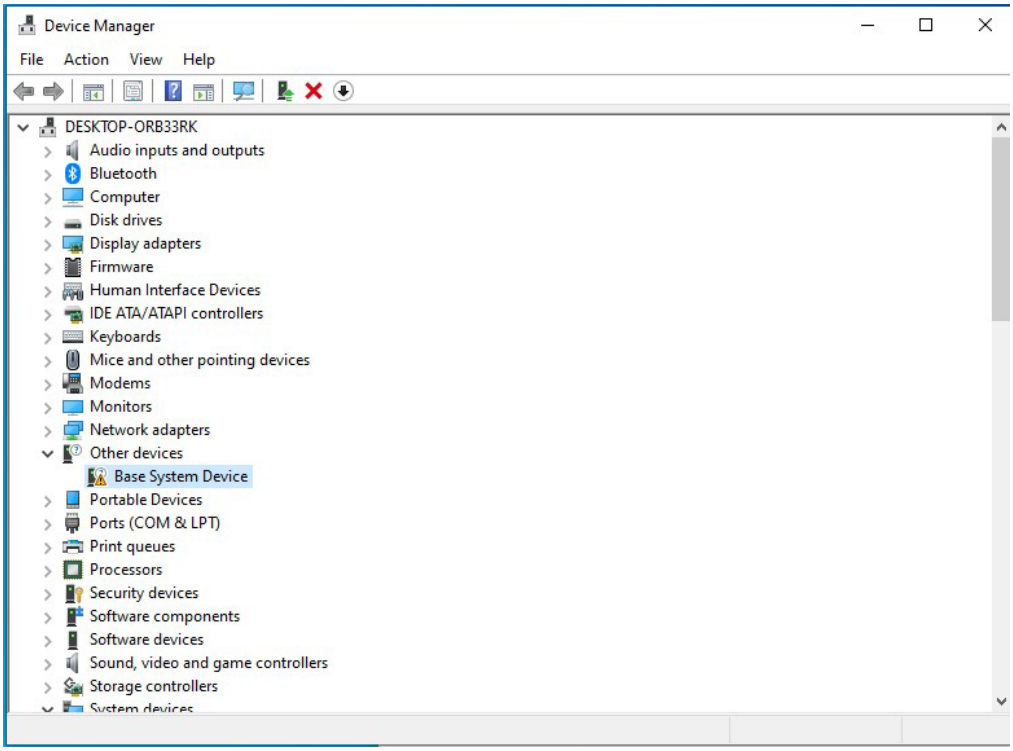
STEP 5. After the installation completed, click **Finish**.



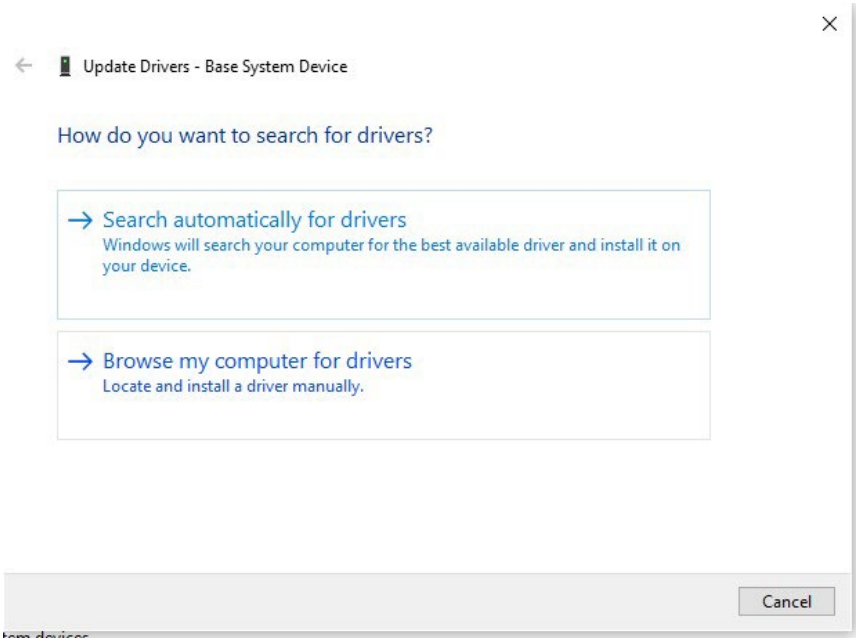
6.7 GNA Scoring Accelerator Driver Installation

This installation program installs the driver for Intel GNA Scoring Accelerator. The purpose of Intel GNA is to offload the CPU during some computations. The primary intended usage (but not limited to) is the Automated Speech Recognition domain.

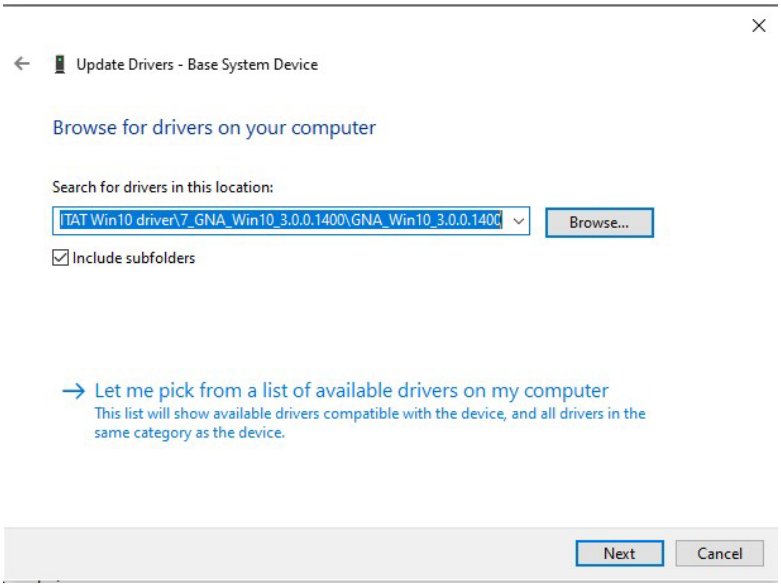
STEP 1. Use Windows Search box on the taskbar and input Device Manager.
STEP 2. Use a mouse or touch gesture, right-click **Base System Device**, choose **Update driver**.



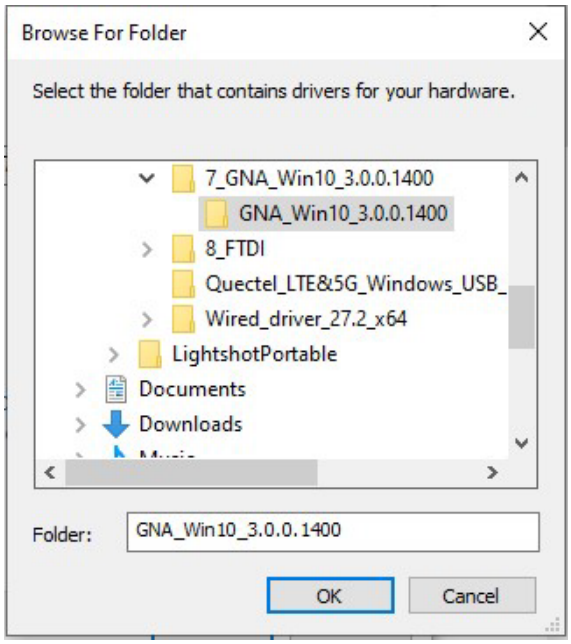
STEP 3. Choose **Browse my computer for drivers**.



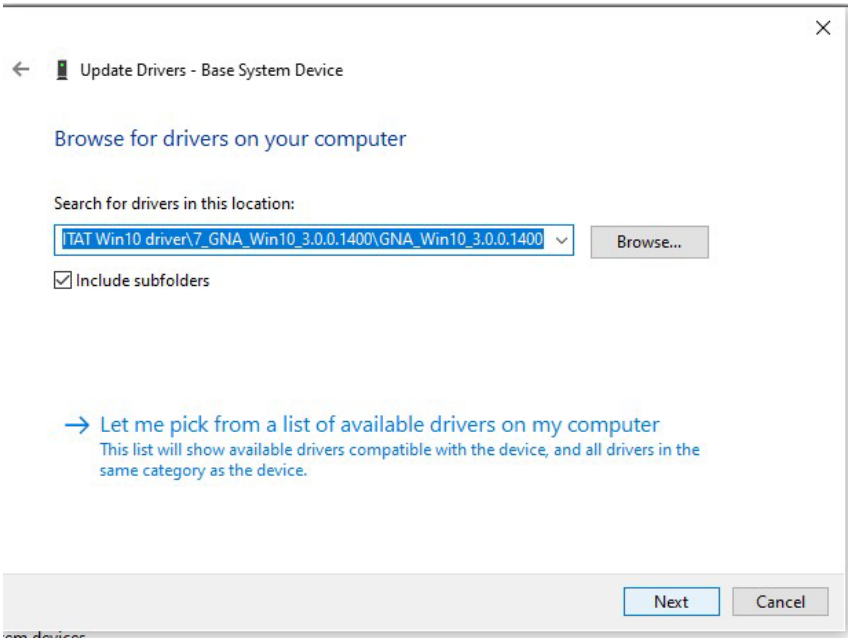
STEP 4. Click **Browse…**



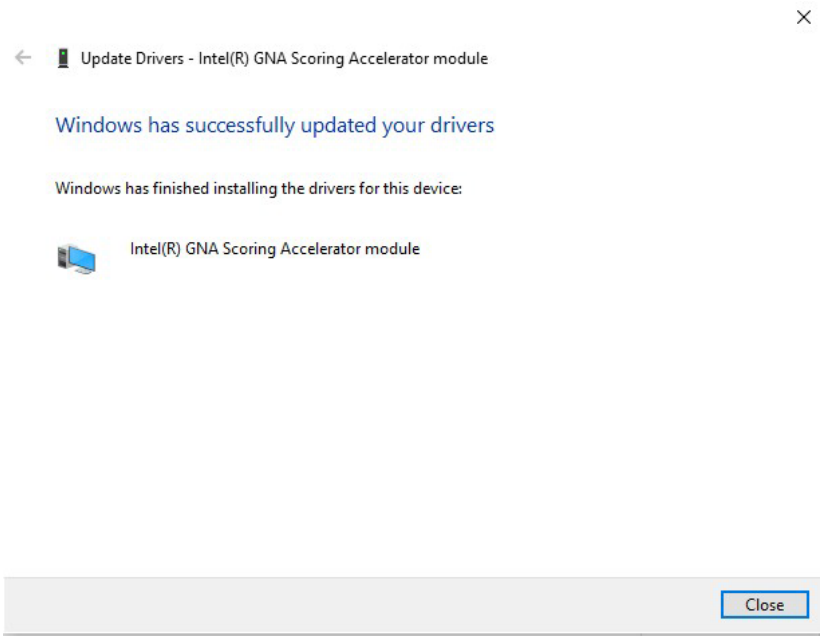
STEP 5. Choose the drivers, click **OK**.



STEP 6. Check the Include **subfolders**, click **Next**.



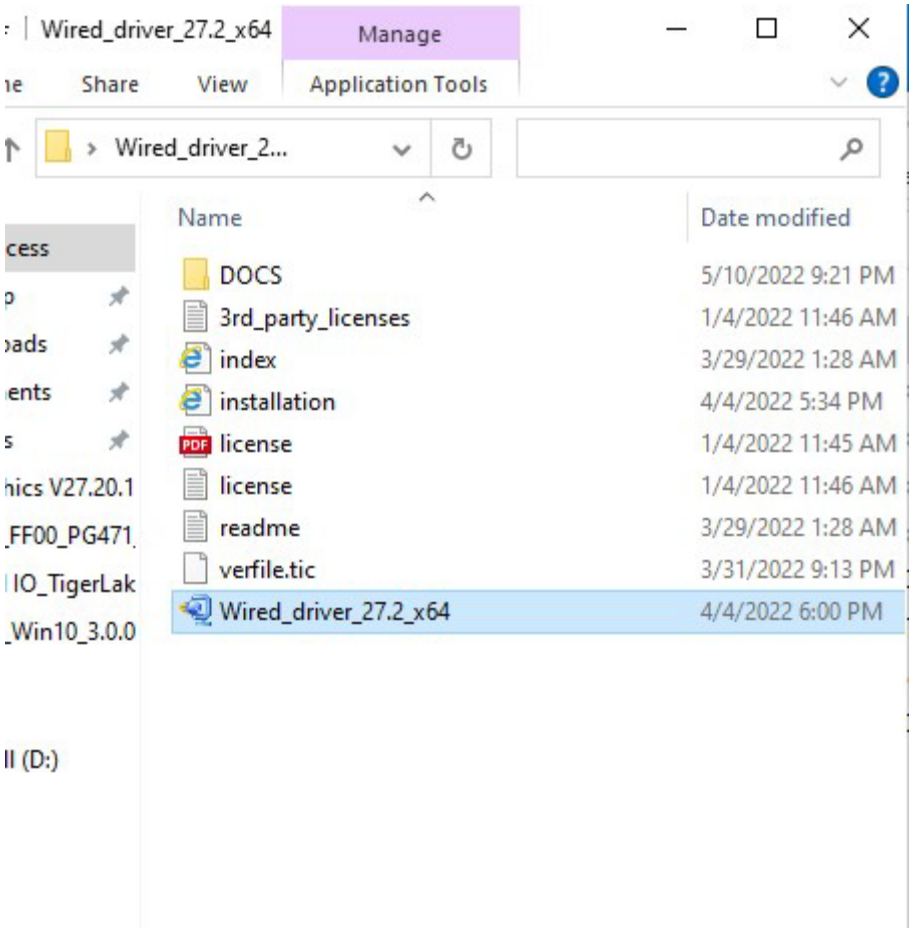
STEP 7. Click **Close**.



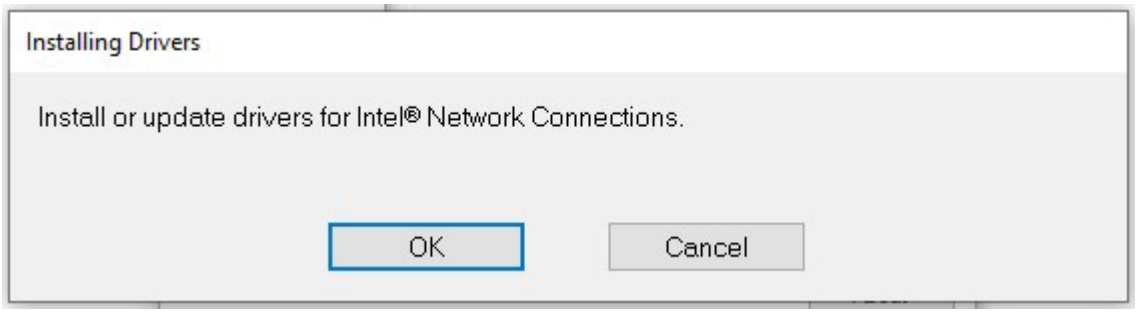
6.8 Ethernet Driver Installation

The Users must make sure which operating system you are using in the ITAT Motherboard before installing the Ethernet drivers. Follow the steps below to complete the installation of the Intel® LAN drivers. You will quickly complete the installation.

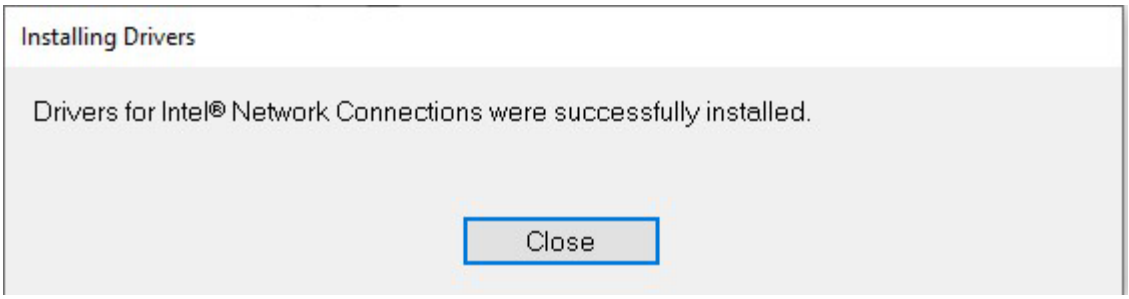
STEP 1. Insert the DVD that comes with the motherboard. Open the file LAN and click on the Setup file to install driver.



STEP 2. Click **OK**.



STEP 3. After the installation is completed, click **Close**.



6.9 Win-Set_WatchDog Driver Installation

Before install this Win-Set Driver, Please install C++ first. To install this Win-Set Driver and AP to make the buttons on the front of unit work.

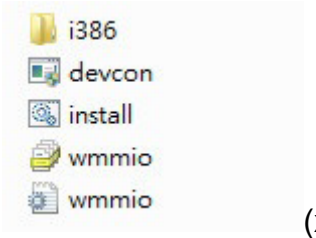
Driver Installation:

1) Installation Files

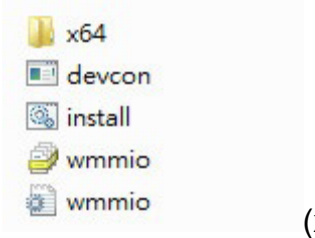
Please select the driver for the corresponding operating system.

WMMIO_32bit	Windows 7/8/8.1/10 x86 Edition
WMMIO_64bit	Windows 7/8/8.1/10 x64 Edition

In each directory, it includes following files.



(x86)

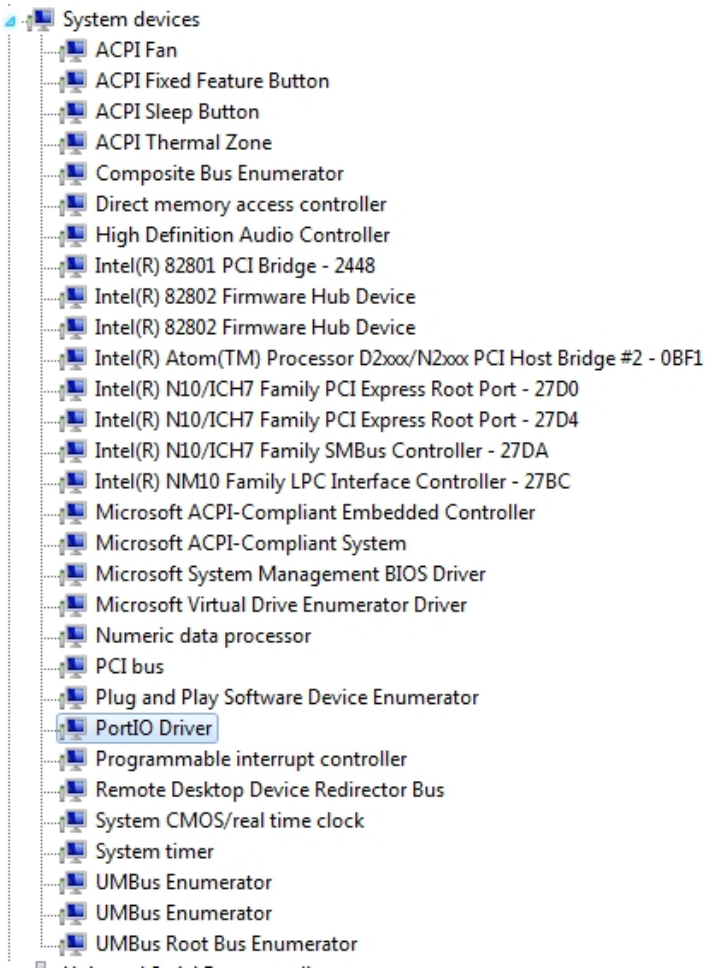


(x64)

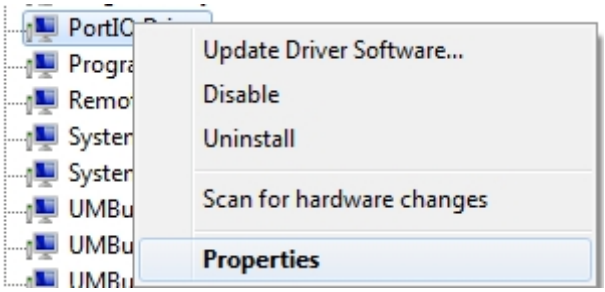
Devcon.exe	Driver application
Install.bat	Driver Installation file
Wmmio.cat	Digital signature file
Wmmio.inf	Driver information file
Wmmio.sys	Win-Set Driver

2) Installation Procedure

A. Uninstall the old Version.
   Before you start to install the new signature Hottab driver, please remove the old Hottab PortIO driver in Windows's Device Manager.

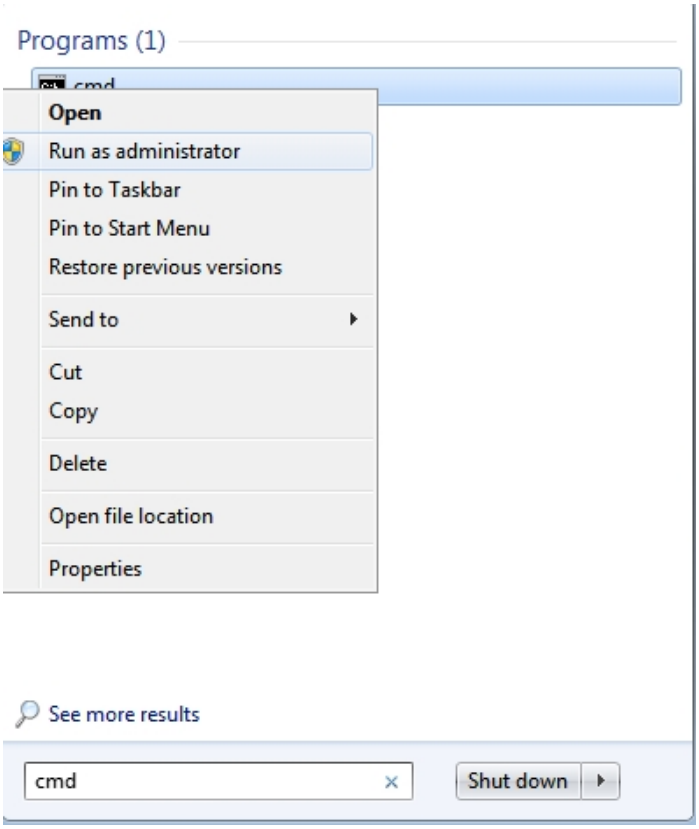


Select **“PortIO Driver”** under System devices and right-click it. Use **Uninstall** selection to remove the driver.

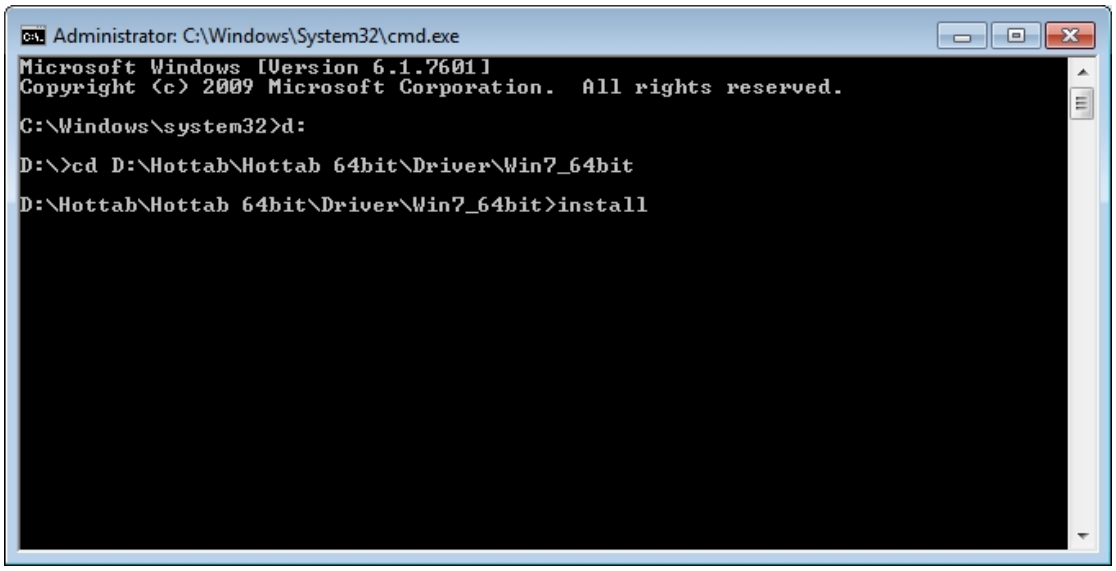


B. Install the driver

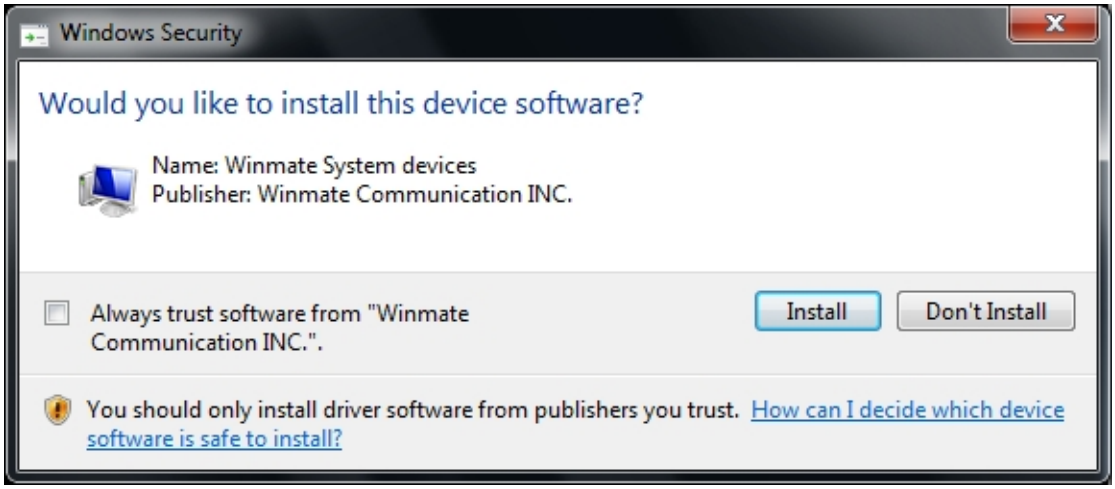
1. Type “cmd” in the run box.
2. The cmd.exe will appear in Programs
3. Right click on the cmd.exe and click on “Run as administrator” to start command prompt.



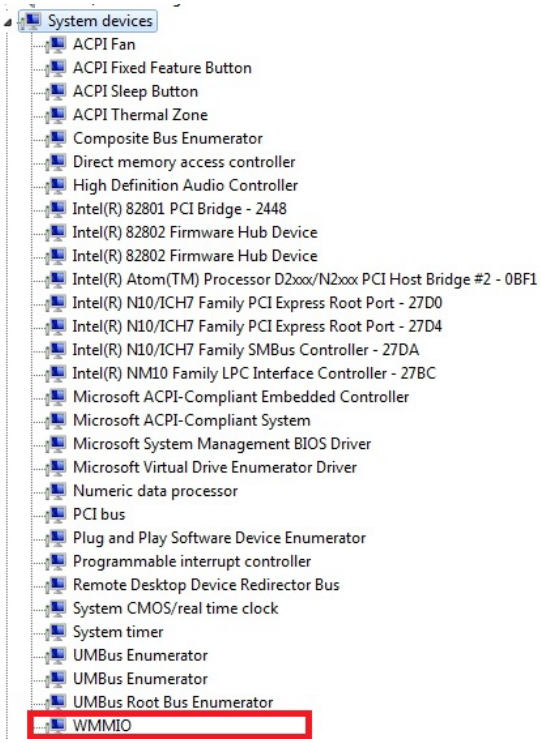
4. Change directory to driver’s location, and type **install** to install the driver



5. When Windows Security dialog appear, select **install** to continue the installation.



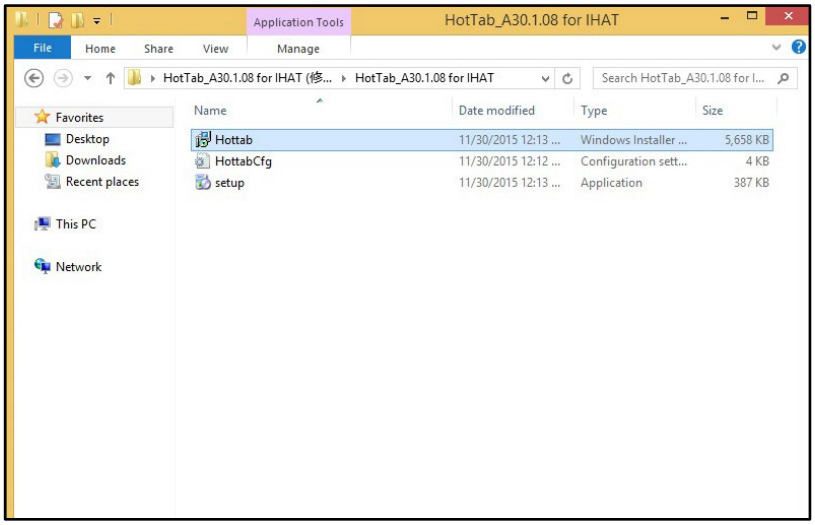
When the driver is successfully installed, you can see “Drivers Updated successfully” message in the dos prompt. “WMMIO” device also added in the Device Manger under “System devices”



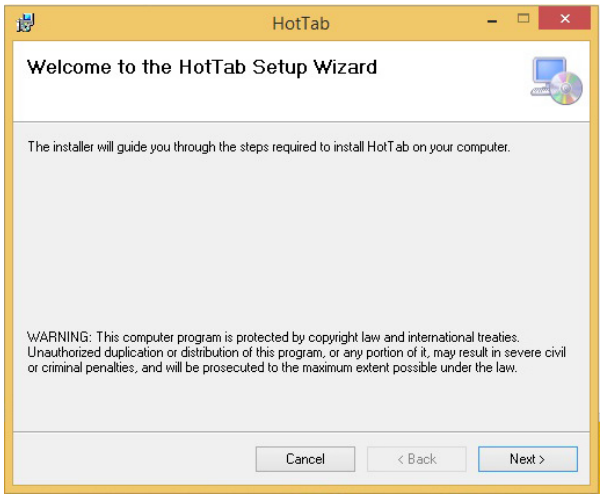
Win-Set Installation

Important:
Please make sure the Win-set driver (WMMIO) has been installed before you start to install the Win-set application

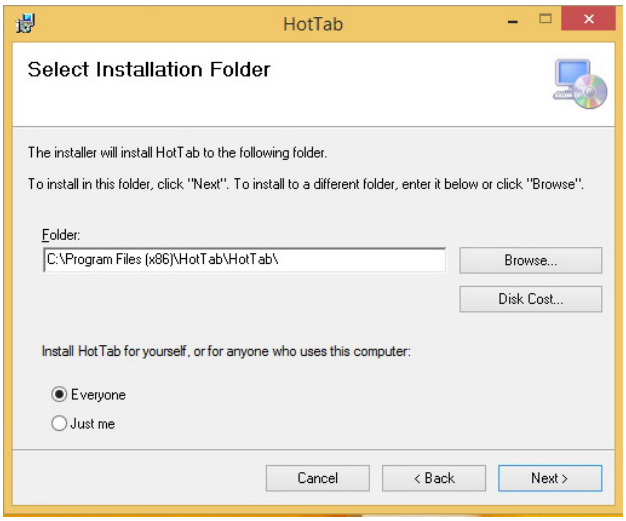
1. Uninstall the old version Win-set software before start to install the new version Win-set
2. Open the folder of Win-Set you want to install, find "Winset.exe" and double click it



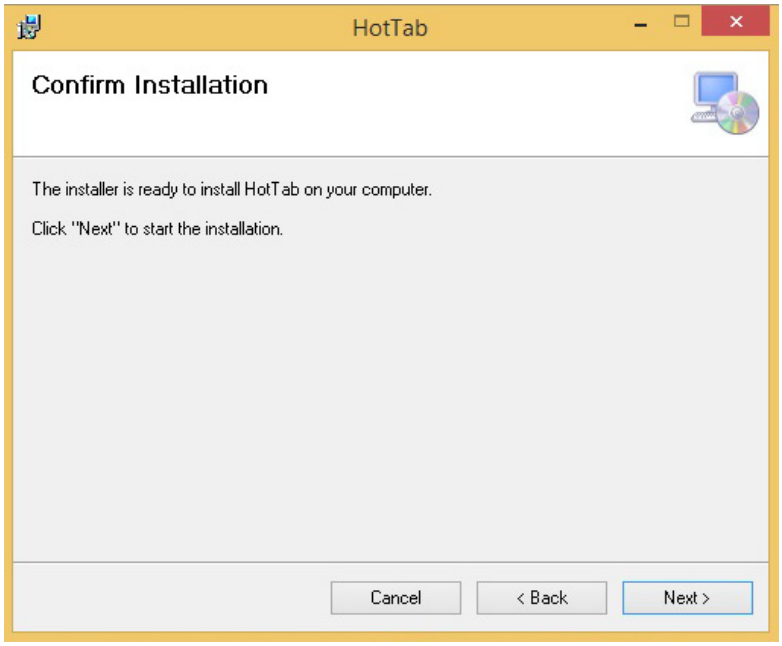
2. Click "Next" go to install the Win-set



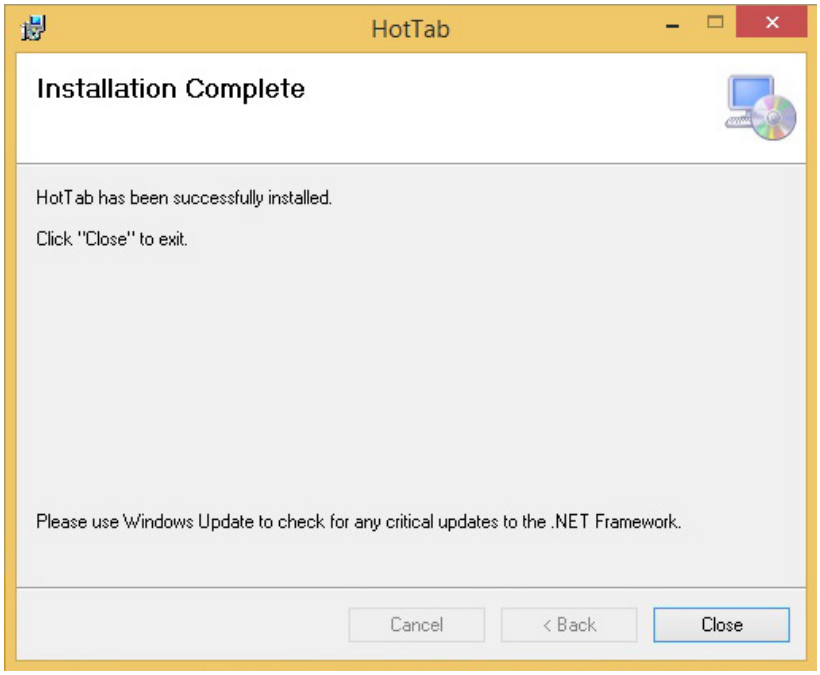
3. Click "Next"



4. Click "Next", the installation will be started



5. Installation Complete, click "Close" to close the window

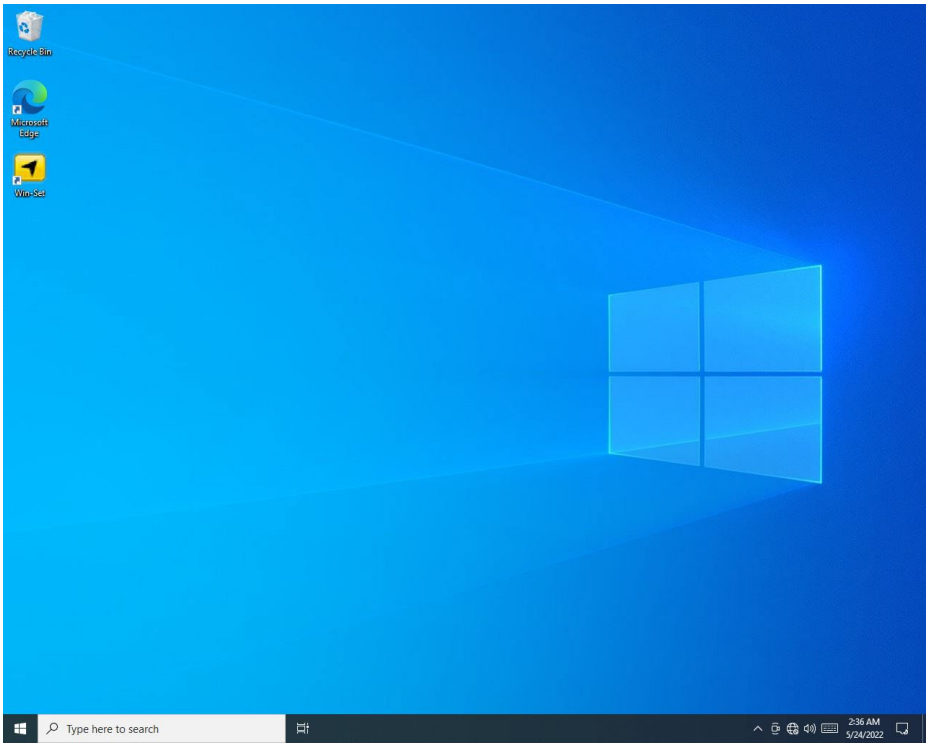


6. Yan can find this shortcut on the desktop, double click it to open the Win-Set application

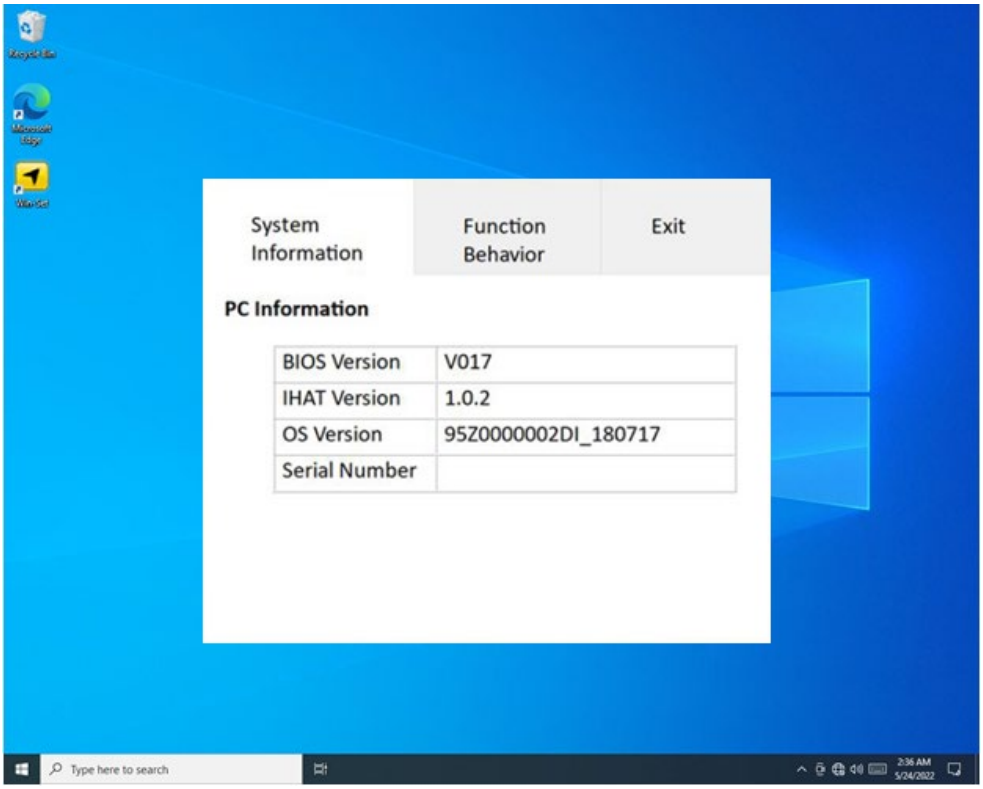
6.10 Win-set Utility

Win-set ® is a program made by Winmate to control the main functions of the R19IHAT-66EX-T. In Win-set ®, users can check system information, control function button settings, configure blanking function and settings.

Long-press Fn function key to open Win-set. Users also can open this utility by double-clicking on the Win-set icon on the desktop.

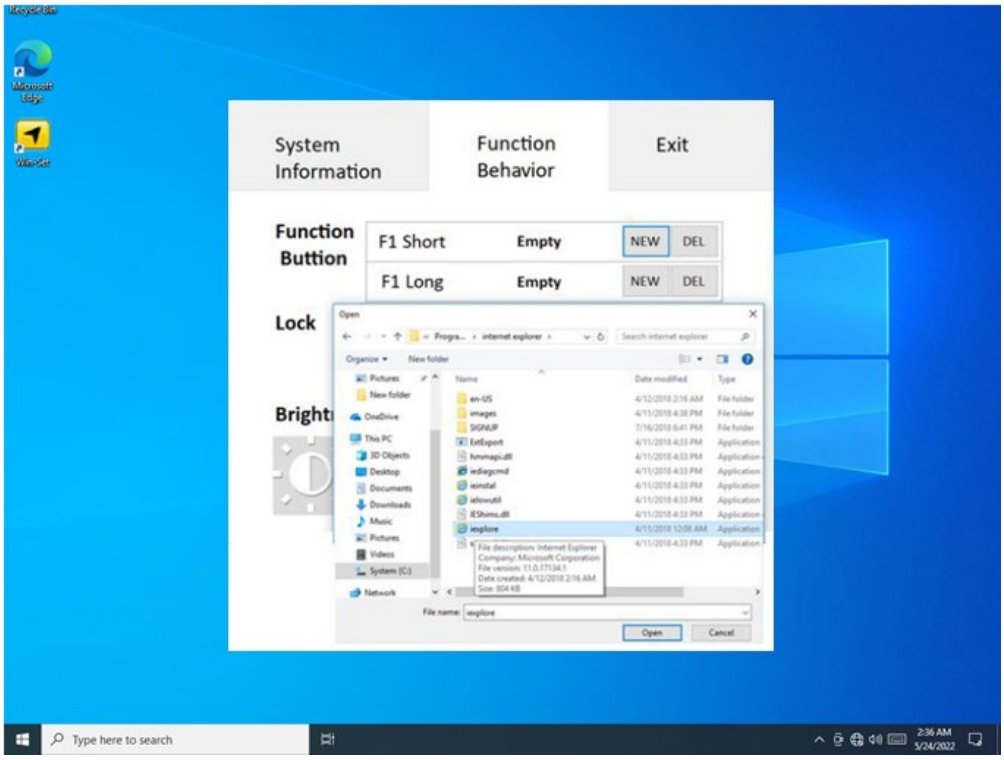


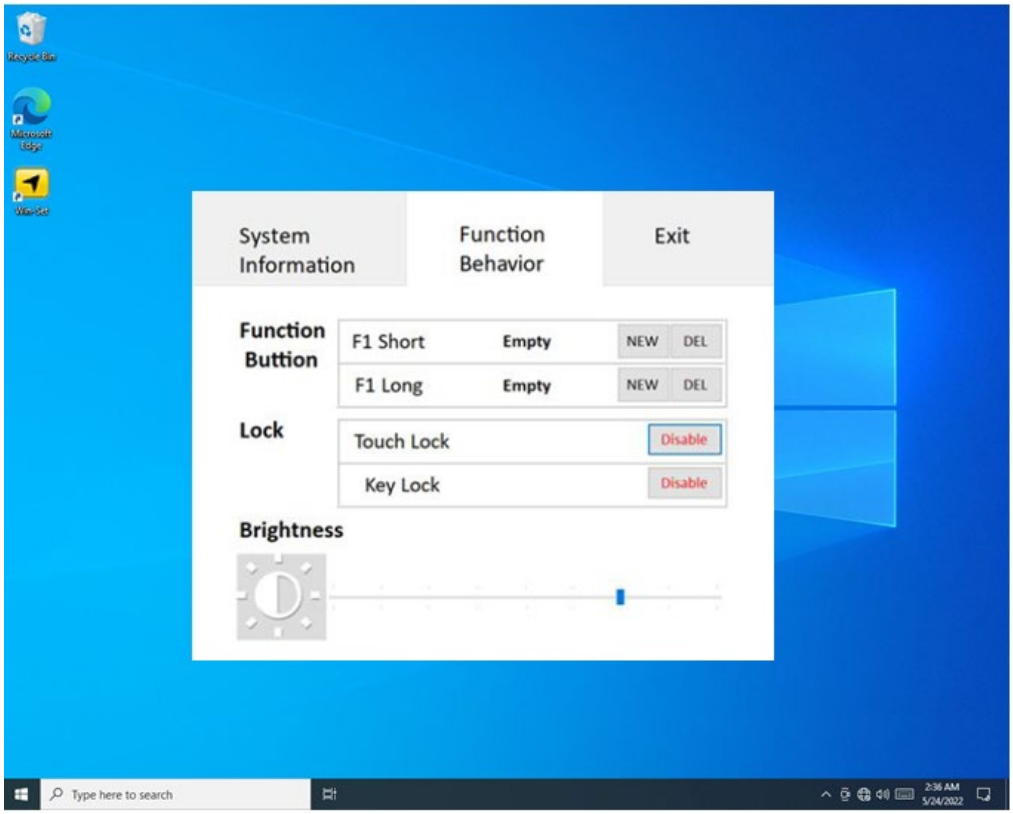
6.10.1 System information menu



6.10.2 Win-set Shortcut Setting

In Function Behavior, submenu users can set up functions.



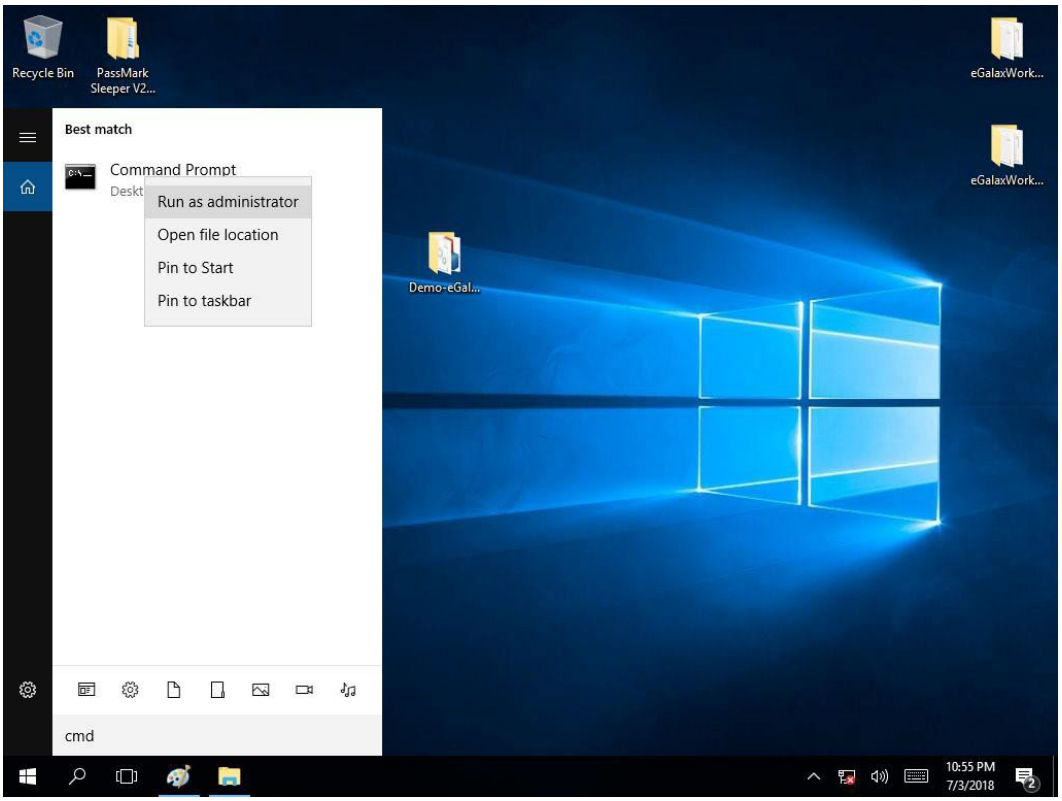


6.11 Watchdog Driver Installation

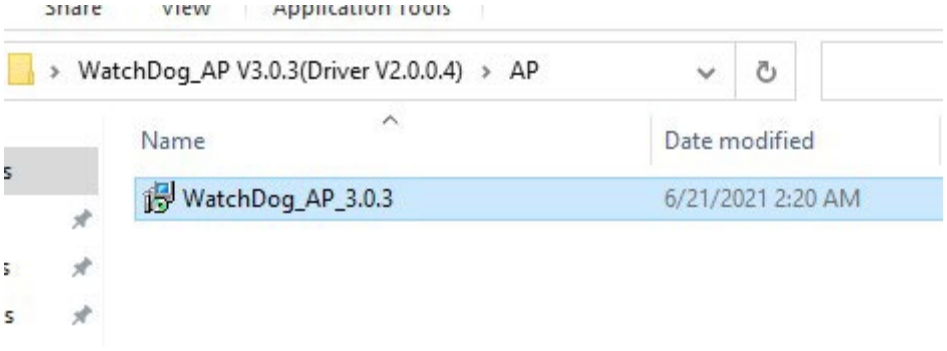
For more details about Winmate Watchdog, please download Watchdog Guide from Winmate Downloads Center.

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

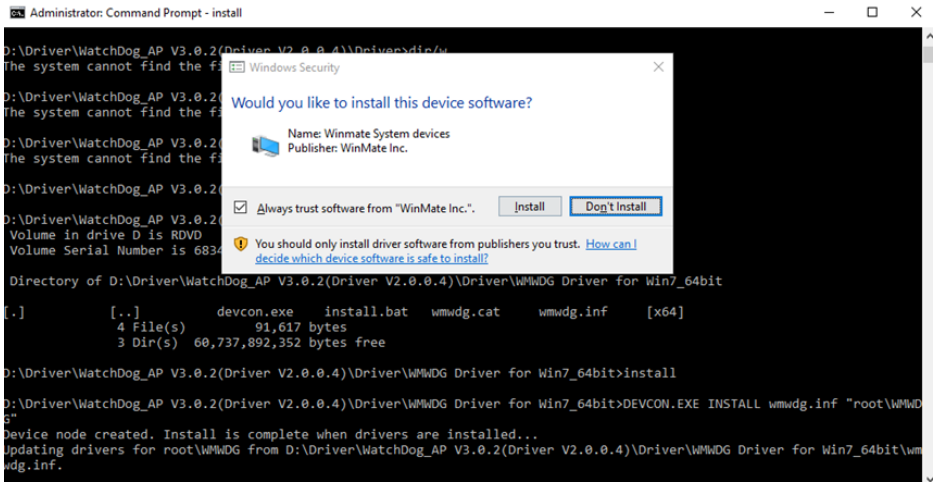
1. Type “cmd” in the run box then the cmd.exe will appear in programs.



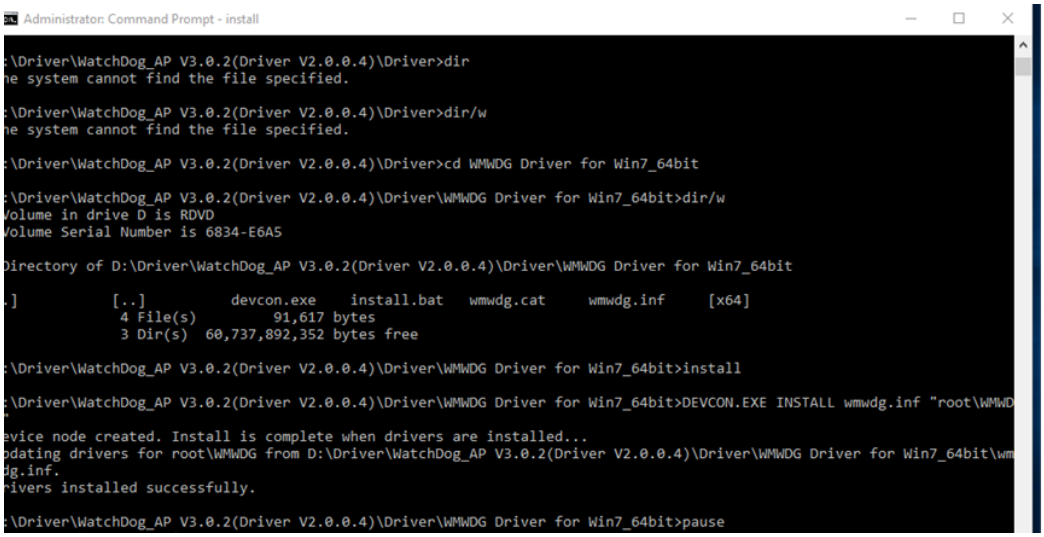
2. Right click on the cmd.exe and click on “Run as administrator” to start.
3. Open the Driver CD (included in the package) and select Watchdog driver.



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



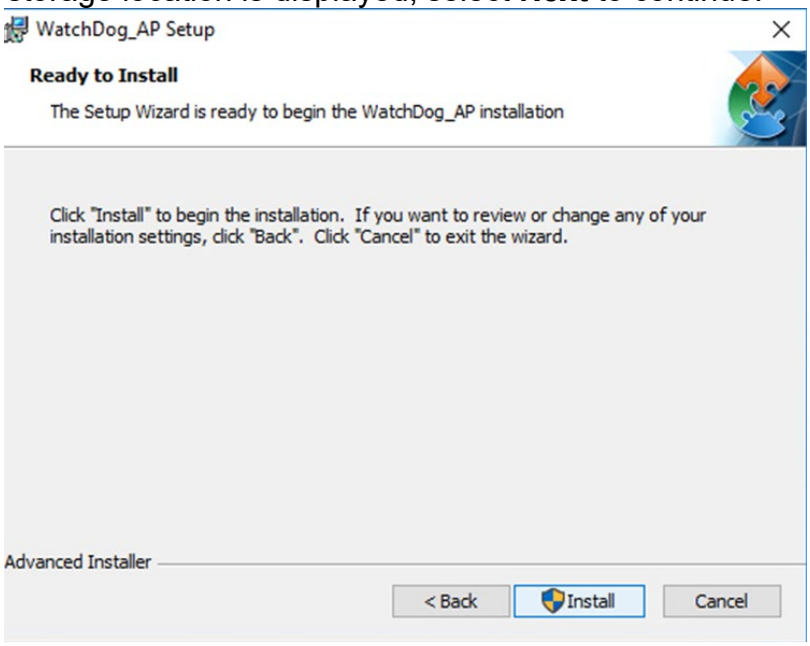
5 Wait for installation to complete. When installation is complete, press any key to close.



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

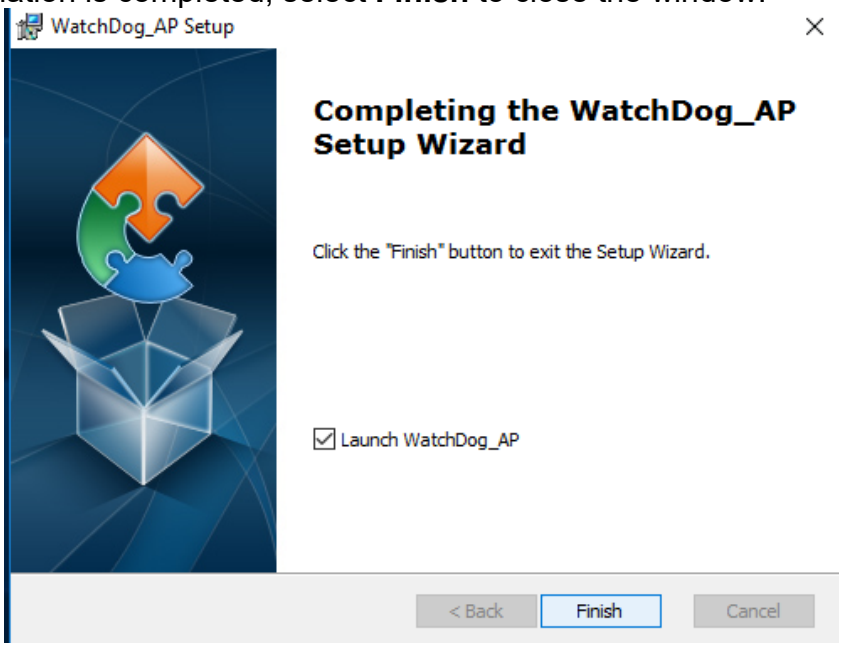
7 Select **Next**.

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 A: Hardware Specifications

Item	Specifications
Computer	
CPU	Intel® Core™ i5-1135G7(8M Cache, up to 4.20 GHz) Intel® Core™ i7-1165G7(12M Cache, up to 4.70 GHz, optional) Intel® Core™ i3-1115G4E (6M Cache, up to 3.90 GHz, optional) Intel® Core™ i5-1145G7E(8M Cache, up to 4.10 GHz, optional) Intel® Core™ i7-1185G7E(12M Cache, up to 4.40 GHz, optional)
OS	Windows 11 (Optional) Windows 10 IoT Enterprise (Optional) Linux Ubuntu 22.04 (Optional)
System Chipset	Intel® Iris® Xe Graphics
BIOS	Insyde system BIOS
System Memory	2 x DDR4 3200 SO-DIMM, up to 128 GB
USB	1 x USB 3.2 Gen 1 / 2 x USB 2.0 Type A (only used in safe area), 1 x 4pins terminal block USB 2.0
Storage	
Main Storage	1 x M.2 M-Key 2242 SATA SSD, up to 512GB 1 x M.2 M-Key 2280 NVMe SSD, up to 4TB (Optional) 1 x SATA III, up to 2TB (Optional)
Display	
Panel Size	19-inch 1280 x 1024, 800nit (Optional 1000nits)
Contrast Ratio	1000:1
View Angles	85,85,80,80
Touch	Projected capacitive touch (PCAP)
Ethernet Interface	
Hardware Interface	1 x RJ45 (only used in safe area); 1 x 8pins terminal block
Serial Interface	
Serial Standard	1 x DB9 RS232 (only used in safe area); 1 x 10pins terminal block
Video Interface	
VGA	1 x DB15 VGA (only used in safe area)
Power Requirements	
Input Voltage	Typical 9~36V DC with isolation (There is no tolerance for the DC input voltage)
Physical Characteristics	
Housing	Aluminum housing
Dimensions	474 x 410 x 111 mm
Cutout	462 x 386 mm
Mounting	Mounting hole for VESA 100 x 100 mm
Environment Limits	
Operating Temperature	-40°C to 70°C
Storage Temperature	-40°C to 70°C
Ambient Relative Humidity	5 to 95% (non-condensing)
Standard and Certification	
Hazardous Locations Safety	Class I, Div.2, Groups A,B,C,D T4 -40 <= Tamb <= 70 Meet Standards ANSI/ISA-12.12.01-2013 CSA Std. C22.2 No. 213-M1987 -40 <= Tamb <= 70

Item	Specifications
	Meet Standards ATEX II 3 G Ex ec ic IIC T4 Gc EN IEC 60079-0:2018, EN 60079-11:2012, EN 60079-7:2015 + AMD1 :2018 -40 <= Tamb <= 70 Meet Standards IECEx II 3 G Ex ec ic IIC T4 Gc IEC 60079-0:2017 Edition 7, IEC 60079-11:2011 Edition 6, IEC 60079-7:2017 Edition 5.1
Ordinary Location Safety	CSA C22.2 No. 62368-1:19 ANSI/UL 62368-1-2019 EN 62368-1

NOTE:

1. Accessories and Integrated Options may vary depending on your configuration. The product shown in this datasheet is a standard model. For diagrams that contain customized or optional I/O, please contact the Winmate Sales Team for more information.
2. All specifications are subject to change without prior notice.

Appendix B: Cleaning the Monitor

Before cleaning:

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

When cleaning:

- Never spray or pour any liquid directly on the screen or case.
- Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles.
- The display area is highly prone to scratching. Do not use ketene type material (ex. Acetone), Ethyl alcohol, toluene, ethyl acid or Methyl chloride to clear the panel. It may permanently damage the panel and void the warranty.
- If it is still not clean enough, apply a small amount of non-ammonia, non-alcohol-based glass cleaner onto a clean, soft, lint-free cloth, and wipe the screen.
- Do not uses water or oil directly on the display screen. If droplets are allowed to drop on the screen, permanent staining or discoloration may occur.

Appendix C: Statement of Regulatory Approval

Refer the following descriptions for various approvals and certifications

Explosive Atmospheres Directive

Certification with ATEX Directive 2014/34/EU; Independent 3rd party assessment (Notified Body: DEMKO)

Low Voltage Directive European Safety for Industrial Control Equipment

Self-Declaration in accordance with European LVD Directive 2014/35/EU; Independent 3rd party assessment (Accredited by IEC 17025)

Electromagnetic Compatibility Directive European EMC for Industrial Control Equipment

Self-Declaration in accordance with EMC Directive 2014/30/EU; Independent 3rd party assessment (Accredited by IEC 17025)

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