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# LPC P-cap Panel PC 2x Series
# With Gen 7/6 Core-i7/5/3
# User Manual

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**Revision : V3.0**

## Warning!

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a

commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

## Disclaimer

**This information in this document is subject to change without notice. In no event shall ELGENS Co., Ltd. be liable for damages of any kind, whether incidental or consequential, arising from either the use or misuse of information in this document or in any related materials.**

## Packing List

| Accessories (as ticked) included in this package are: |
|---|
| ☐ Panel Mounting Kits |
| ☐ 3 Pin Male Terminal Block |
| ☐ Optional Adapter |
| ☐ Other._____(please specify) |

## Safety Precautions

Follow the messages below to avoid your systems from damage:

- Avoid your system from static electricity on all occasions.
- Prevent electric shock. Don‘t touch any components of this card when the card is power-on. Always disconnect power when the system is not in use.
- Disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.

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# Chapter 1 Getting Started

## 1.1 Brief Description of LPC P-cap Series

The LPC P-cap 2X series is a power-optimized and delivers robust performance-per-watt for embedded HMI, powered by a Gen 7/6 Core-i7/5/3/Celeron U-Series processor. It comes with a Bezel-Free design, mSATA slot and a SATA 2.5-inch lockable HDD tray, up to 16GB DDR4 memory, audio jack, 2 Ethernet, DC input, and 4 USB 3.0 ports. The unit supports Win 7 Pro/ WES7 / Win 8 / Win 10. (Gen 7 CPU is only for Win10) The fanless touch panel computer is ideal for use as Web Browser, Terminal and HMI at all levels of automation control.

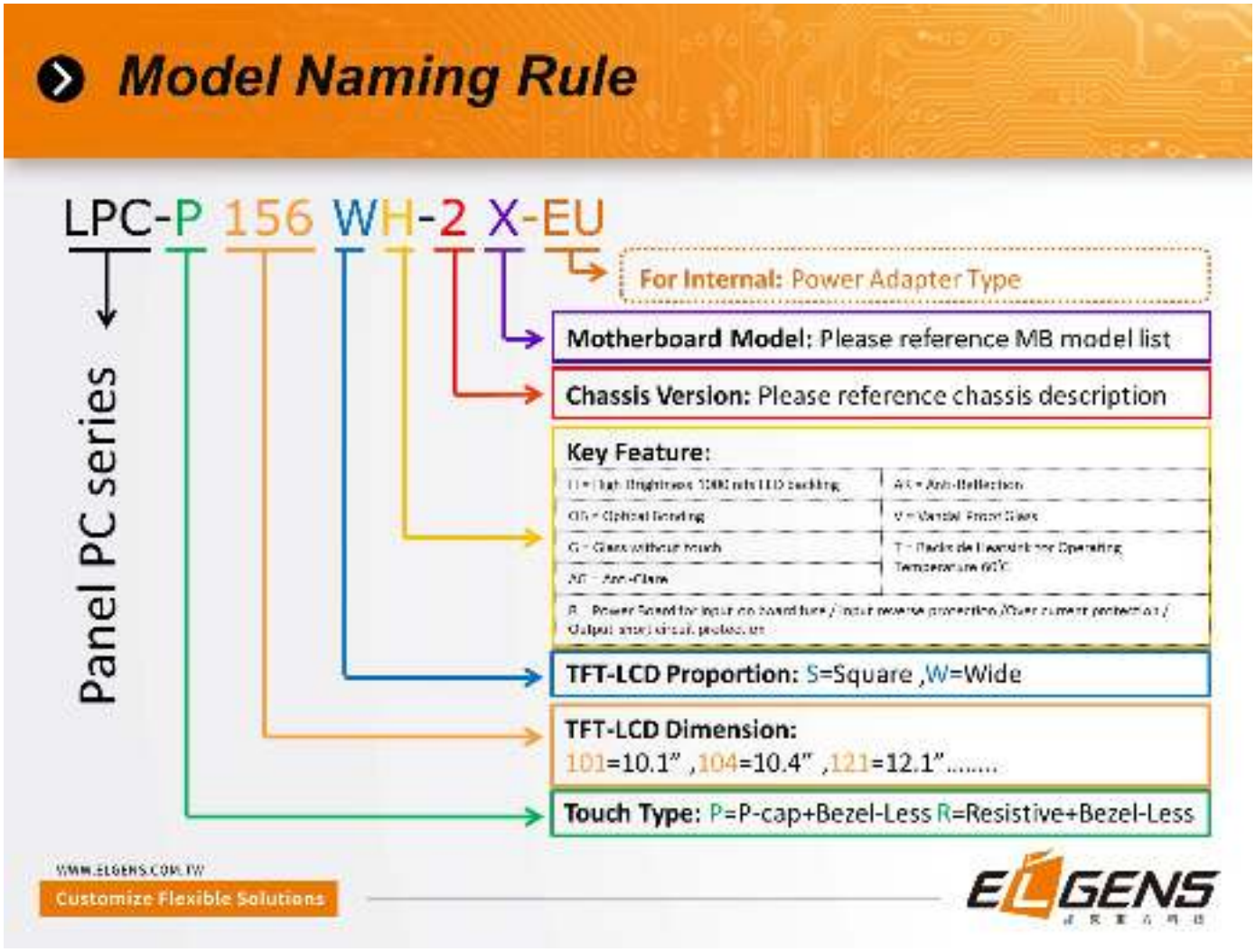
## 1.2 System Specifications

| Model Number | LPC-P121S-3X | LPC-P150S-2X | LPC-P156W-2X | LPC-P170S-2X |
|---|---|---|---|---|
| Max Resolution | 1024*768 | 1024*768 | 1920*1080 | 1280*1024 |
| Color | 16.7M | 16.2M | 16.2M | 16.7M |
| Luminance | 350 nits | 420 nits | 450 nits | 350 nits |
| View Angle | 160/160 | 160/160 | 170/170 | 160/140 |
| Contrast Ratio | 800 | 800 | 800 | 800 |
| **Model Number** | **LPC-P173W-2X** | **LPC-P185W-2X** | **LPC-P190S-2X** | **LPC-P215W-2X** |
| Max Resolution | 1920*1080 | 1920*1080 | 1280*1040 | TBC |
| Color | 16.7M | 16.7M | 16.7M | TBC |
| Luminance | 400 nits | 350 nits | 350 nits | TBC |
| View Angle | 140/160 | 189/189 | 160/170 | TBC |
| Contrast Ratio | 600 | 1000 | 1000 | TBC |

| Computing | |
|---|---|
| Processor | Intel® KBL ULT i7-7600U/i5-7300U/i3-7100U/Celeron 3965U Processor<br>Intel® SKL ULT i7-6600U/i5-6300U/i3-6100U/Celeron 3955U Processor |
| System Memory | 1 x SO-DIMM, up to 16 GB DDR4 |
| Storage | 2 x SATA 6Gb/s ports (1 x lockable HDD tray)<br>1 x mSATA 6Gb/s slot (shared with Mini-PCIe2)<br>**12.1'' is only with CFast card, not 2.5 HDD** |
| External I/O Port | 4 x USB 3.0<br>2 x GbE LAN (LAN1: Intel® I219LM /LAN2: Intel® I210-AT )<br>1 x Display Port<br>1 x HDMI |

| | |
|---|---|
| | **3 x RS-232 (COM2/3/4)**<br>**1 x RS-485, ( COM 1 , adjustable to RS-232/422 by BIOS)**<br>1 x Audio<br>1 x Power press button<br>1 x 3-Pin Power Input |
| Expansion Slots | None |
| OS support | Win 7 Pro/ WES7 / Win 8 / Win 10 (Gen6/7)<br>Win 10 (Gen 7) |
| **Touch Screen** | |
| Type | USB P-cap Touch |
| Light Transmission | 90% |
| **Power Supply** | |
| Power Input | ■ DC9~36V Wide Range Power Input<br>■ Input on board fuse<br>■ Input reverse protection<br>■ Over current protection<br>■ Output short circuit protection |
| **Mechanical** | |
| Construction | Aluminum Heatsink for 45W |
| IP Rating | Front Panel compliant IP65 |
| Mounting | Panel/VESA |
| **Environmental** | |
| Operating Temperature | -30~70 °C |
| Storage Temperature | -30~70 °C |
| Storage Humidity | 10~90% @40 °C non-condensing |

## Model Naming Rule

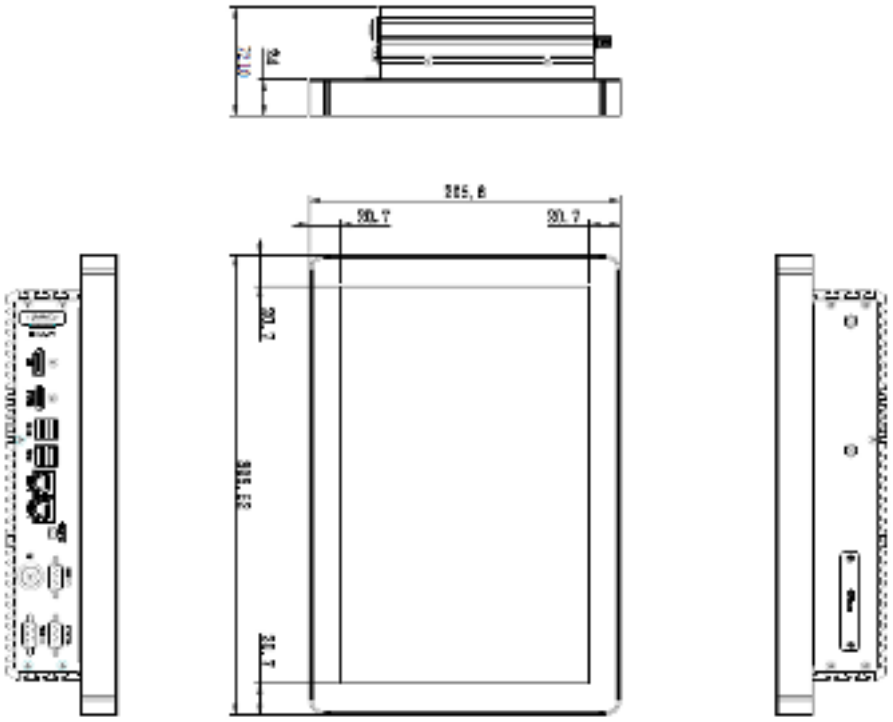


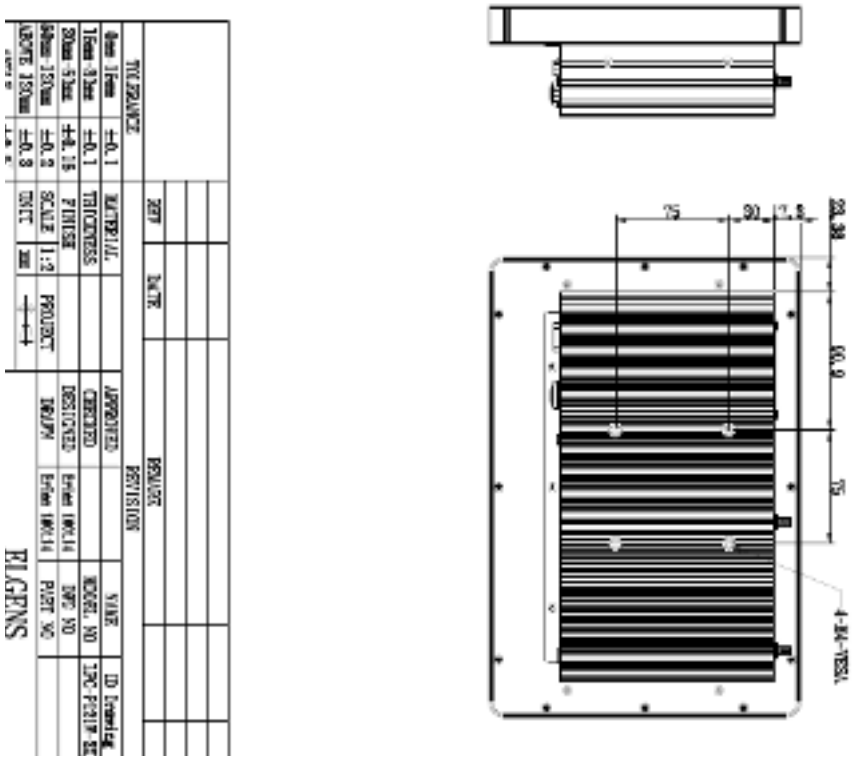

| Order Information | |
|---|---|
| LPC-Pxxxx-**25** | Bezel-Free P-cap Panel PC with **i3-6100U**, DC 9~36V Power Input, including a 3-Pin Power Adapter |
| LPC-Pxxxx-**26** | Bezel-Free P-cap Panel PC with **i5-6300U**, DC 9~36V Power Input, including a 3-Pin Power Adapter |
| LPC-Pxxxx-**27** | Bezel-Free P-cap Panel PC with **i7-6600U**, DC 9~36V Power Input, including a 3-Pin Power Adapter |
| LPC-Pxxxx-**28** | Bezel-Free P-cap Panel PC with **i5-7300U**, DC 9~36V Power Input, including a 3-Pin Power Adapter **( Only work with Win 10 )** |
| WFK-024 | Wi-Fi kits w/ cable & Antenna (2.4GHz, 802.11 b/g/n, 1T1R) |
| WFK-524 | Wi-Fi kits w/ cable & Antenna (2.4 & 5GHz, 802.11 a/b/g/n/ac + BT, 2T2R) |

| Order Code | |
|---|---|
| **LPC-PxxxS/W** | -H / -OB / -G / -AG / -AR / -B / -V / -T |
| xxx = size, For example, 10.1” = 101 | |
| S = Dimension Ratio Square = 4:3 or 5:4 | |
| W= Dimension Ration Wide = 16:9 or 16:10 | |
| H = High Brightness 1000 nits LED backlight (Optional to 1600 nits backlight) | |
| OB = Optical Bonding | |
| G = Glass without touch | |
| AG = Anti-Glare | |
| AR = Anti-Reflection | |
| V = Vandal Proof Glass | |
| T = Backside Heatsink for Operating Temperature 60°C | |

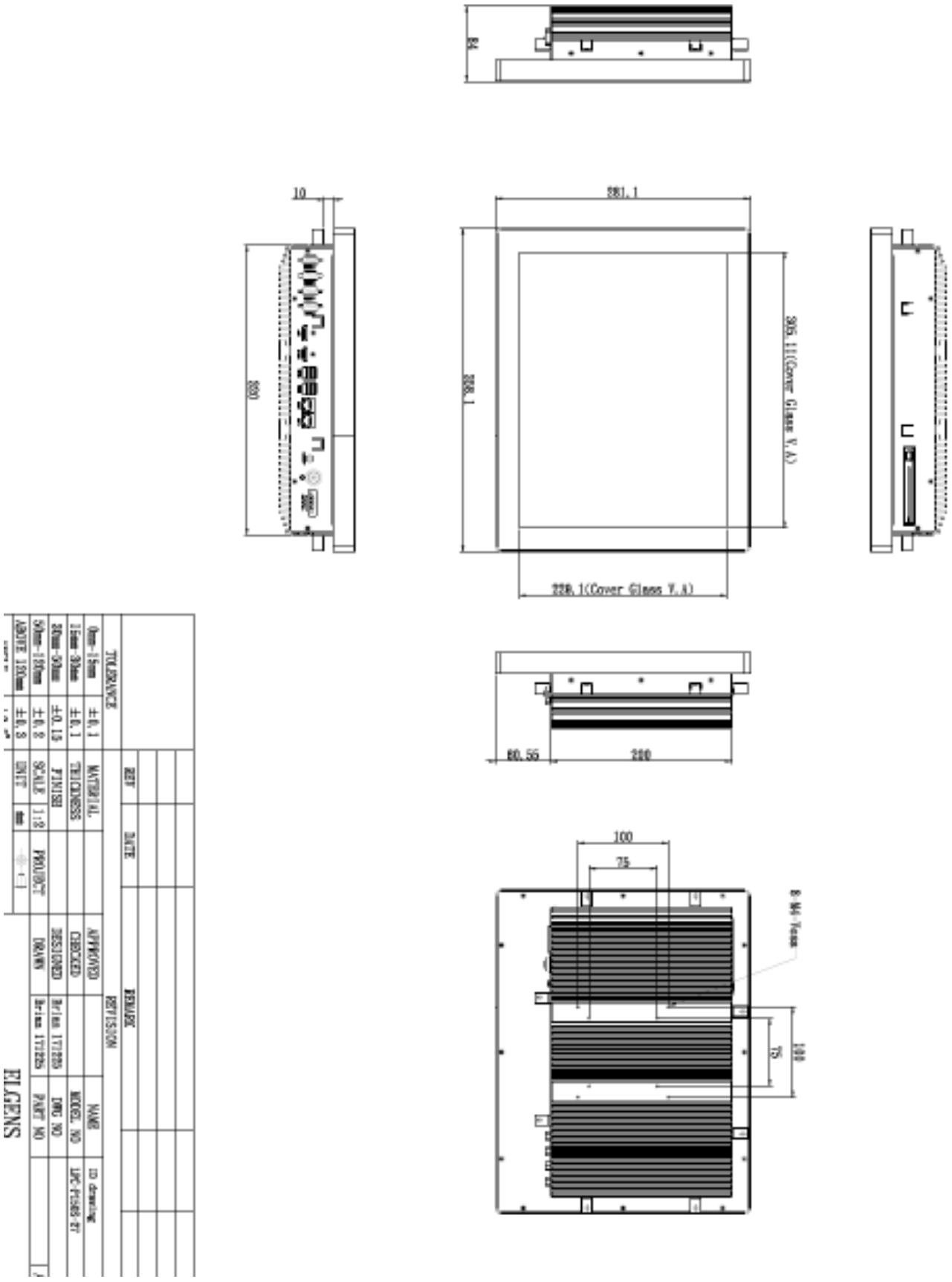
## 1.3 Dimension

## LPC-P121S-3X Drawing

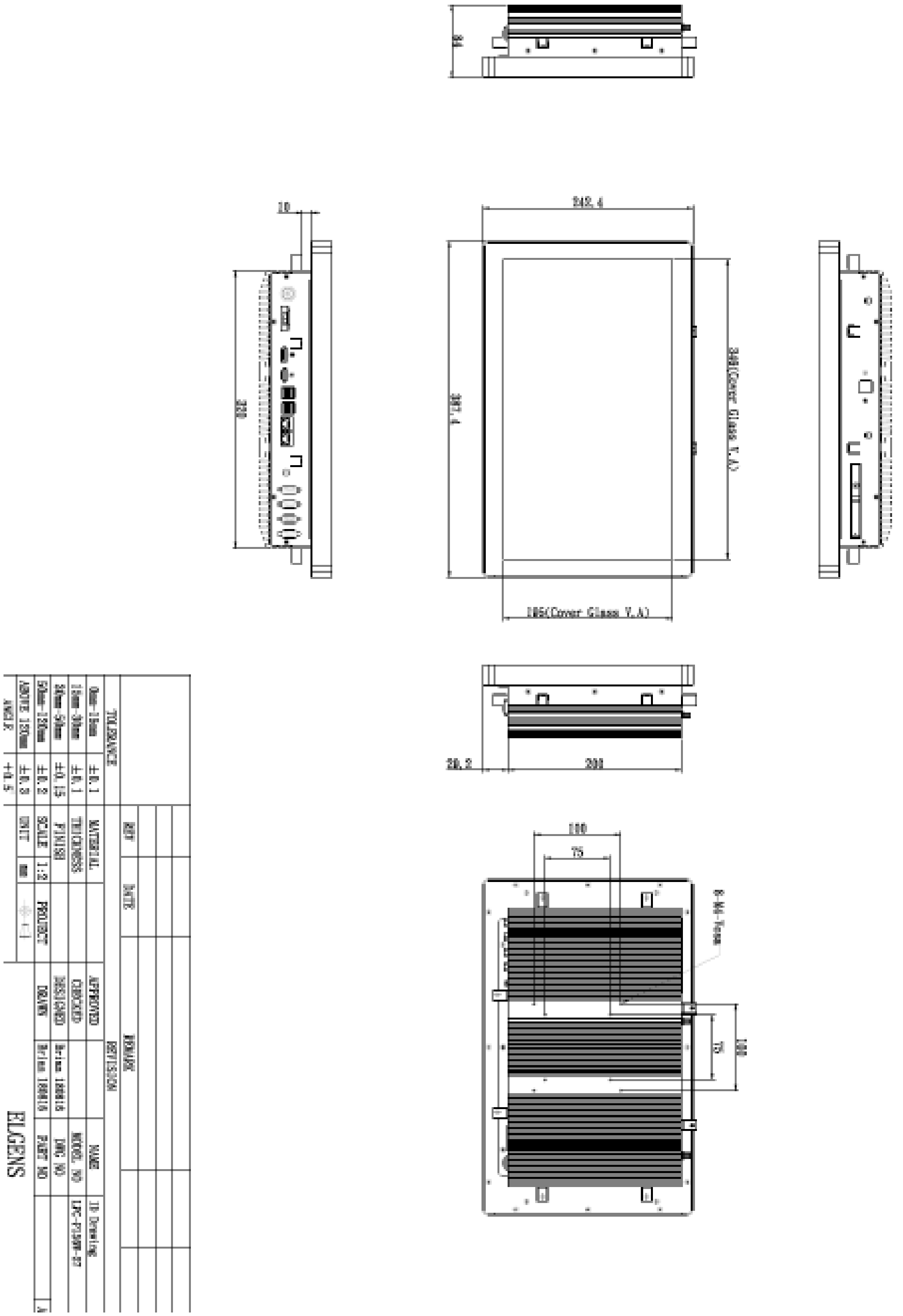




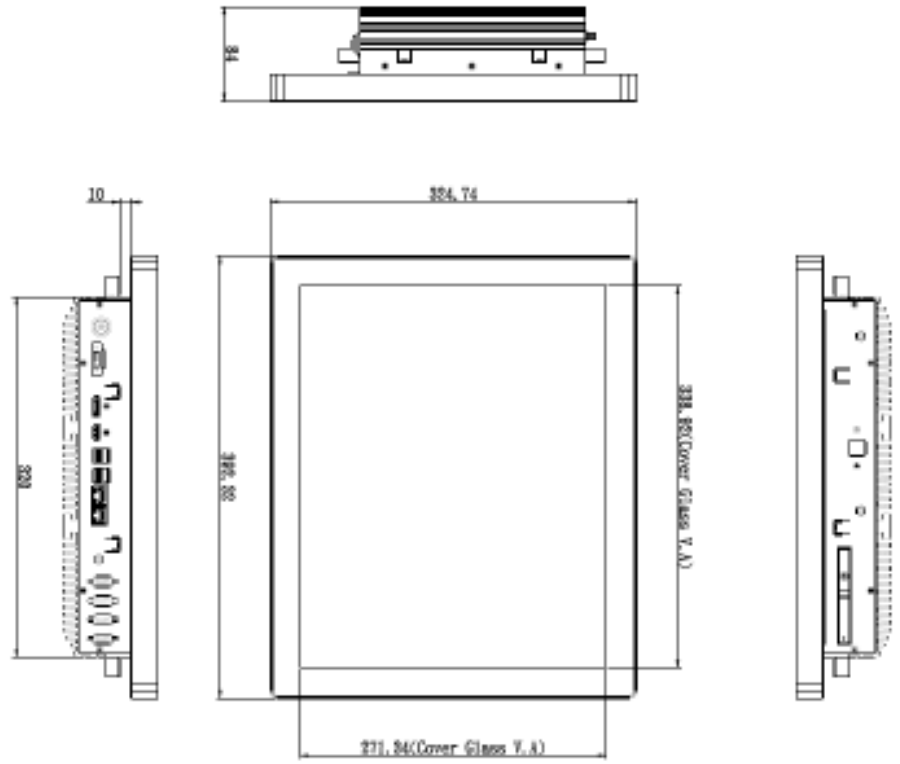
# LPC-P150S-2X Drawing

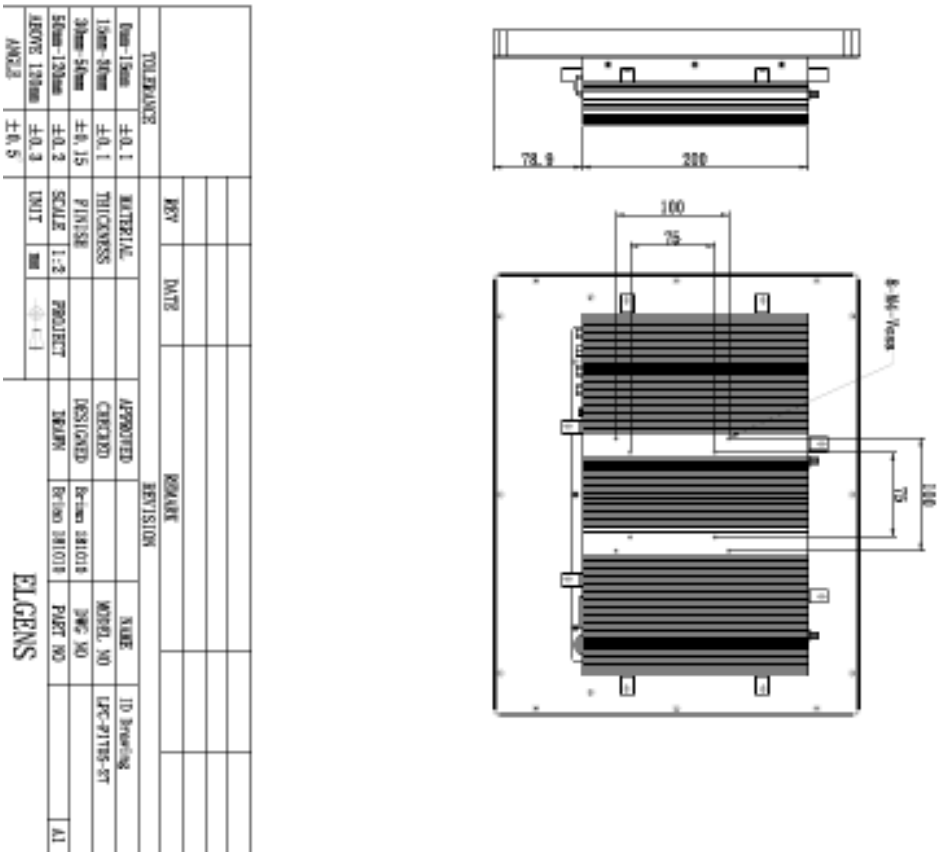


# LPC-P156W-2X Drawing

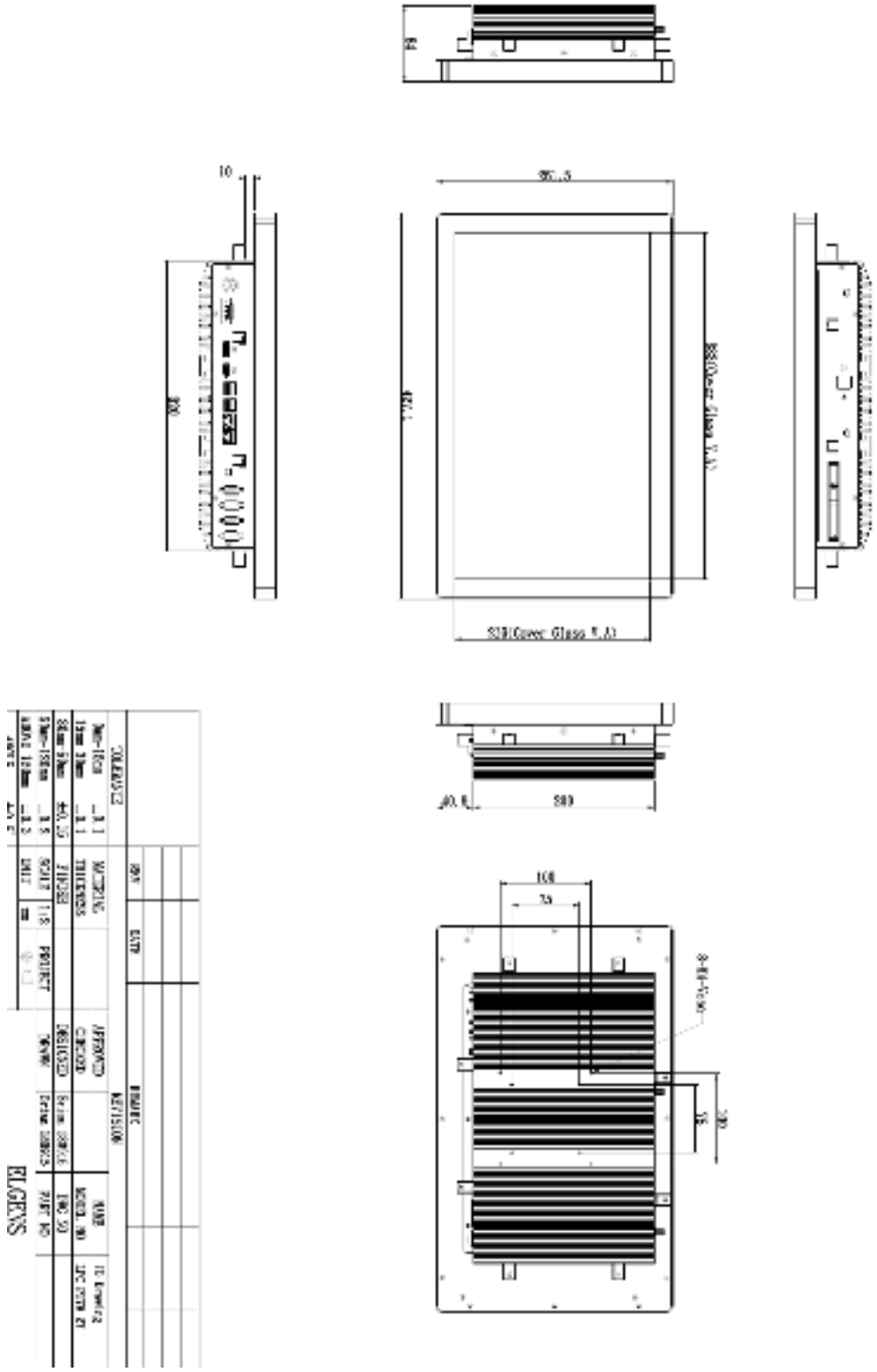


# LPC-P170S-2X Drawing

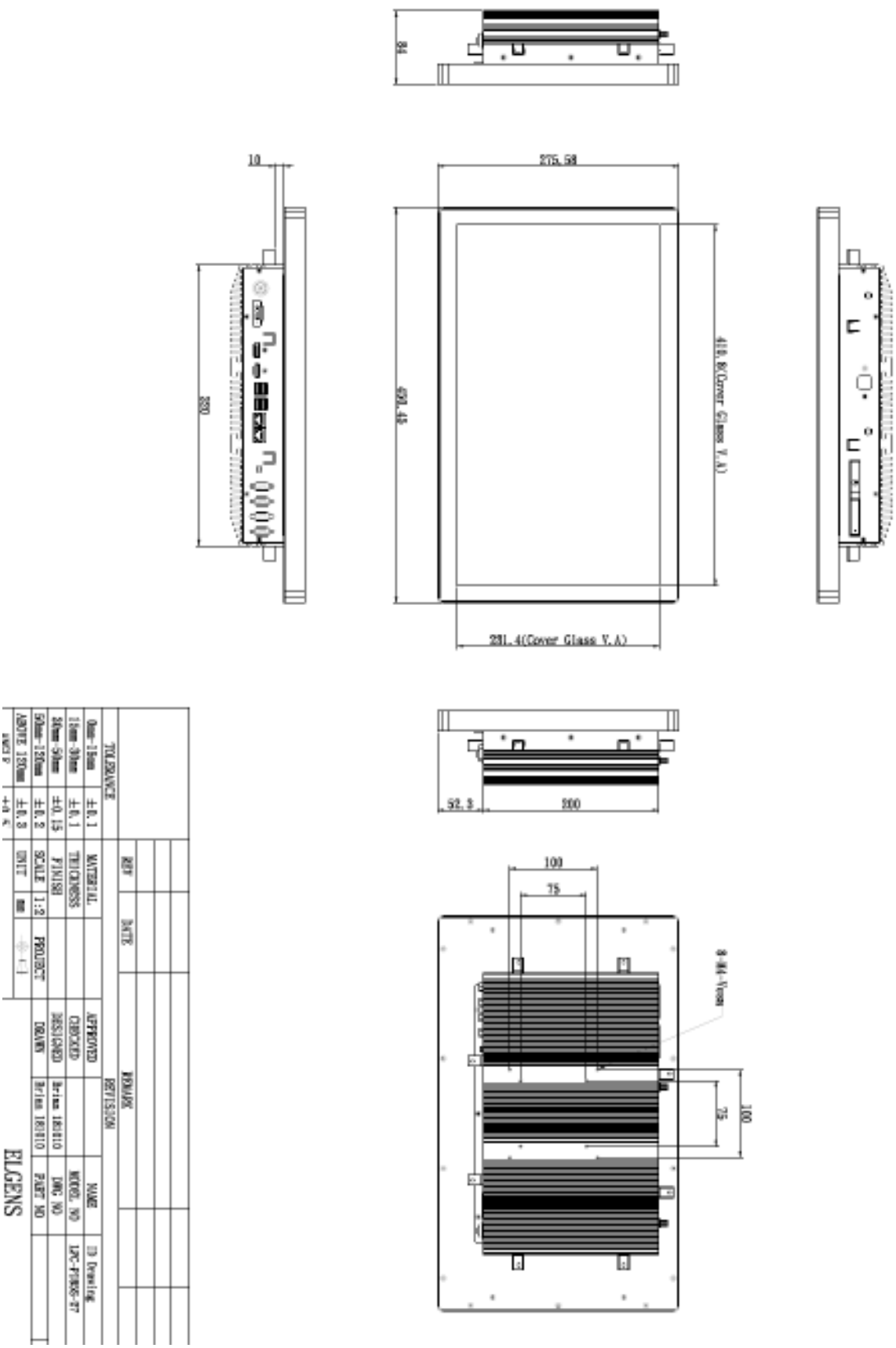


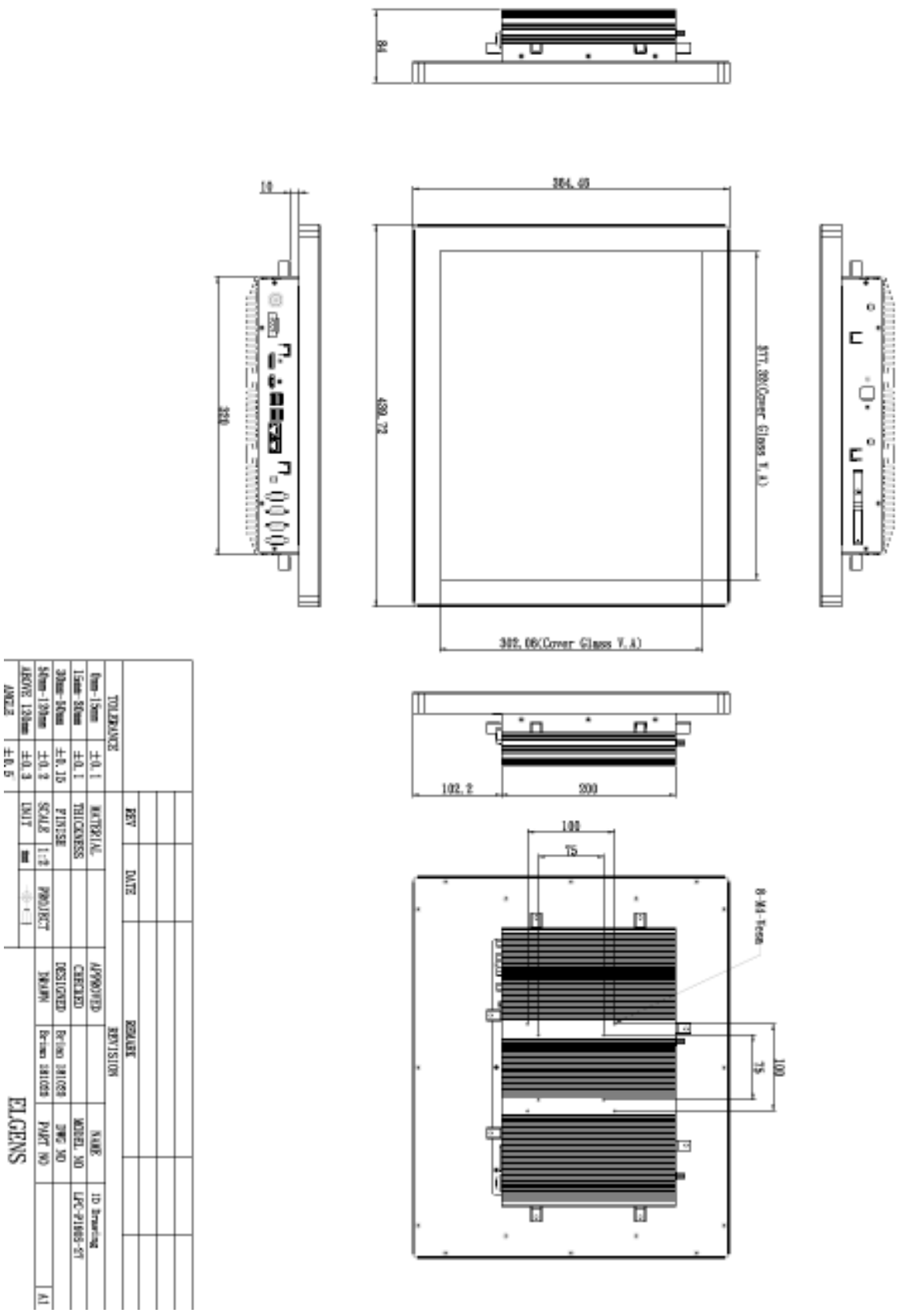
# LPC-P173W-2X Drawing



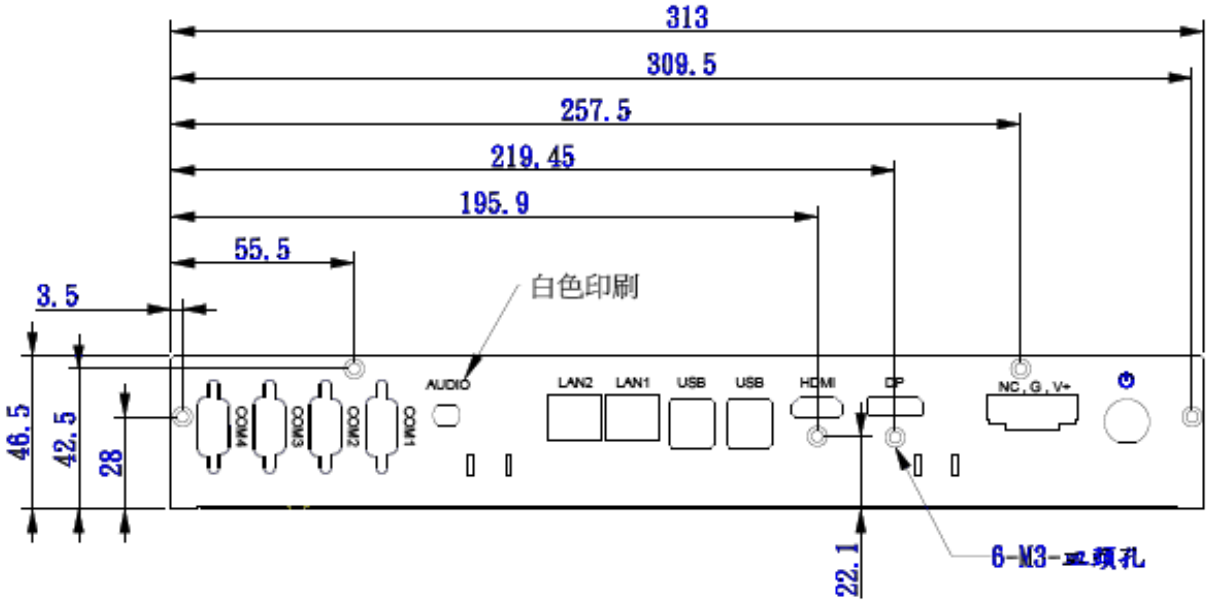
# LPC-P185W-2X Drawing



# LPC-P190S-2X Drawing

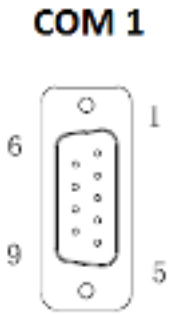


## 1.4 General Rear IO Placement

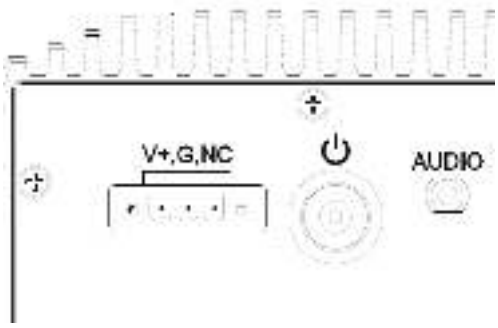



COM 1 is default RS-485 as below pin definition, adjustable to RS-RS232/422 by BIOS.

| Pin No | Color | RS-232 | RS-422 | RS-485 |
|---|---|---|---|---|
| 1 | Brown | DCD | 422 TXD- | 485 TXD- |
| 2 | Red | SIN | 422 TXD+ | 485 TXD+ |
| 3 | Orange | SOUT | 422 RXD+ | NC |
| 4 | Yellow | DTR | 422 RXD- | NC |
| 5 | Black | GND | GND | GND |
| 6 | Green | DSR | NC | NC |
| 7 | Blue | RTS | NC | NC |
| 8 | Purple | CTS | NC | NC |
| 9 | Grey | VCC_COM1 | NC | NC |




Power input terminal block pin definition is as below.



## 1.5 Front View of LPC- Pcap Series

## 1.6 Rear View of LPC- Pcap Series

## 1.7 Top / Bottom IO View

## 1.8 Installation of HDD

# Chapter 2 BIOS Setup

This chapter provides information on the BIOS Setup program and allows users to configure the system for optimal use.

Users may need to run the Setup program when:

- An error message appears on the screen at system startup and requests users to run SETUP.
- Users want to change the default settings for customized features.

**Important**

- Please note that BIOS update assumes technician-level experience.
- As the system BIOS is under continuous update for better system performance, the illustrations in this chapter should be held for reference only.

## 2.1 Entering Setup

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press <DEL> or <F2> key to enter Setup.

**Press <DEL> or <F2> to enter SETUP**

If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On or pressing the RESET button. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

**Important**

The items under each BIOS category described in this chapter are under continuous update for better system performance. Therefore, the description may be slightly different from the latest BIOS and should be held for reference only.

**Control Keys**

| | |
|---|---|
| ← → | Select Screen |
| ↑ ↓ | Select Item |
| Enter | Select |
| + - | Change Option |
| F1 | General Help |
| F7 | Previous Values |
| F9 | Optimized Defaults |
| F10 | Save & Reset |
| Esc | Exit |

**Getting Help**

After entering the Setup menu, the first menu you will see is the Main Menu.

**Main Menu**

The main menu lists the setup functions you can make changes to. You can use the arrow keys ( ↑↓ ) to select the item. The on-line description of the highlighted setup function is displayed at the bottom of the screen.

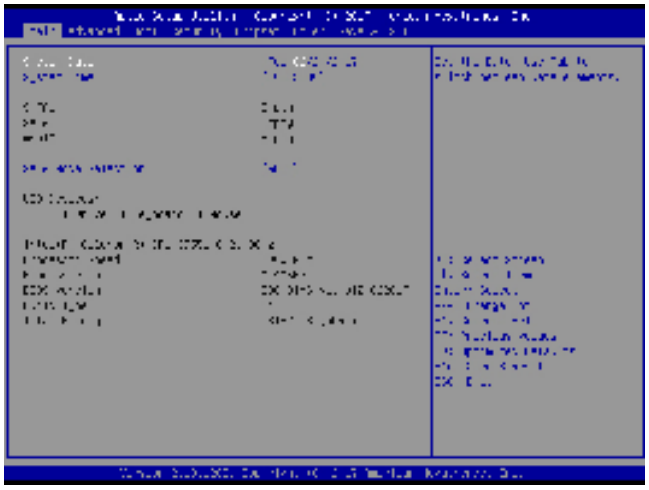
**Sub-Menu**

If you find a right pointer symbol appears to the left of certain fields that means a sub-menu can be launched from this field. A sub-menu contains additional options for a field parameter. You can use arrow keys ( ↑↓ ) to highlight the field and press <Enter> to call up the sub-menu. Then you can use the control keys to enter values and move from field to field within a sub-menu. If you want to return to the main menu, just press the <Esc >.

**General Help <F1>**

The BIOS setup program provides a General Help screen. You can call up this screen from any menu by simply pressing <F1>. The Help screen lists the appropriate keys to use and the possible selections for the highlighted item. Press <Esc> to exit the Help screen.

## 2.2 The Menu Bar



▸ Main

Use this menu for basic system configurations, such as time, date, etc.

▸ Advanced

Use this menu to set up the items of special enhanced features.

▸ Boot

Use this menu to specify the priority of boot devices.

▸ Security

Use this menu to set supervisor and user passwords.

▸ Chipset

This menu controls the advanced features of the onboard chipsets.

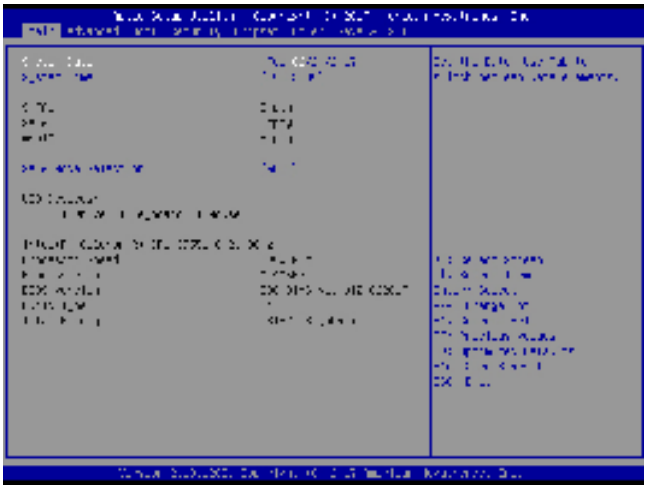
▸ Power

Use this menu to specify your settings for power management.

▸ Save & Exit

This menu allows you to load the BIOS default values or factory default settings into the BIOS and exit the BIOS setup utility with or without changes.

## 2.3 Main



▸ System Date

This setting allows you to set the system date. The date format is <Day>, <Month> <Date> <Year>.

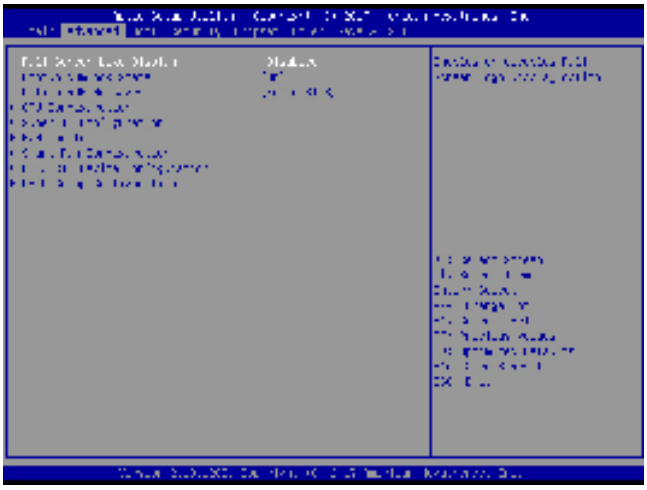
▸ System Time

This setting allows you to set the system time. The time format is <Hour> <Minute> <Second>.

▸ SATA Mode Selection

This setting specifies the SATA controller mode.

## 2.4 Advanced



▸ Full Screen Logo Display

This BIOS feature determines if the BIOS should hide the normal POST messages

with the motherboard or system manufacturer's full-screen logo.

When it is enabled, the BIOS will display the full-screen logo during the boot-up sequence, hiding normal POST messages.

When it is disabled, the BIOS will display the normal POST messages, instead of the full-screen logo.

Please note that enabling this BIOS feature often adds 2-3 seconds of delay to the booting sequence. This delay ensures that the logo is displayed for a sufficient amount of time. Therefore, it is recommended that you disable this BIOS feature for a faster boot-up time.

▸ Bootup NumLock State

This setting is to set the Num Lock status when the system is powered on. Setting

to [On] will turn on the Num Lock key when the system is powered on. Setting to [Off] will allow users to use the arrow keys on the numeric keypad.

▸ Option ROM Messages

This item is used to determine the display mode when an optional ROM is

initialized during POST. When set to [Force BIOS], the display mode used by AMI BIOS is used. Select [Keep Current] if you want to use the display mode of optional ROM.

▸ CPU Configuration

▸ Intel Virtualization Technology

Virtualization enhanced by Intel Virtualization Technology will allow a platform

to run multiple operating systems and applications in independent partitions. With virtualization, one computer system can function as multiple “Virtual” systems.

▸ Active Processor Cores

This setting specifies the number of active processor cores.

▸ Execute Disable Bit

Intel’s Execute Disable Bit functionality can prevent certain classes of malicious

“buffer overflow” attacks when combined with a supporting operating system. This functionality allows the processor to classify areas in memory by where application code can execute and where it cannot. When a malicious worm attempts to insert code in the buffer, the processor disables code execution, preventing damage or worm propagation.

▸ Intel SpeedStep

EIST (Enhanced Intel SpeedStep Technology) allows the system to dynamically

adjust processor voltage and core frequency, which can result in decreased average power consumption and decreased average heat production. When disabled, the processor will return the actual maximum CPUID input value of the processor when queried.

▸ C-States

This setting controls the C-States (CPU Power states).

▸ Super IO Configuration

▸ Serial Port 1/ 2/ 3/ 4/ 5/ 6

This setting enables/disables the specified serial port.

▸ Change Settings

This setting is used to change the address & IRQ settings of the specified

serial port.

▸ Mode Select

Select an operation mode for the specified serial port.

▸ Watch Dog Timer

You can enable the system watch-dog timer, a hardware timer that generates

a reset when the software that it monitors does not respond as expected each time the watch dog polls it.

▸ FIFO Mode

This setting controls the FIFO data transfer mode.

▸ Shared IRQ Mode

This setting provides the system with the ability to share interrupts among its

serial ports.

▸ H/W Monitor

These items display the current status of all monitored hardware devices/ components such as voltages, temperatures and all fans' speeds.

▸ Smart Fan Configuration

▸ SYSFAN1

This setting enables/disables the Smart Fan function. Smart Fan is an excellent feature which will adjust the CPU/system fan speed automatically depending on the current CPU/system temperature, avoiding the overheating to damage your system.

▶ PCI/PCIE Device Configuration

▶ Legacy USB Support

Set to [Enabled] if you need to use any USB 1.1/2.0 device in the operating

system that does not support or have any USB 1.1/2.0 driver installed, such as DOS and SCO Unix.

▶ Audio Controller

This setting enables/disables the onboard audio controller.

▶ Launch OnBoard LAN OpROM

These settings enable/disable the initialization of the onboard/onchip LAN

Boot ROM during bootup. Selecting [Disabled] will speed up the boot process.

▶ GPIO Group Configuration

▶ GPO0 ~ GPO7

These settings control the operation mode of the specified GPIO.

## 2.5 Boot

▸ CSM Support

This setting enables/disables the support for Compatibility Support Module, a

part of the Intel Platform Innovation Framework for EFI providing the capability to support legacy BIOS interfaces.

▸ Video

This setting selects the video mode.

▸ Boot Option Priorities

This setting allows users to set the sequence of boot devices where BIOS

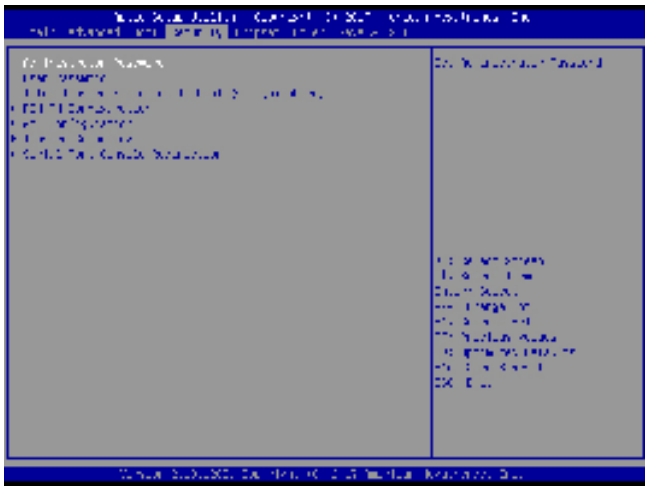
attempts to load the disk operating system.

▸ Hard Drive BBS Priorities

This setting allows users to set the priority of the specified devices. First press

<Enter> to enter the sub-menu. Then you may use the arrow keys ( ↑↓ ) to select the desired device, then press <+>, <-> or <PageUp>, <PageDown> key to move it up/down in the priority list.

## 2.6 Security



▸ Administrator Password

Administrator Password controls access to the BIOS Setup utility.

▸ User Password

User Password controls access to the system at boot and to the BIOS Setup utility.

▸ Intel Trusted Execution Technology

Intel Trusted Execution Technology provides highly scalable platform security in physical and virtual infrastructures.

▸ PCH-FW Configuration

▸ ME Firmware Version, ME Firmware Mode, ME Firmware SKU, System Integrity Value, ME Firmware Status 1, ME Firmware Status 2, NFC Sup-

port

These settings show the firmware information of the Intel ME (Management Engine).

▸ ME Status

This setting enables/disables the ME status.

▸ Manageablility Features States

This setting specifies the Intel ME Manageability Features.

▸ AMT BIOS Features

This setting specifies theAMT BIOS Features.

▸ AMT Configuration

Intel Active Management Technology (AMT) is hardware-based technology for remotely managing and securing PCs out-of-band.

▸ ME Unconfig on RTC Clear

This setting enables/disables ME Firmware Un-configure on RTC clear state.

▸ Comms Hub Support

This setting enables/disables Comms Hub Support.

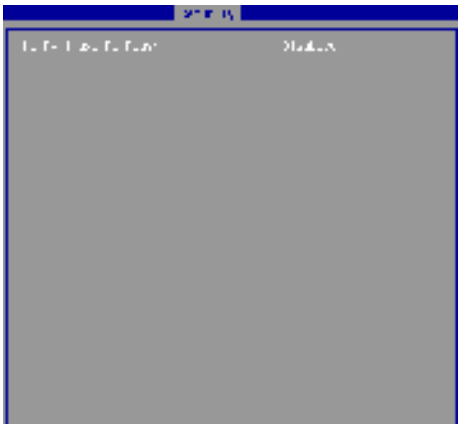
▸ JHI Support

This setting enables/disables JHI Support.

▸ Core BIOS Done Message

This setting enables/disables the Core BIOS Done Message.

▸ Firmware Update Configuration



▸ ME FW Image Re-Flash

This setting enables/disables the ME FW image reflash.

▸ PTT Configuration

Intel Platform Trust Technology (PTT) is a platform functionality for credential storage and key management used by Microsoft Windows.

▶ ME Debug Configuration

▶ Trusted Computing

▶ Security Device Support

This setting enables/disables BIOS support for security device. When set to

[Disable], the OS will not show security device. TCG EFI protocol and INT1A interface will not be available.

▶ Serial Port Console Redirection

▶ Console Redirection

Console Redirection operates in host systems that do not have a monitor

and keyboard attached. This setting enables/disables the operation of console redirection. When set to [Enabled], BIOS redirects and sends all contents that should be displayed on the screen to the serial COM port for display on the terminal screen. Besides, all data received from the serial port is interpreted as keystrokes from a local keyboard.

▸ Console Redirection Settings

▸ Terminal Type

To operate the system's console redirection, you need a terminal supporting

ANSI terminal protocol and a RS-232 null modem cable connected between the host system and terminal(s). This setting specifies the type of terminal device for console redirection.

▸ Bits per second, Data Bits, Parity, Stop Bits

This setting specifies the transfer rate (bits per second, data bits, parity,

stop bits) of Console Redirection.

▸ Flow Control

Flow control is the process of managing the rate of data transmission

between two nodes. It's the process of adjusting the flow of data from one device to another to ensure that the receiving device can handle all of the incoming data. This is particularly important where the sending device is capable of sending data much faster than the receiving device can receive it.

▸ VT-UTF8 Combo Key Support

This setting enables/disables the VT-UTF8 combination key support for

ANSI/VT100 terminals.

▸ Recorder Mode, Resolution 100x31

These settings enable/disable the recorder mode and the resolution

100x31.

▸ Legacy OS Redirection Resolution

This setting specifies the redirection resolution of legacy OS.

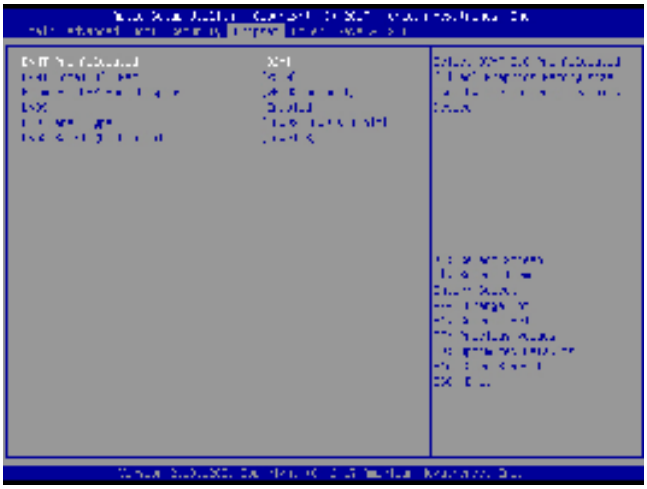
▶ Putty Keypad

PuTTY is a terminal emulator for Windows. This setting controls the numeric keypad for use in PuTTY.

▶ Redirection After BIOS POST

This setting determines whether or not to keep terminals' console redirection running after the BIOS POST has booted.

## 2.7 Chipset



▸ DVMT Pre-Allocated

This setting defines the DVMT pre-allocated memory. Pre-allocated memory is

the small amount of system memory made available at boot time by the system BIOS for video. Pre-allocated memory is also known as locked memory. This is because it is "locked" for video use only and as such, is invisible and unable to be used by the operating system.

▸ DVMT Total Gfx Mem

This setting specifies the memory size for DVMT.

▸ Primary IGFX Boot Display

Use the field to select the type of device you want to use as the displays of the

system.

▸ LVDS

This setting enables/disables LVDS.

▸ LCD Panel Type

This setting specifies the LCD panel type.

▸ LCD Backlight Control

This setting controls the LVDS backlight.

## 2.8 Power

▸ Restore AC Power Loss

This setting specifies whether your system will reboot after a power failure or interrupt occurs. Available settings are:

| | |
|---|---|
| [Power Off] | Leaves the computer in the power off state. |
| [Power On] | Leaves the computer in the power on state. |
| [Last State] | Restores the system to the previous status before power failure or interrupt occurred. |

▸ Deep Sleep Mode

The setting enables/disables the Deep S5 power saving mode. S5 is almost the same as G3 Mechanical Off, except that the PSU still supplies power, at a minimum, to the power button to allow return to S0. A full reboot is required. No previous content is retained. Other components may remain powered so the computer can “wake” on input from the keyboard, clock, modem, LAN, or USB device.

** Advanced Resume Events Control **

▶ Onchip GbE / USB

The item allows the activity of the OnChip GbE/USB device to wake up the system from S3/S4 sleep state.

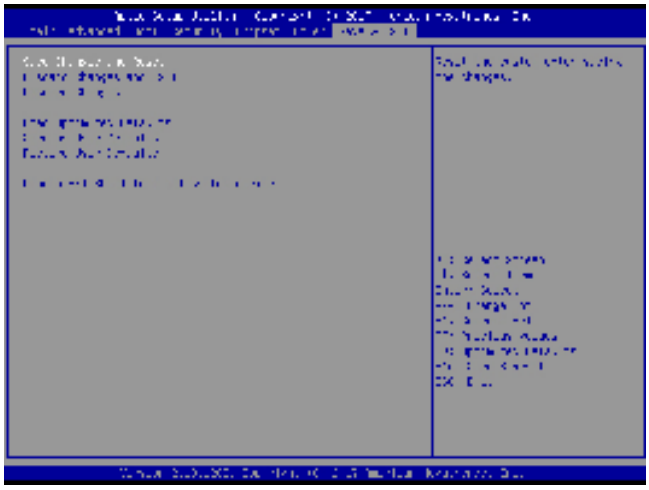
▶ PCIE PME

This field specifies whether the system will be awakened from power saving modes when activity or input signal of onboard PCIE PME is detected.

▶ RTC

When [Enabled], your can set the date and time at which the RTC (real-time clock) alarm awakens the system from suspend mode.

## 2.9 Save & Exit



▸ Save Changes and Reset

Save changes to CMOS and reset the system.

▸ Discard Changes and Exit

Abandon all changes and exit the Setup Utility.

▸ Discard Changes

Abandon all changes.

▸ Load Optimized Defaults

Use this menu to load the default values set by the motherboard manufacturer specifically for optimal performance of the motherboard.

▸ Save as User Defaults

Save changes as the user's default profile.

▸ Restore User Defaults

Restore the user's default profile.

▸ Launch EFI Shell from filesystem device

This setting helps to launch the EFI Shell application from one of the available file system devices.

# Chapter 3 USB 3.0 driver installation

## SOP of USB 3.0 driver installation prior to Win 7 by Smart kit

### Purpose:

The original Windows 7 is imcompatible with USB 3.0, the program “MSI Smart Tool Kits“ will help you to compile USB 3.0 driver into your original Windows 7, in order to avoid the system failure when you install OS. This tool can make your own bootable Windows 7 USB from your original Windows 7 disk.

### Things need to prepare:

Prepare your Windows 7 DVD, and an USB disk at least 8Gb

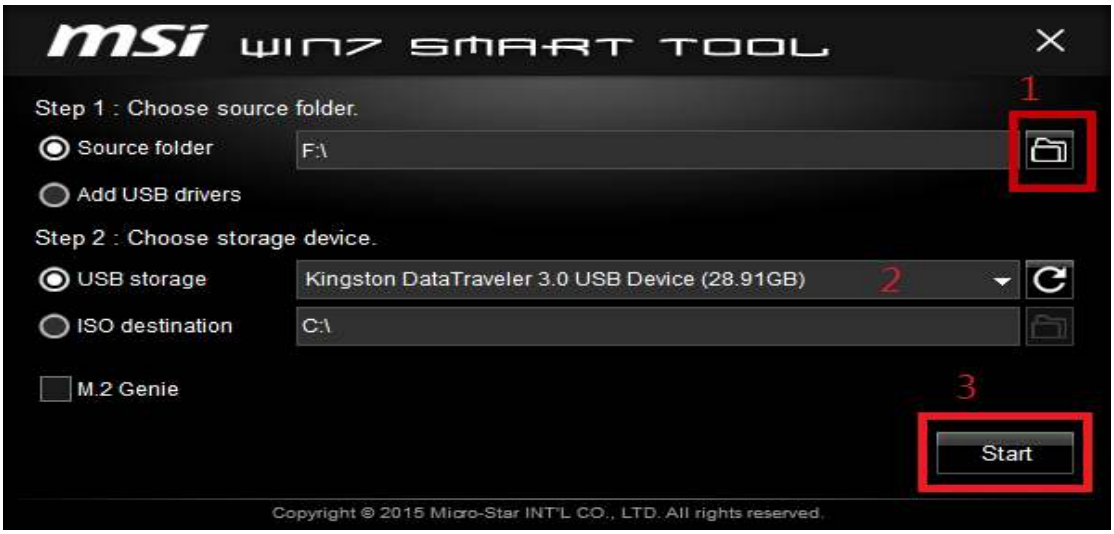
Put the DVD in the DVD-ROM and plug USB into your computer.

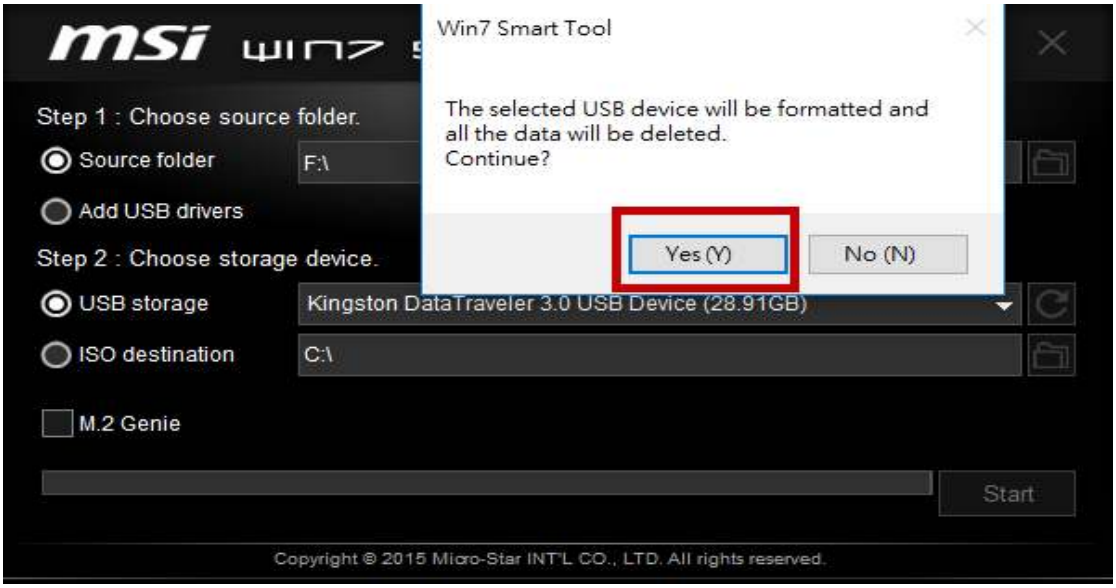
Please download “MSI Smart Tool Kits” from the website below:

https://drive.google.com/drive/u/0/folders/0B0ap8HaD1zCCOU5sN2cyZ1JMSjQ

### MSI Smart Tool Kits

1. Click ”Source folder” choose the location of your Windows 7 disc.
2. Choose ”USB storage” as bootable USB for your Windows 7
3. Click”Start”
4. Click”YES”






Once the status bar reach to 100%, withdraw the USB device and done.

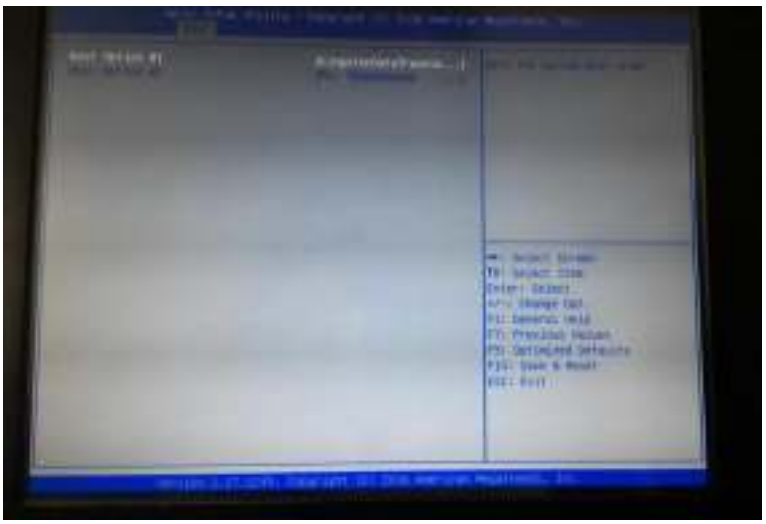
## Step A .

**A-1.** Plug your modified USB to USB 3.0 port, and keyboard

**A-2.** Then turn on the LPC series press “Delete” to enter BIOS mode,

**A-3.** In BIOS mode, go to “Boot” page and select “Hard Drive BBS Priorities”

**A-4.** Select your Modified USB disk as “Boot Option #1”



**A-5.** Then go to “Save & Exit” page choose “Save Changes and Reset”

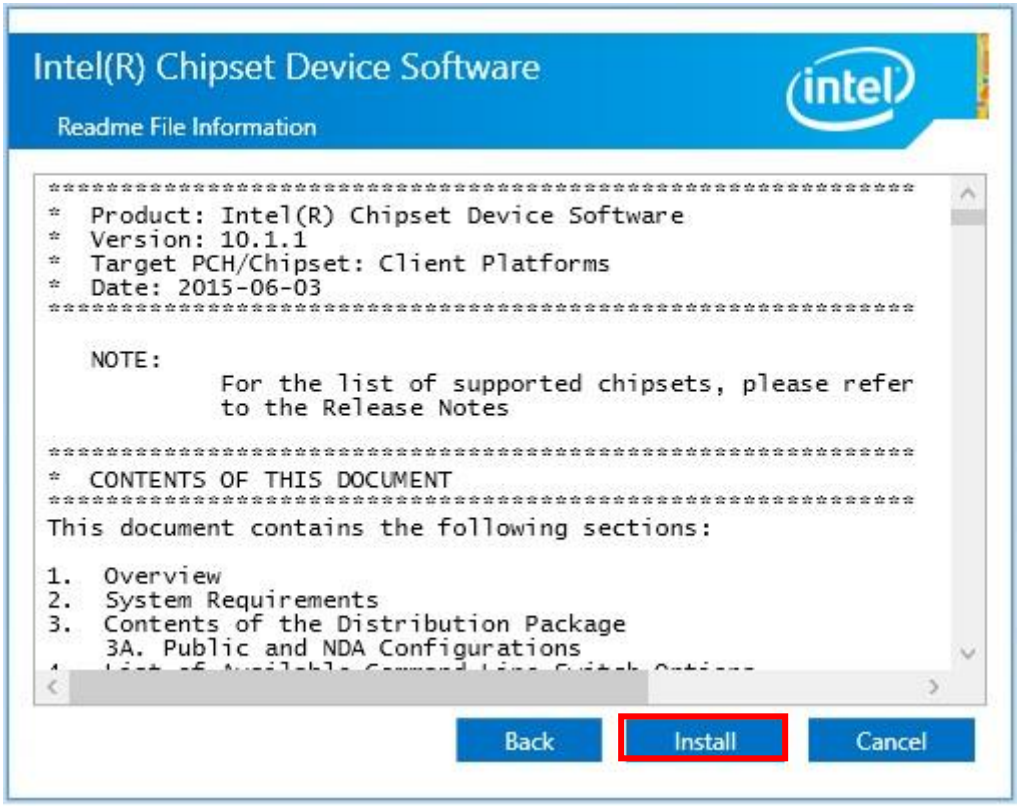
**A-6.** Then the Win 7 installation will appear on the screen. Now you can install Windows 7 with your keyboard through USB 3.0.

# Chapter 4 Installation Drivers

## 4.1 Chipset Driver Installation

4.1.1. Select Chipset folder and execute “Setupchipset.exe”

4.1.2. Please follow the red blank.



Intel(R) Chipset Device Software
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* If you are an End-User, then only Exhibit A, the INTEL SOFTWARE LICENSE AGREEMENT, applies.
Back
Accept
Cancel

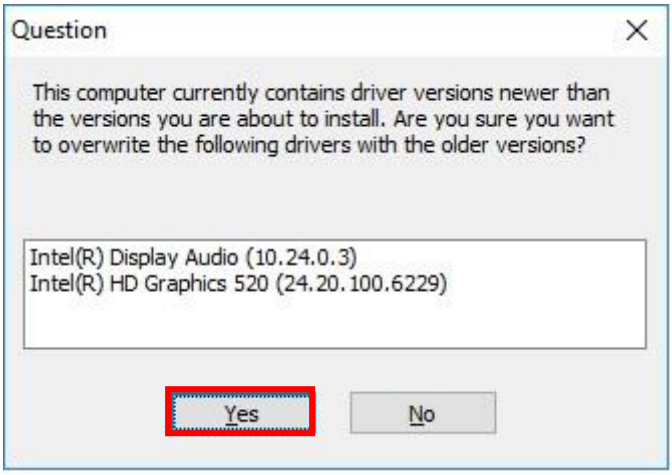
Intel(R) Chipset Device Software
Welcome
You are about to install the following product:
Intel(R) Chipset Device Software
It is strongly recommended that you exit all programs before continuing.
Press Next to continue, or press Cancel to exit the setup program.
Next
Cancel

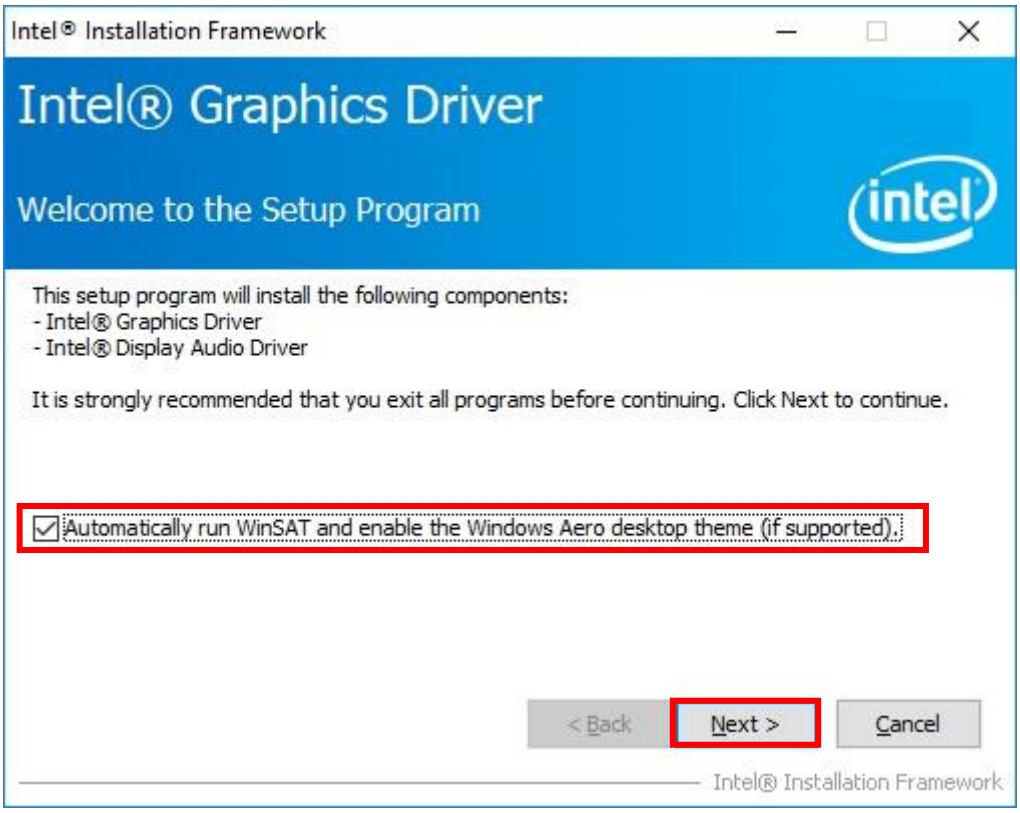
Intel(R) Chipset Device Software
Completion
You have successfully installed the following product:
Intel(R) Chipset Device Software
You must restart this computer for the changes to take effect.
View Log Files
Restart Now
Restart Later

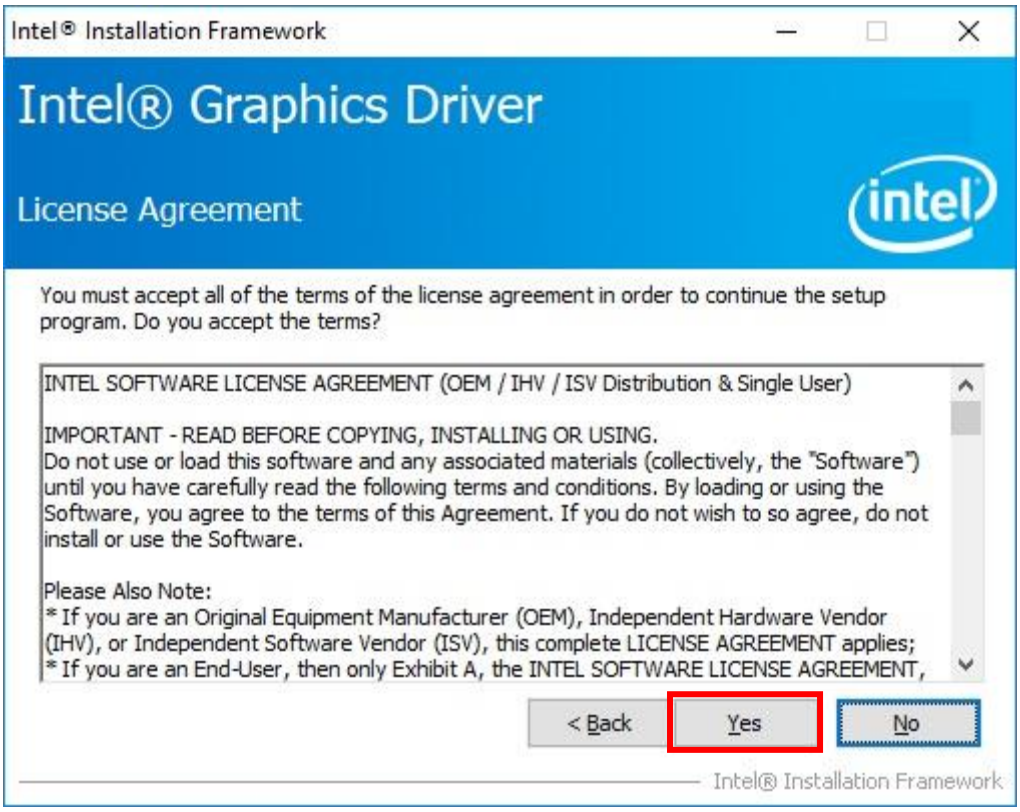
## 4.2 Graphics Driver Setup

4.2.1. Select " Graphics\4678\win64" folder and execute "Setup.exe"

4.2.2. Please follow the red blank.




Intel® Installation Framework
Intel® Graphics Driver
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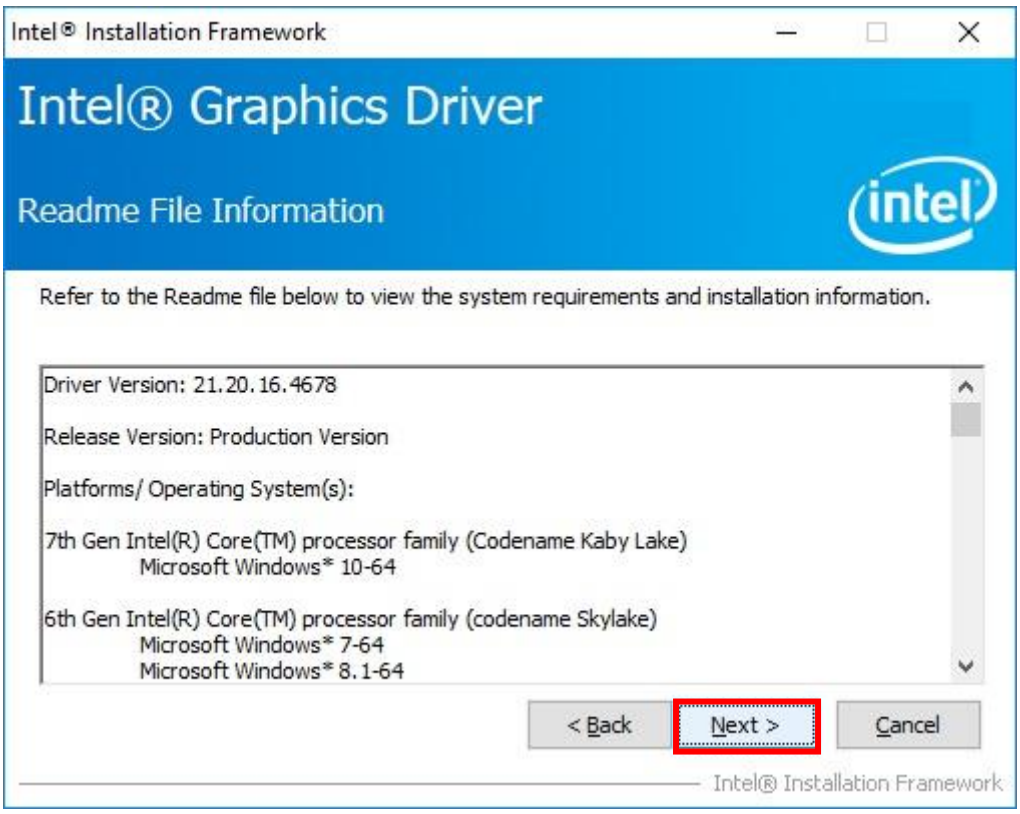
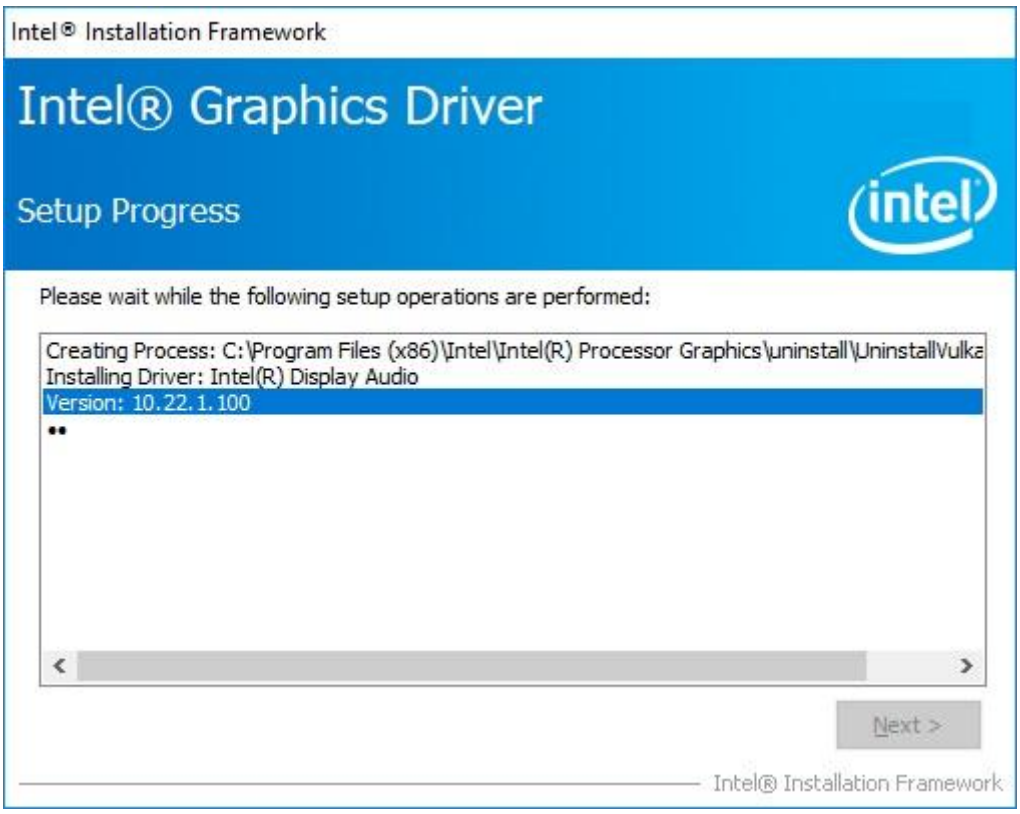
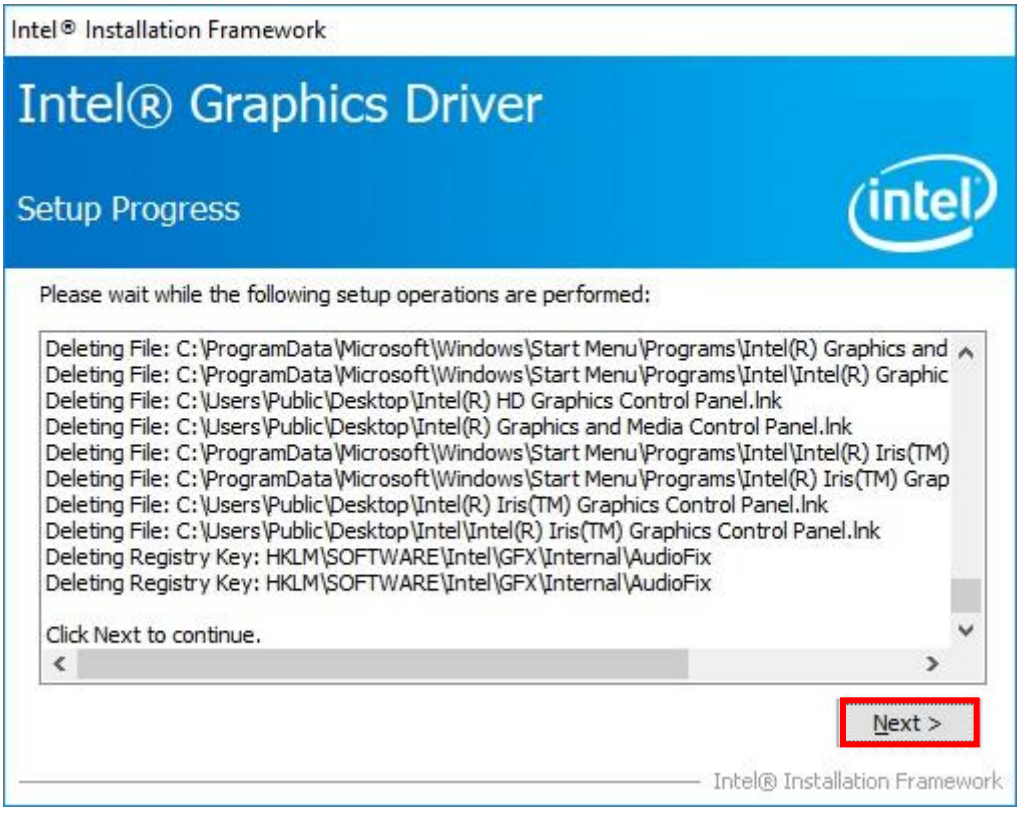
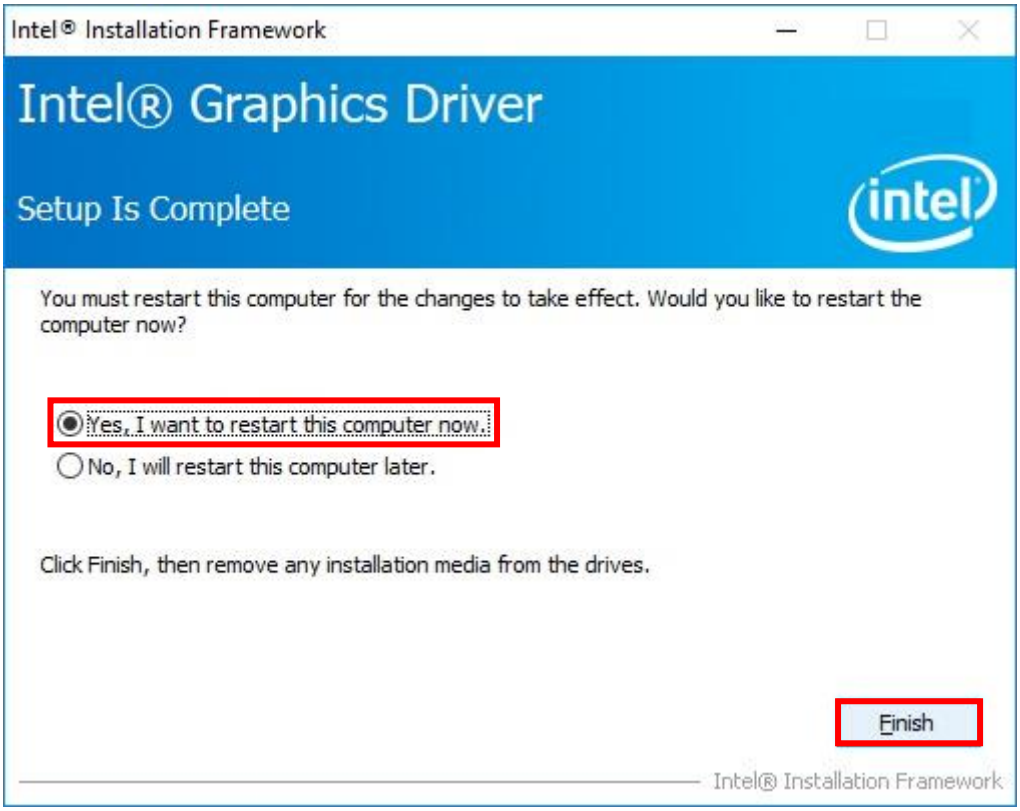
* If you are an End-User, then only Exhibit A, the INTEL SOFTWARE LICENSE AGREEMENT,
< Back
Yes
No
Intel® Installation Framework


Intel® Installation Framework
Intel® Graphics Driver
Readme File Information
Refer to the Readme file below to view the system requirements and installation information.
Driver Version: 21.20.16.4678
Release Version: Production Version
Platforms/ Operating System(s):
7th Gen Intel(R) Core(TM) processor family (Codename Kaby Lake)
Microsoft Windows* 10-64
6th Gen Intel(R) Core(TM) processor family (codename Skylake)
Microsoft Windows* 7-64
Microsoft Windows* 8.1-64
< Back
Next >
Cancel
Intel® Installation Framework


Intel® Installation Framework
Intel® Graphics Driver
Setup Progress
Please wait while the following setup operations are performed:
Creating Process: C:\Program Files (x86)\Intel\Intel(R) Processor Graphics\uninstall\UninstallVulka
Installing Driver: Intel(R) Display Audio
Version: 10.22.1.100
Next >
Intel® Installation Framework

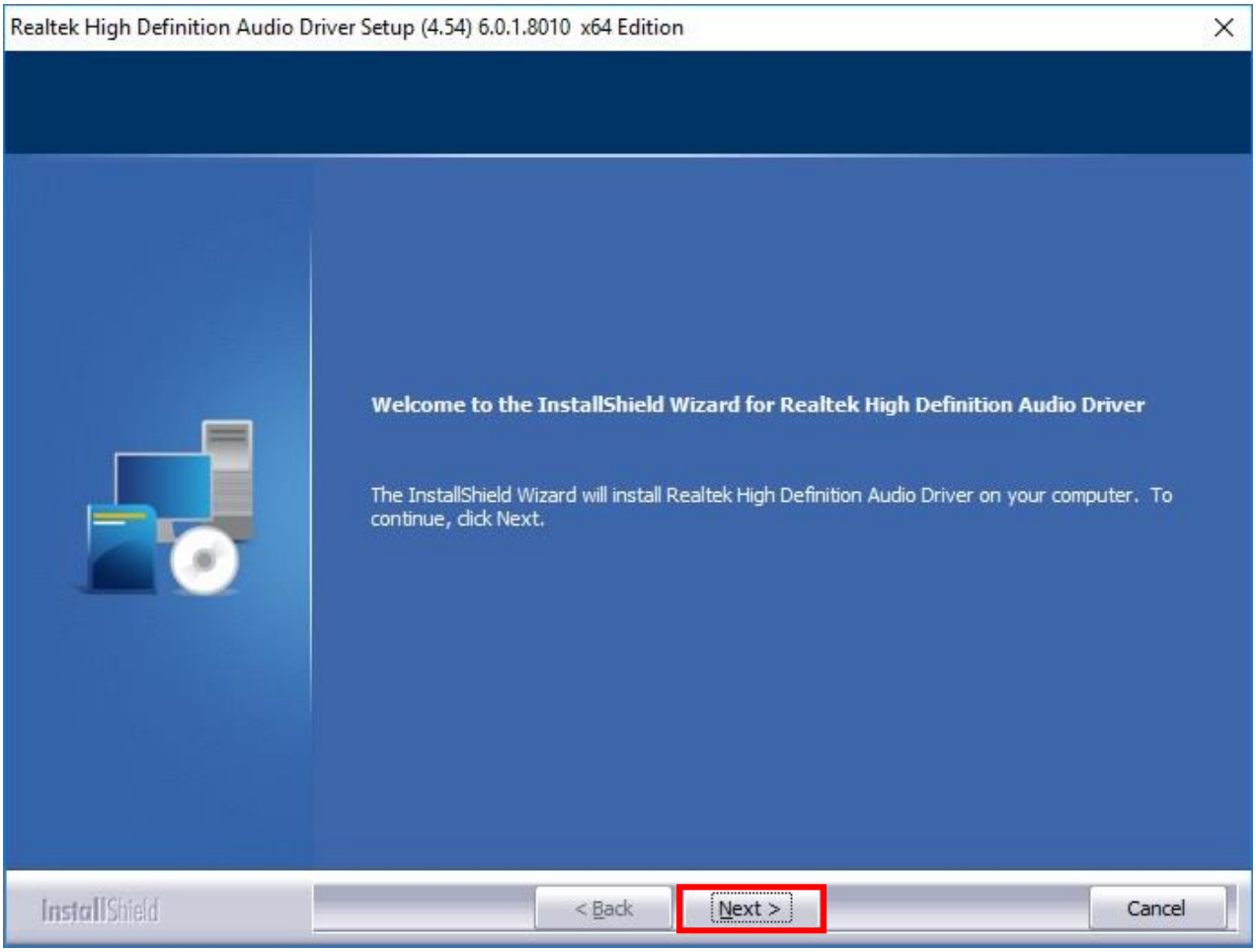

Intel® Installation Framework
Intel® Graphics Driver
Setup Progress
Please wait while the following setup operations are performed:
Deleting File: C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Intel(R) Graphics and
Deleting File: C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Intel\Intel(R) Graphic
Deleting File: C:\Users\Public\Desktop\Intel(R) HD Graphics Control Panel.lnk
Deleting File: C:\Users\Public\Desktop\Intel(R) Graphics and Media Control Panel.lnk
Deleting File: C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Intel\Intel(R) Iris(TM)
Deleting File: C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Intel(R) Iris(TM) Grap
Deleting File: C:\Users\Public\Desktop\Intel(R) Iris(TM) Graphics Control Panel.lnk
Deleting File: C:\Users\Public\Desktop\Intel\Intel(R) Iris(TM) Graphics Control Panel.lnk
Deleting Registry Key: HKLM\SOFTWARE\Intel\GFX\Internal\AudioFix
Deleting Registry Key: HKLM\SOFTWARE\Intel\GFX\Internal\AudioFix
Click Next to continue.
Next >
Intel® Installation Framework

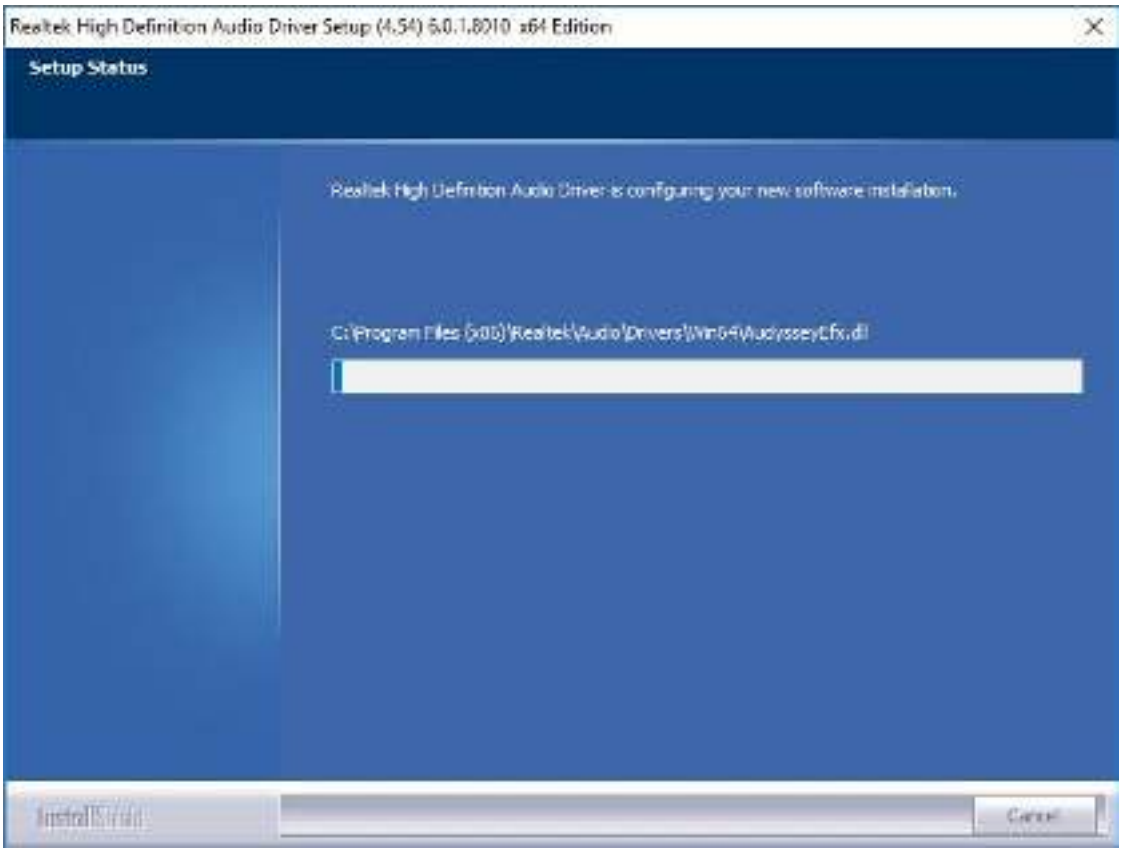


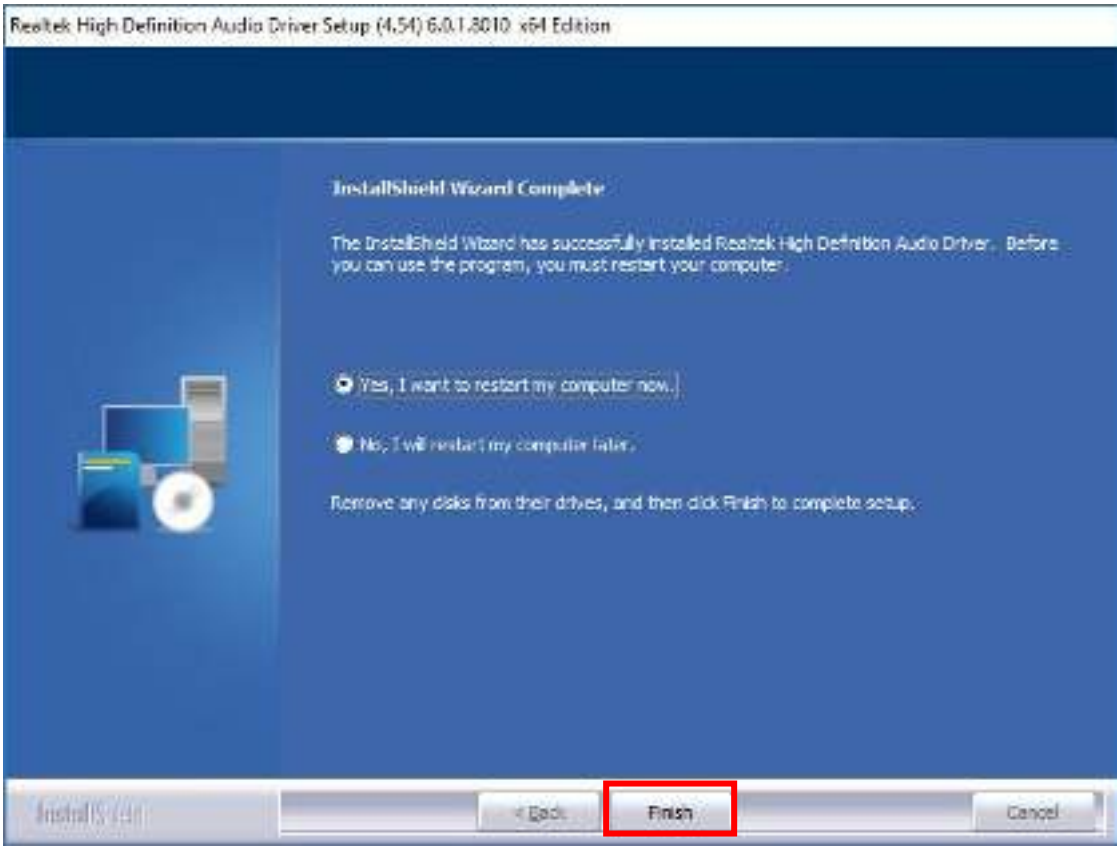

## 4.3 Audio Driver Setup

4.3.1. Select “Audio\8010_PG454_Win10_TH_RS_Win8.1_Win8_Win7_WHQL” folder and execute “Setup.exe”

4.3.2. Please follow the red blank.


Realtek High Definition Audio Driver Setup (4.54) 6.0.1.8010 x64 Edition
Welcome to the InstallShield Wizard for Realtek High Definition Audio Driver
The InstallShield Wizard will install Realtek High Definition Audio Driver on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

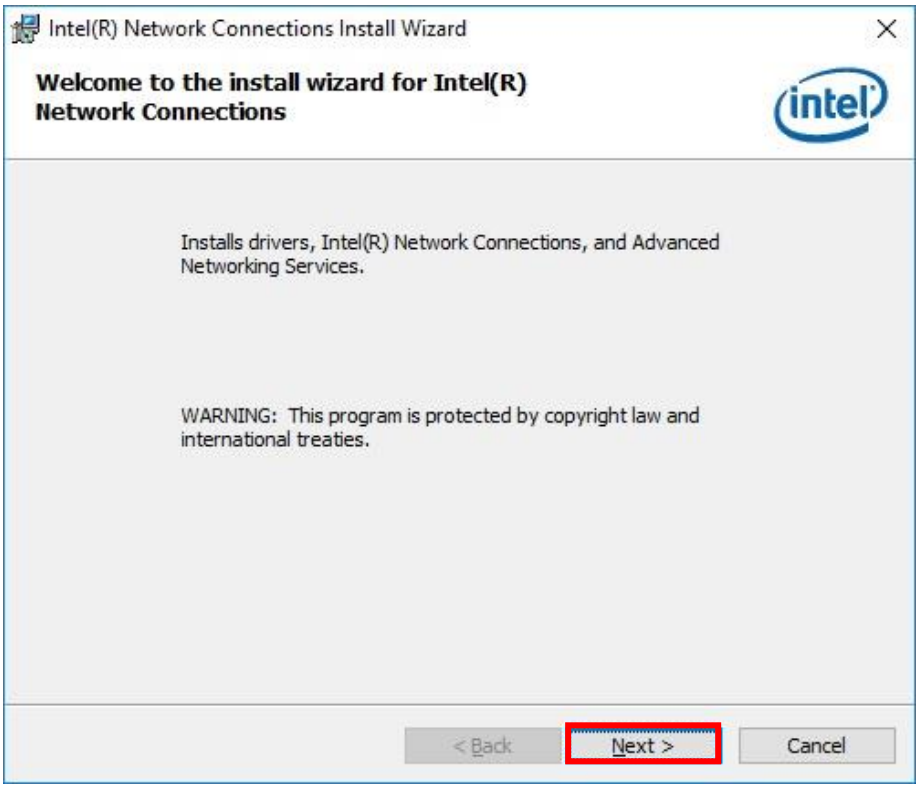

Realtek High Definition Audio Driver Setup (4.54) 6.0.1.8010 x64 Edition
Setup Status
Realtek High Definition Audio Driver is configuring your new software installation.
C:\Program Files (x86)\Realtek\Audio\Drivers\Win64\AudysseyEfx.dll
InstallShield
Cancel

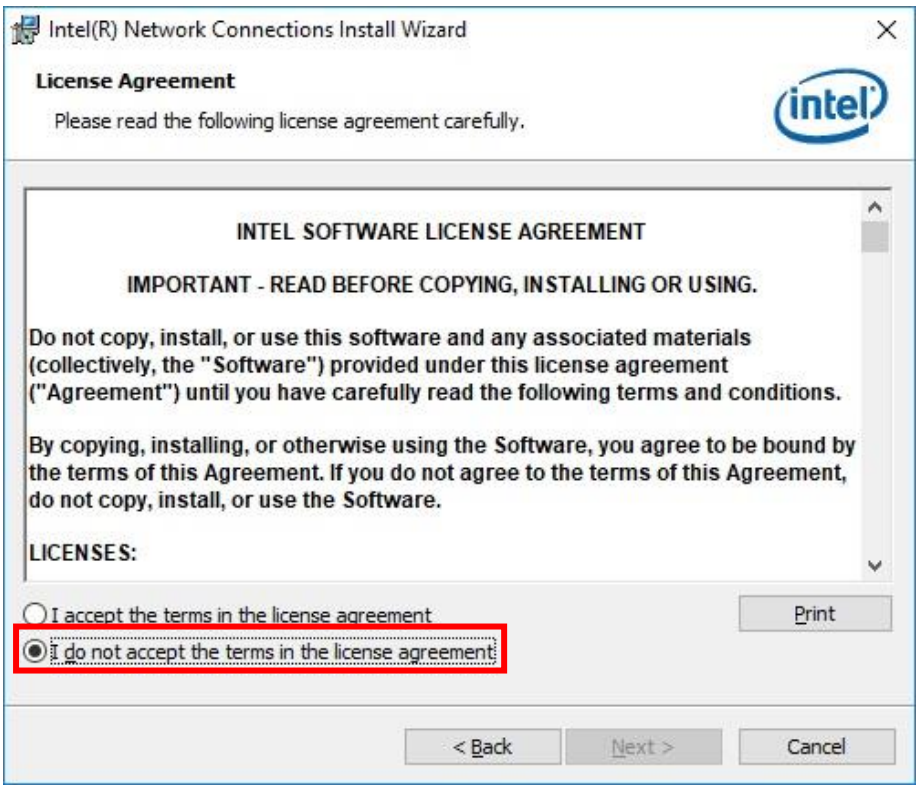

Realtek High Definition Audio Driver Setup (4.54) 6.0.1.8010 x64 Edition
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Realtek High Definition Audio Driver. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
InstallShield
< Back
Finish
Cancel

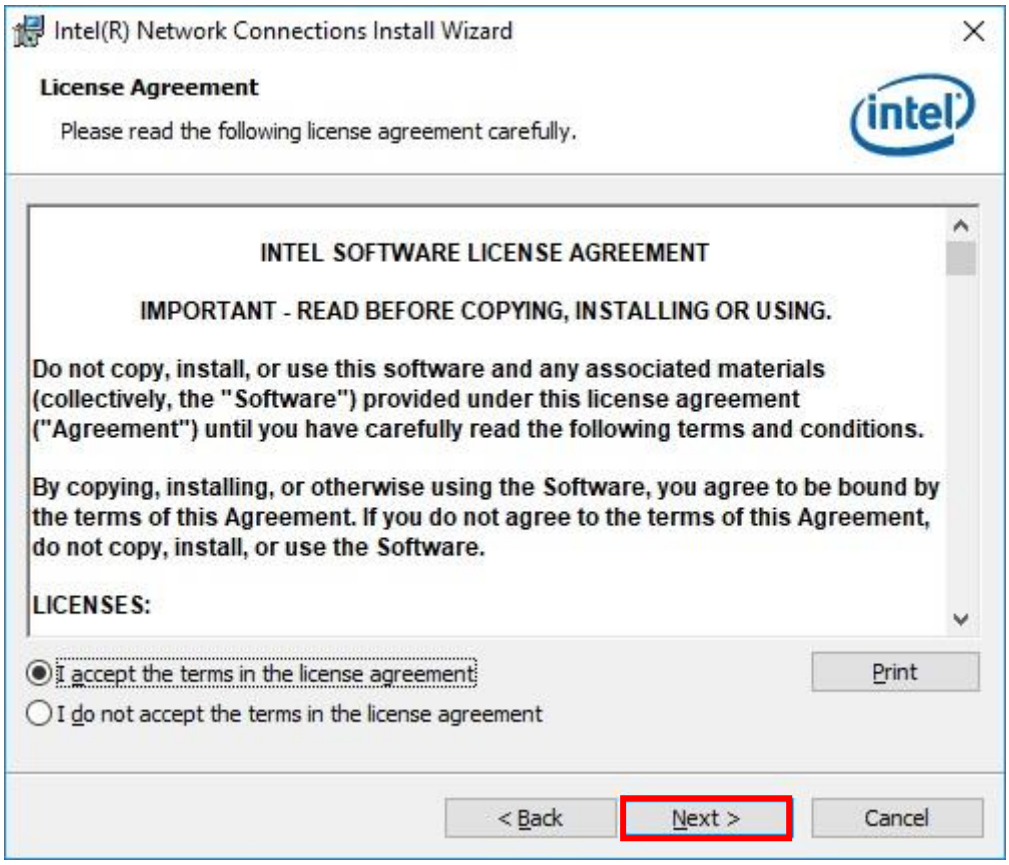
## 4.4 LAN Driver Setup

4.4.1. Go to LAN file and choose 32 bits or 64 bits ” Setup.exe”

4.4.2. Please follow the red blank.




Intel(R) Network Connections Install Wizard
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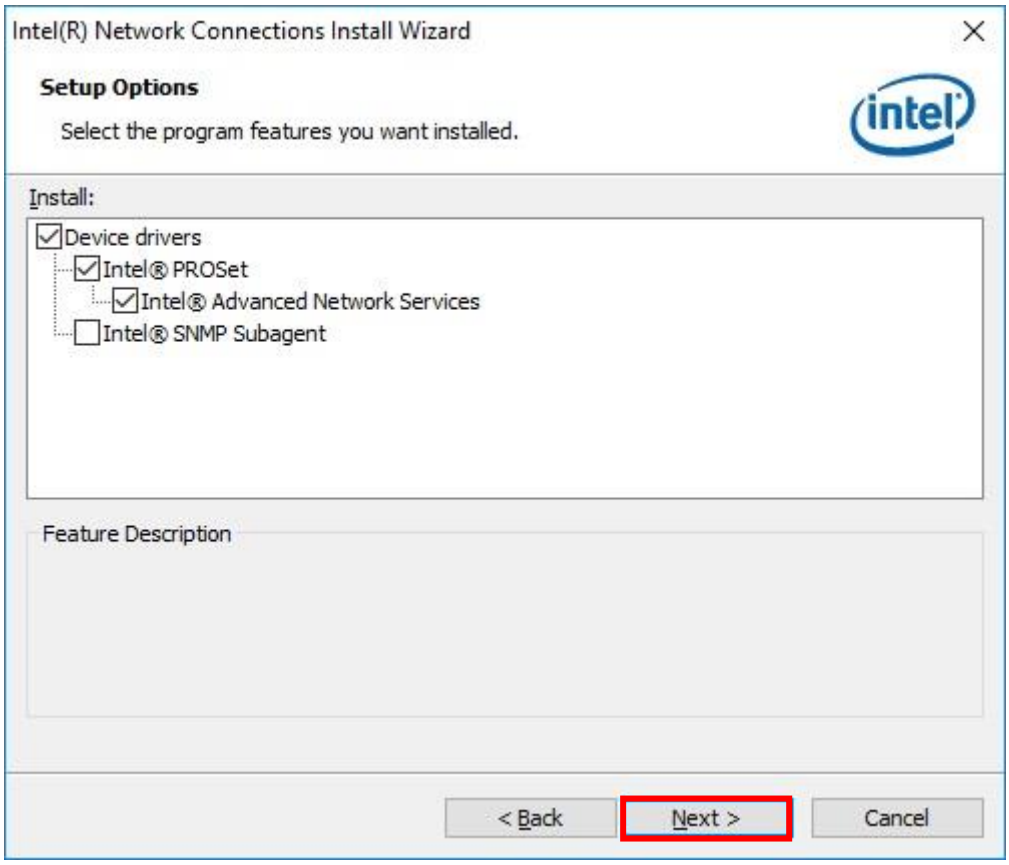
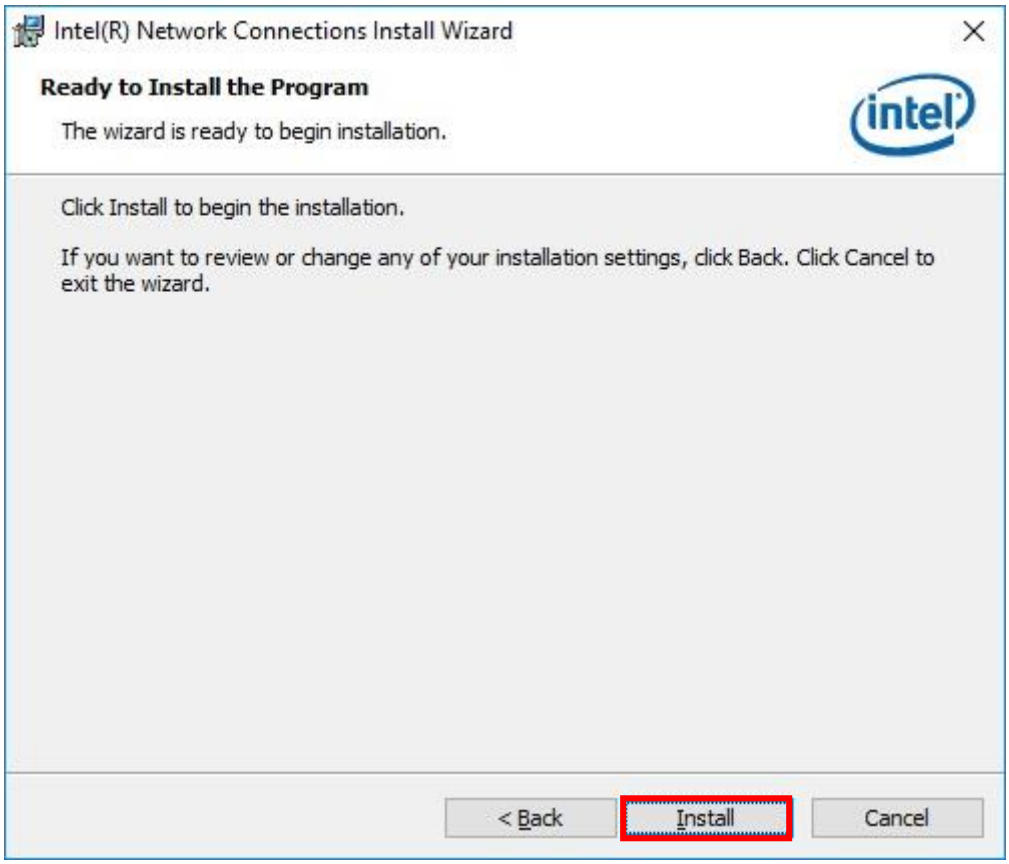
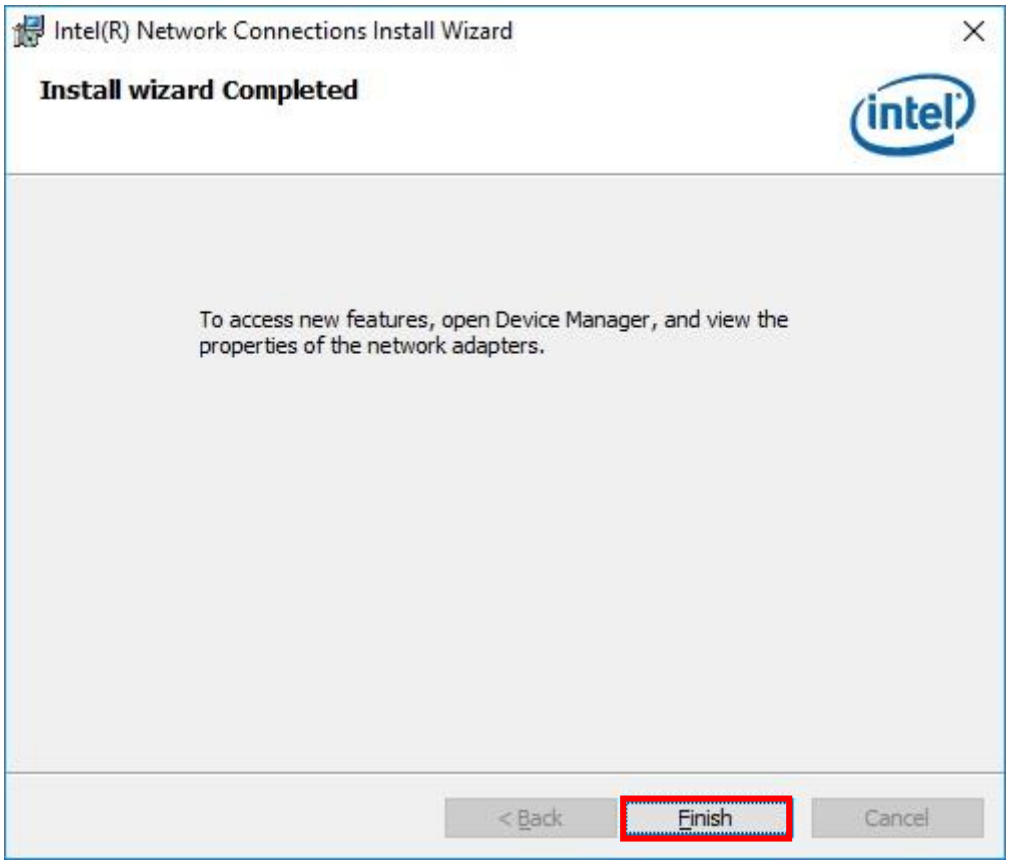
LICENSES:
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Print
< Back
Next >
Cancel


Intel(R) Network Connections Install Wizard
Setup Options
Select the program features you want installed.
Install:
Device drivers
Intel® PROSet
Intel® Advanced Network Services
Intel® SNMP Subagent
Feature Description
< Back
Next >
Cancel


Intel(R) Network Connections Install Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
< Back
Install
Cancel


Intel(R) Network Connections Install Wizard
Install wizard Completed
To access new features, open Device Manager, and view the properties of the network adapters.
< Back
Finish
Cancel

## 4.5 SIO Driver Setup

4.5.1. Go to “SIO\30.100.1713.2” and Choose “SetupSerialIO”

4.5.2. Please follow the red blank.

Setup
Intel® Serial IO
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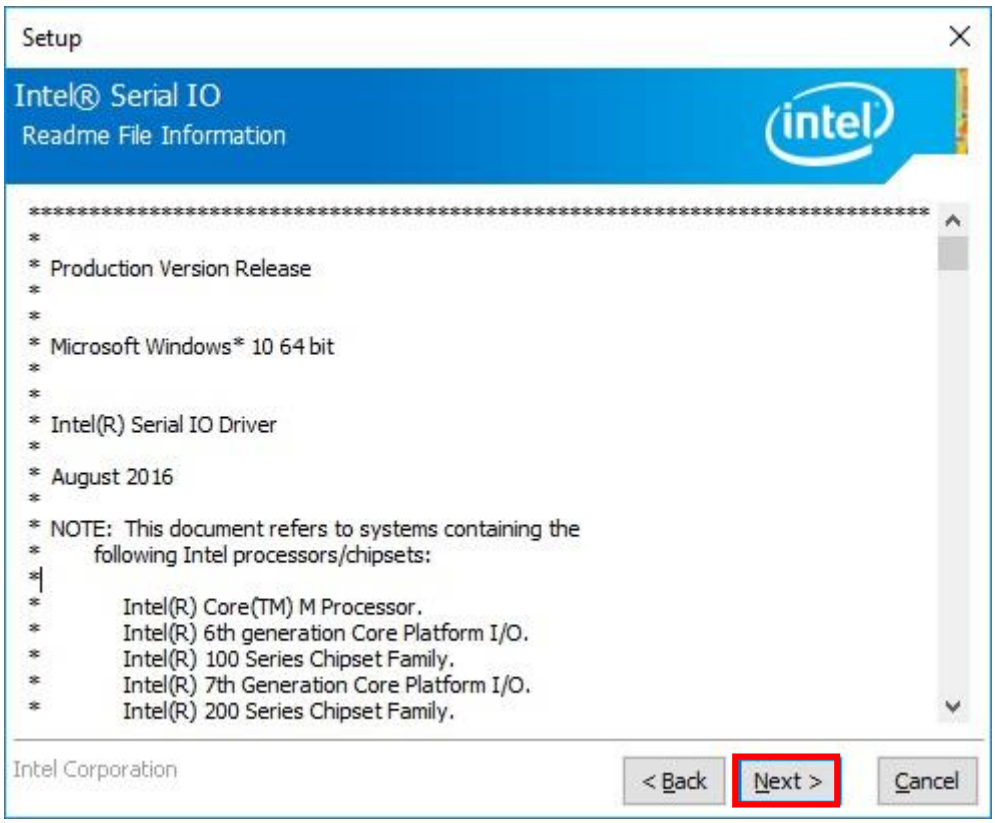
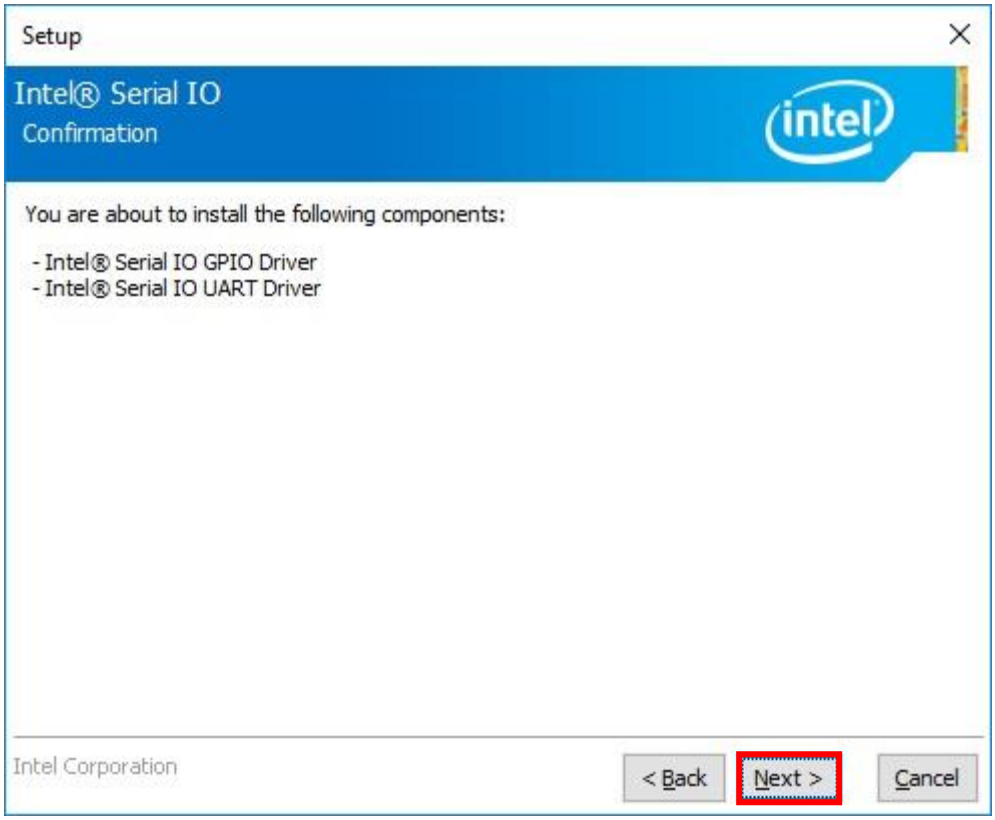
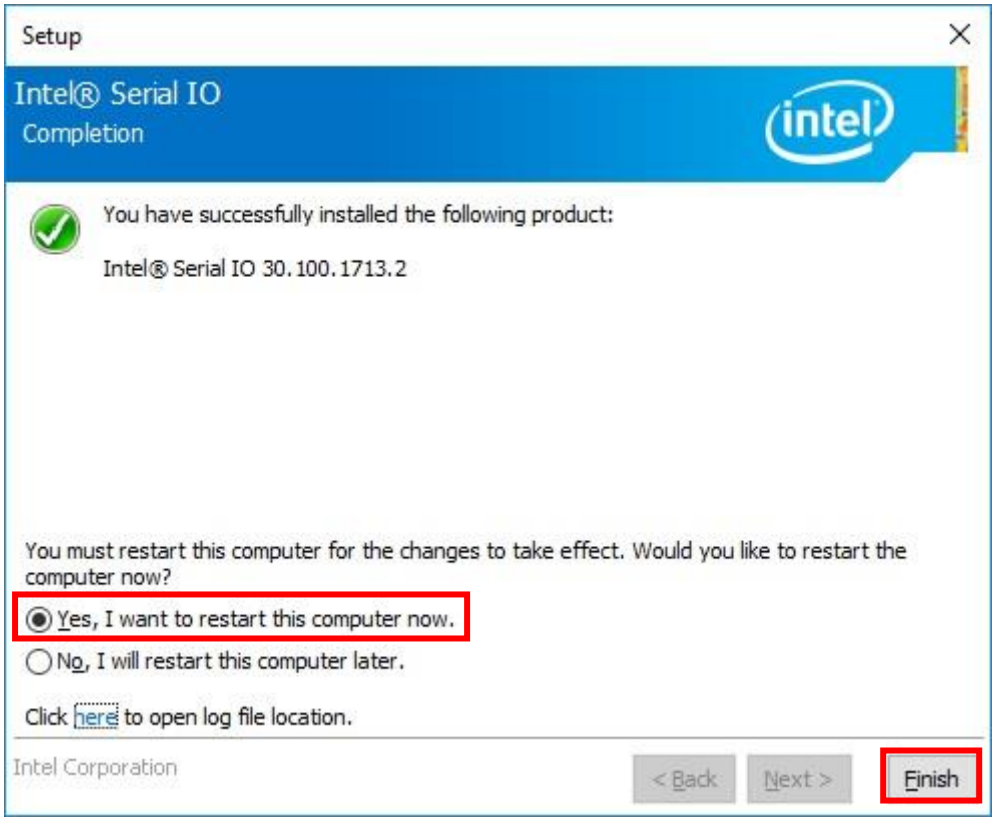
Intel Corporation
< Back
Next >
Cancel


Setup
Intel® Serial IO
Readme File Information
* Production Version Release
* Microsoft Windows* 10 64 bit
* Intel(R) Serial IO Driver
* August 2016
* NOTE: This document refers to systems containing the following Intel processors/chipsets:
* Intel(R) Core(TM) M Processor.
* Intel(R) 6th generation Core Platform I/O.
* Intel(R) 100 Series Chipset Family.
* Intel(R) 7th Generation Core Platform I/O.
* Intel(R) 200 Series Chipset Family.
Intel Corporation
< Back
Next >
Cancel

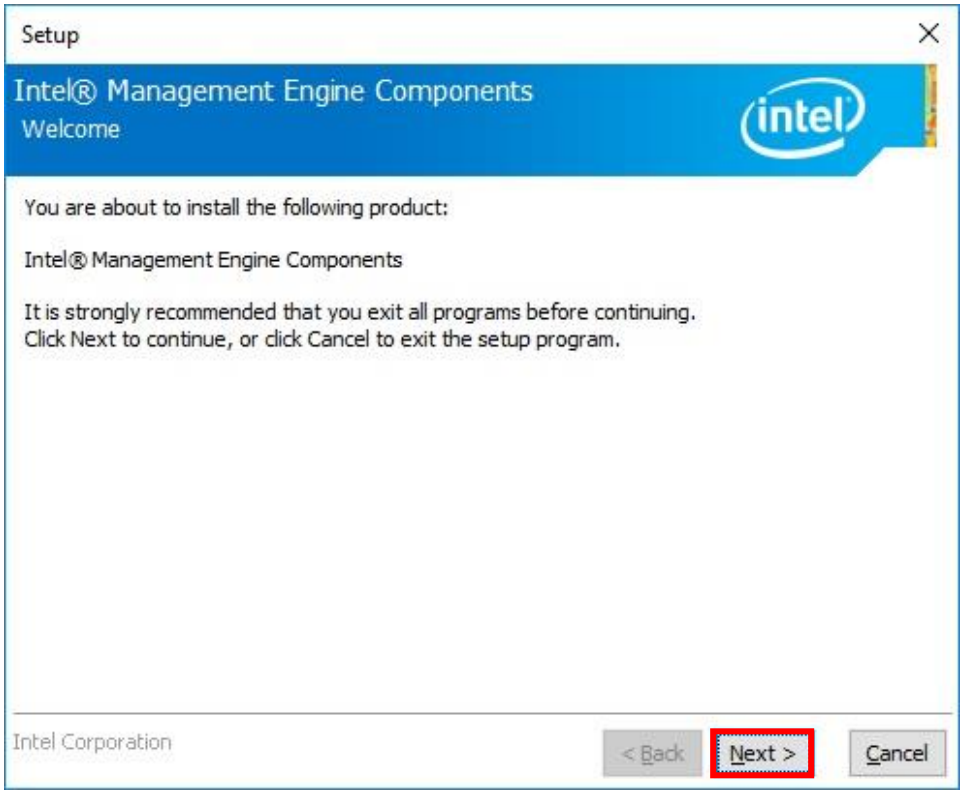

Setup
Intel® Serial IO
Confirmation
You are about to install the following components:
- Intel® Serial IO GPIO Driver
- Intel® Serial IO UART Driver
Intel Corporation
< Back
Next >
Cancel

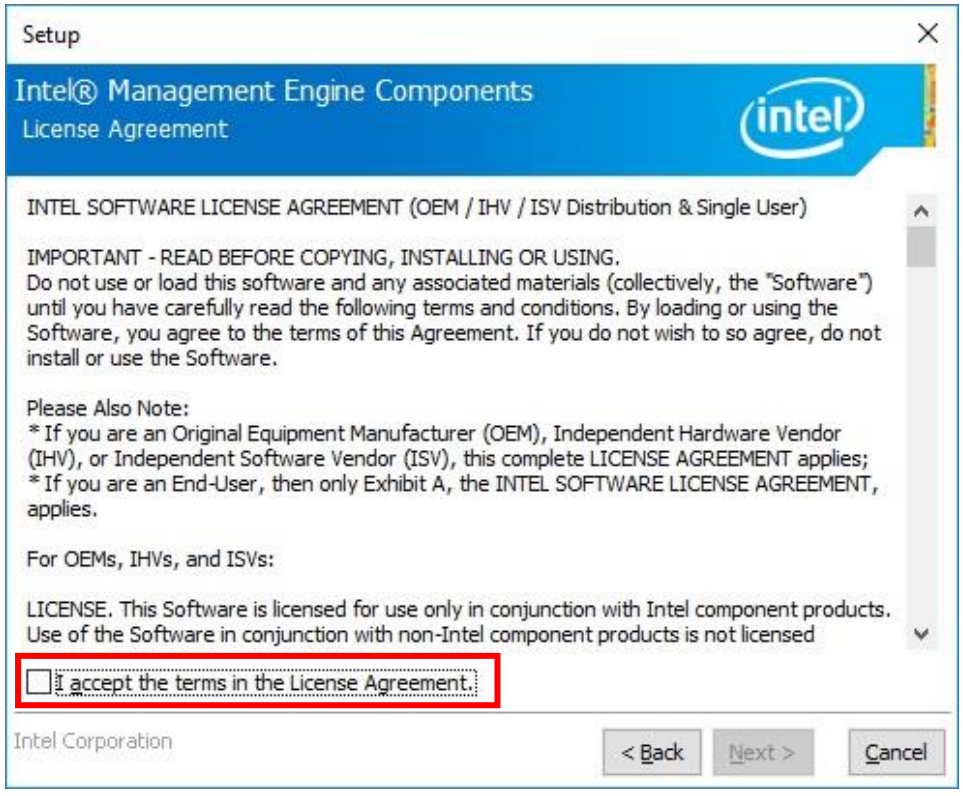

Setup
Intel® Serial IO
Completion
You have successfully installed the following product:
Intel® Serial IO 30.100.1713.2
You must restart this computer for the changes to take effect. Would you like to restart the computer now?
Yes, I want to restart this computer now.
No, I will restart this computer later.
Click here to open log file location.
Intel Corporation
< Back
Next >
Finish

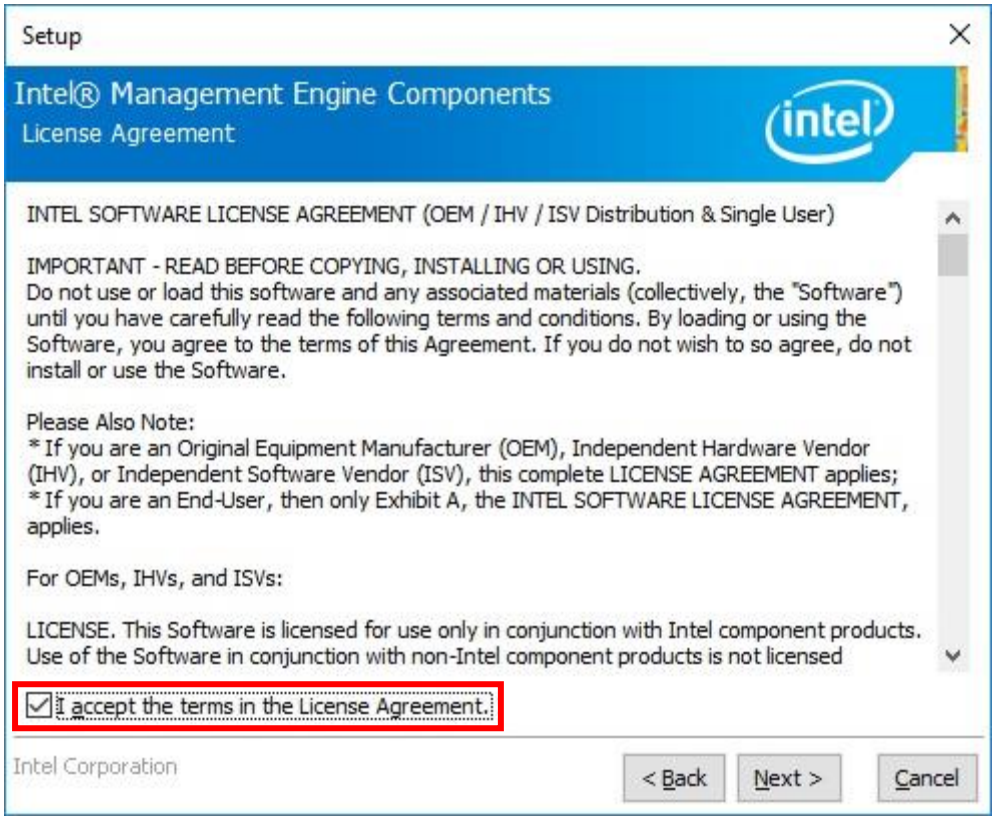
## 4.6 ME Driver Setup

4.6.1. Go to “AMT11.6\ME11.6_corp_11.6.50.1213”E ”and choose ”SetupME.exe”

4.6.2. Please follow the red blank.




Setup
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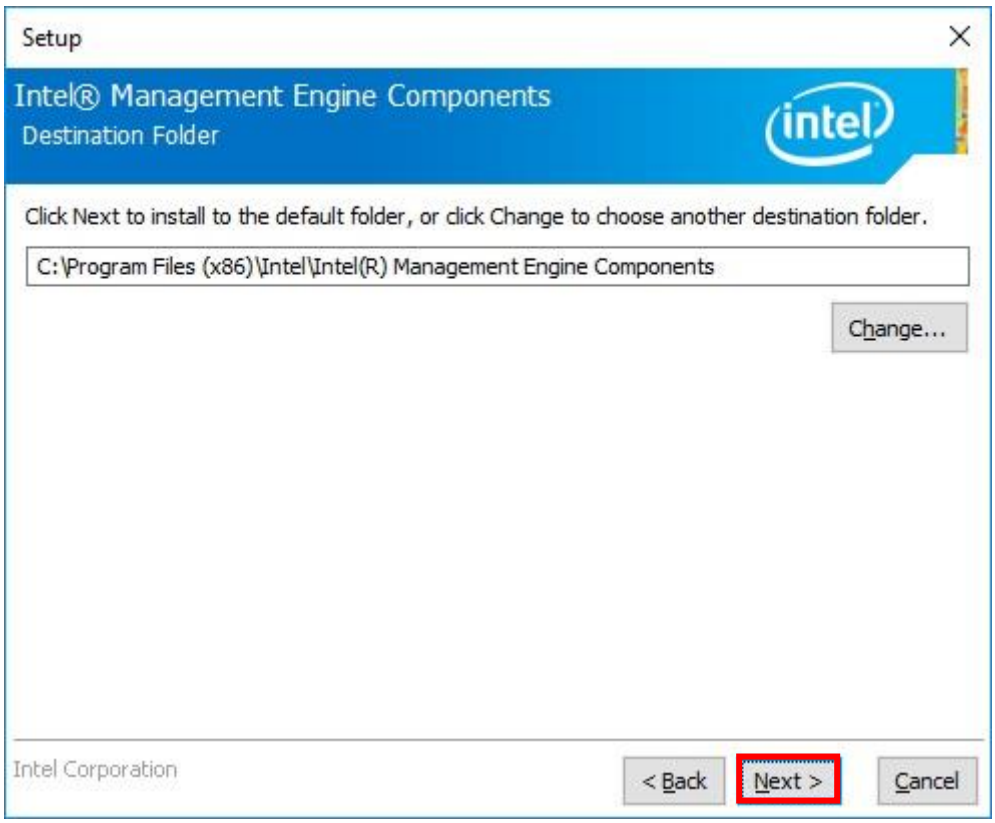
Setup
Intel® Management Engine Components
Destination Folder
Click Next to install to the default folder, or click Change to choose another destination folder.
C:\Program Files (x86)\Intel\Intel(R) Management Engine Components
Change...
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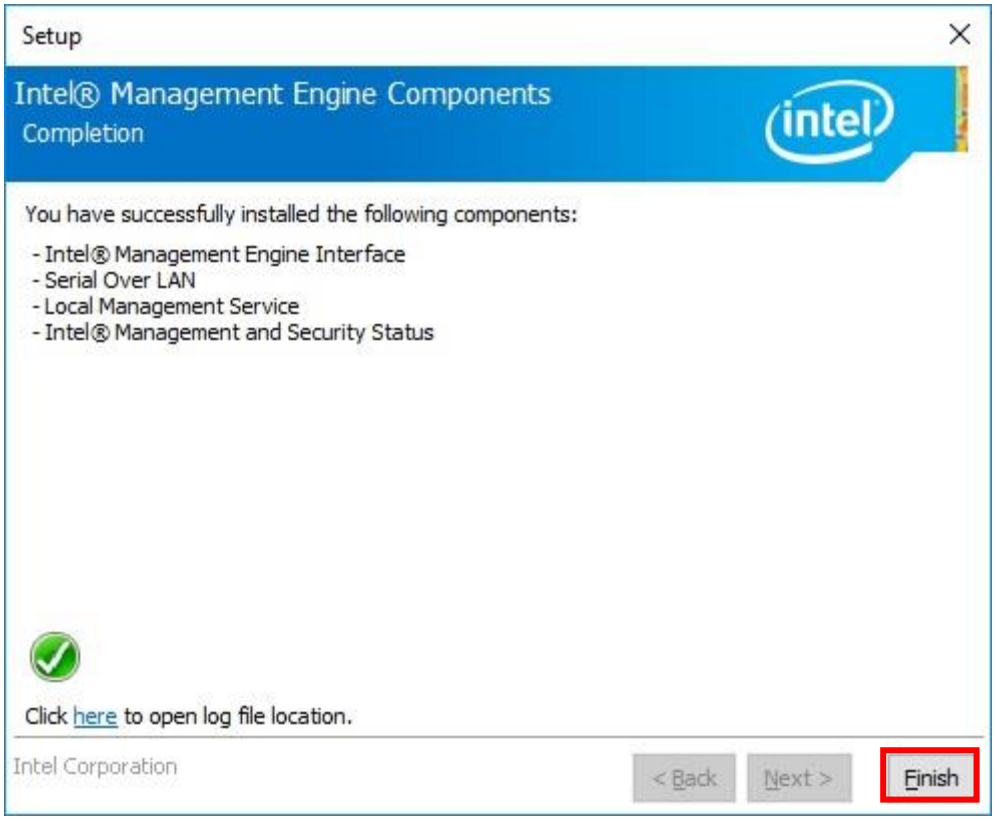
Setup
Intel® Management Engine Components
Completion
You have successfully installed the following components:
- Intel® Management Engine Interface
- Serial Over LAN
- Local Management Service
- Intel® Management and Security Status
Click here to open log file location.
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Finish