OFT-07WAD

7" Open Frame Tablet

Quick Reference Guide

2nd Ed – 09 November 2024

Part No. E201707WAA1R

Document Amendment History

Revision	Date	By	Comment
1st	August 2024	Avalue	Initial Release
2nd	November 2024	Avalue	Update Jumpers & Connectors settings

Declaration of Conformity

This device complies with part 15 FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class "a" digital device, pursuant to part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CE statement

The product(s) described in this manual complies with all application European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

Notice

This guide is designed for experienced users to setup the system within the shortest time. For detailed information, please always refer to the electronic user's manual.

Copyright Notice

Acknowledgements

Intel and Pentium are trademarks of Intel Corporation.

Microsoft Windows is registered trademark of Microsoft Corp.

All other product names or trademarks are properties of their respective owners.

Disclaimer

This manual is intended to be used as a practical and informative guide only and is subject

to change without notice. It does not represent a commitment on the part of Avalue. This product might include unintentional technical or typographical errors. Changes are periodically made to the information herein to correct such errors, and these changes are incorporated into new editions of the publication.

A Message to the Customer

Avalue Customer Services

Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

Technical Support and Assistance

1. Visit the Avalue website at https://www.avalue.com.tw/ where you can find the latest information about the product.
2. Contact your distributor or our technical support team or sales representative for technical support if you need additional assistance. Please have following information ready before you call:

- Product name and serial number
- Description of your peripheral attachments
- Description of your software (operating system, version, application software, etc.)
- A complete description of the problem
- The exact wording of any error messages

To receive the latest version of the user's manual; please visit our Web site at:
www.avalue.com

Product Warranty (Returns & Warranties policy)

1. Purpose

Avalue establishes the following maintenance specifications and operation procedures for providing the best quality of service and shortened repair time to our customers.

2. Warranty

2.1 Warranty Period

Avalue endeavors to offer customers the most comprehensive post-sales services and protection; besides offering a 2-year warranty for standard Avalue products, an extended warranty service can also be provided based on additional request from the customer. Within the warranty period, customers are entitled to receive comprehensive and prompt repair and warranty.

Standard products manufactured by Avalue are offered a 2-year warranty, from the date of delivery from Avalue. For ODM/OEM products manufactured by Avalue or PCBA with conformal coating, will follow up the define warranty of the agreement, otherwise will be offered 1-year warranty for ODM/OEM products but non-warranty for PCBA with conformal coating. For outsourcing parts kit by Avalue (ex: Motherboard, LCD touch panel, CPU, RAM, HDD) are offered a 6-month warranty, and Mobile/Tablet PC battery are offered a warranty of the half year, from the date of delivery by Avalue. Products before the mass production stage, i.e. engineering samples are not applied in this warranty or service policy. For extended warranty and cross-territory services, product defects resulting from design, production process or material are covered by the pre-set warranty period after the date of delivery from Avalue. For non-Avalue products, the product warranty and repair time shall be based on the service standards provided by the original manufacturer; in principle Avalue will provide these products a warranty service for no more than one year.

2.2 Maintenance services within the warranty period

In the case of Avalue product DOA (Defect-on-Arrival) when the customer finds any defect within 1 month after the delivery, Avalue will replace it with a new product in a soonest way. Except for custom products, once the customer is approved of a Cross-Shipment Agreement, which allows for delivery a new product to the customer before receiving the defective one, Avalue will immediately proceed with new product replacement for the said DOA case. On validation of the confirmed defect, Avalue is entitled to reserve the right whether to provide a new product for replacement. For the returned defective new product, it is necessary to verify that there shall be no bruise, alteration, scratch or marking to the appearance, and that none of the delivered accessories missing; otherwise, the customer will be requested to pay a processing fee. On the other hand, if the new product defect is resulting from incorrect configuration or erroneous use by the user instead of any problem of the hardware itself, the customer will also be requested to pay for relevant handling fees.

As for other conditions, Avalue will handle defects by way of repair. The customer will be requested to send the defective product to an Avalue authorized service center, and Avalue will return the repaired product back to the customer as soon as possible.

2.3 Ruling of an out-of-warranty defect

The following situations are not included in the warranty:

- The warranty period has expired.
- Product has been altered or its label of the serial number has been torn off.
- Product functionality issues resulting from improper use by the user, unauthorized dismantle or alteration, unfit operation environment, improper maintenance, accident or other causes. Avalue reserves the right for the ruling of the aforementioned situations.
- Product damage resulting from lightning, flood, earthquake or other calamities.
- The warranty rules of non-Avalue products and accessories shall be in accordance with standards set up by the original manufacturer. These products and accessories include RAM, HDD, FDD, CD-ROM, CPU, FAN, etc.
- Product upgrade request or test request submitted by the customer after expiration of the warranty.
- PCBA with conformal coating.
- Avalue semi-product and outsourced products without Avalue serial number.
- Products before the mass production stage, i.e. engineering samples.

3. Procedure for sending for repair

3.1 Attain a RMA number

A customer’s rejected product returned for repair shall have a RMA (Return Merchandise Authorization) number. Without a RMA number, Avalue will not provide any repair service for the rejected product, and the product will be returned to the customer at customer’s cost. Avalue will not issue any notice for the return of the product.

Each returned product for repair shall have a RMA number, which is simply the authorization of the return for repair; it is not a guarantee that the returned goods can be repaired or replaced. For applying for a RMA number, the customer may enter the eRMA webpage of Avalue https://myavalue.avalue.com.tw/ and log-in with an account number and a password authorized by Avalue. The system will then automatically issue a RMA number.

When applying for the RMA number, it is essential to fill in basic information of the customer and the product, together with detailed description of the problem encountered. If possible, avoid using ambiguous words such as “does not work” or “problematic”. Without a substantial description of the problem, it is hard to start the repair and will cause prolonged repair time. Lacking detailed statement of fault steps also makes the problem hard to be identified, sometimes resulting in second-time repairs.

In case the customer can't define the cause of problem, please contact Avalue application engineers. Sometimes when the problem can be resolved even before the customer sends back the product.
On the other hand, if the customer only returns the key parts to Avalue for repair, it is necessary that the serial number of the entire unit is given in the "Problem Description" field, so that warranty period can be ruled accordingly; or Avalue will handle the case as an Out-of- warranty case.

3.2 Return of faulty product for repair

It is recommended that the customer not to return the accessories (manual, connection cables, etc.) with the products for repair, devices such as CPU, DRAM, CF memory card, etc., shall also be removed from the faulty goods before return for repair. If these devices are relevant to described repair problems and necessary to be returned with the goods; please clearly indicate the items included in the eRMA application form. Avalue shall not be responsible for any item that is not itemized. Moreover, make sure the problem(s) are detailed in the "Problem Description" field.
In the list of delivery, the customer may fill-in a value which is lower than the actual value, to prevent customs levying a higher tax over the excessive value of the return goods. The customer shall be held responsible for extra fees caused by this. We strongly recommend that "Invoice for customs purpose only with no commercial value" be indicated on the delivery note. Also for the purpose of expedited handling, please printout the RMA number and put it in the carton, also indicate the number outside of the carton, with the recipient addressing to Avalue RMA Department.
When returning the defective product, please use an anti-static bag or ESD material to pack it properly. In case of improper packing resulting in damages in the transportation process, Avalue reserves the right to reject the un-repaired faulty good at the customer's costs. Furthermore, it is suggested that the faulty goods shall be sent via a door-to-door courier service. The customer shall be held responsible for any customs clearance fee or extra expenses if Air-Cargo is used for the delivery.
In case of a DOA situation of a new product, Avalue will be responsible for the product and the freight. If the faulty goods are within the warranty period, the sender will take responsibility for the freight. For an out-of-warranty case, the customer shall be responsible for the freight of both trips.

3.3 Maintenance Charge

Avalue will charge a moderate repair fee for the following conditions:

- The warranty period has expired.
- Product has been altered or its label of the serial number has been torn off.
- Product functionality issues resulting from improper use by the user, unauthorized dismantle or alteration, unfit operation environment, improper maintenance, accident

or other causes. Avalue reserves the right for the ruling of the aforementioned situations.

- Product damage resulting from lightning, flood, earthquake or other calamities.
- The warranty rules for non-Avalue products and accessories shall be in accordance with standards set up by the original supplier. These products and accessories include RAM, HDD, FDD, CD-ROM, CPU, FAN, etc.
- Product upgrade request or test request submitted by the customer after expiry of the warranty.
- PCBA with conformal coating.
- Avalue semi-product and outsourced products without Avalue serial number
- Products before the mass production stage, i.e. engineering samples.
- In case the products received are examined as NPF (No Problem Found) within the warranty period, the customer shall be responsible for the freight of both trips.
- Please contact your local distributor to examine in advance to prevent unnecessary freight cost.

For system failure of out-of-warranty products, Avalue will provide a quotation prior to repair service. When the customer applies for the cost, please refer to the Quotation number. In case the customer does not return the DOA product that has already been replaced by a new one, or the customer does not sign back the quotation of the out-of-warranty maintenance, Avalue reserves the right of whether or not to provide the repair service. In case the customer does not reply in 3 months, Avalue shall directly scrap or return the product back to customer at customer's cost without further notice to the customer.

3.4 Maintenance service of phased-out products

For servicing phased-out products, Avalue provides an extended period, starting the date of phase-out, as a guaranteed maintenance period of such products, for continuance of the maintenance service to meet customer's requirements. In case of unexpected factors causing Avalue to be unable to repair/replace a warranted but phased-out product, Avalue will, depending on the availability, upgrade the product (free of charge with continued warranty period as of the original product), or, give partial refund (based on the length of the remaining warranty period) to solve this kind of problem.

3.5 Maintenance Report

On completion of repair of a defective product, a Maintenance Report indicating the maintenance result and part(s) replaced (if any) will be sent to the customer together with the product. If the customer demands an additional maintenance analysis report, a service fee of various level will be charged depending on the warranty status. In case the analysis result shows that the defect attributes to Avalue's faulty design or process, the analysis fee will be exempted.

4. Service Products

Avalue provides service products to manage with different customer needs. Should you have any need, please consult to Avalue Sales Department.

Defect Analysis Report (DAR)

Avalue provides DAR (Defect Analysis Report) services aiming to elevating customer satisfaction. A DAR includes defect cause identification/verification/suggestion and improvement precautions, with instructions on correct usage for the avoidance of any reoccurrence.

Upgrade Service

Avalue is capable to provide system upgrade service for customization requirements. This upgrade service is applicable for main parts, such as CPU, memory, HDD, SSD, storage devices; also replacements motherboards of systems. Please contact Avalue sales for details to evaluate the possibility of system upgrade service and obtain information of lead time and price.

Safety Instructions

Safety Precautions

Before installing and using this device, please note the following precautions.

1. Read these safety instructions carefully.
2. Keep this User's Manual for future reference.
3. Disconnected this equipment from any AC outlet before cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
8. Use a power cord that has been approved for using with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to

avoid damage by transient overvoltage.

12. Never pour any liquid into an opening. This may cause fire or electrical shock.

13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel. If one of the following situations arises, get the equipment checked by service personnel:

- The power cord or plug is damaged.
- Liquid has penetrated into the equipment.
- The equipment has been exposed to moisture.
- The equipment does not work well, or you cannot get it work according to the user's manual.
- The equipment has been dropped and damaged.
- The equipment has obvious signs of breakage.

14. CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.

15. Equipment intended only for use in a RESTRICTED ACCESS AREA.

Explanation of Graphical Symbols

	Warning	A WARNING statement provides important information about a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	Caution	A CAUTION statement provides important information about a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient or in damage to the equipment or other property.
	Note	A NOTE provides additional information intended to avoid inconveniences during operation.
		Direct current.
		Alternating current
		Stand-by, Power on
		FCC Certification
		CE Certification
		Follow the national requirements for disposal of equipment.
		Stacking layer limit
		This side up

		Fragile Packaging
		Beware of water damage, moisture-proof
		Carton recyclable
		Handle with care
		Follow operating instructions of consult instructions for use.

Disposing of your old product

WARNING:
There is danger of explosion if the battery is mishandled or incorretly replaced. Replace only with the same type of battery. Do not disassemble it or attempt to recharge it outside the system. Do not crush, puncture, dispose of in fire, short the external contacts, or expose to water or ther liquids. Dispose of the battery in accordance with local regulations and instructions from your service provider.

CAUTION:
- Lithium Battery Caution: Danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type. Dispose batteries according to manufacturer's instructions.
- Disposal of a BATTERY into fire or a hot oven, or mechanically crushing or cutting of a BATTERY, that can result in an EXPLOSION
- Leaving a BATTERY in an extremely high temperature surrounding environment that can result in an EXPLOSION or the leakage of flammable liquid or gas.
- A BATTERY subjected to extremely low air pressure that may result in an EXPLOSION or the leakage of flammable liquid or gas.

Mise en garde!
AVERTISSEMENT : Il existe un risque d'explosion si la batterie est mal manipulée ou remplacée de manière incorrecte. Remplacez uniquement par le même type de batterie. Ne le démontez pas et ne tentez pas de le recharger en dehors du système. Ne pas écraser, percer, jeter au feu, court-circuiter les contacts externes ou exposer à l'eau ou à d'autres liquides. Jetez la batterie conformément aux réglementations locales et aux instructions de votre fournisseur de services.

MISE EN GARDE:
- Pile au lithium Attention : Danger d'explosion si la pile n'est pas remplacée correctement. Remplacer uniquement par un type identique ou équivalent. Jetez les piles conformément aux instructions du fabricant.
- L'élimination d'une BATTERIE dans le feu ou dans un four chaud, ou l'écrasement ou le découpage mécanique d'une BATTERIE, pouvant entraîner une EXPLOSION
- Laisser une BATTERIE dans un environnement à température extrêmement élevée pouvant entraîner une EXPLOSION ou une fuite de liquide ou de gaz inflammable.
- UNE BATTERIE soumise à une pression d'air extrêmement basse pouvant entraîner une EXPLOSION ou une fuite de liquide ou de gaz inflammable.

Content

1. Getting Started

1.1 Safety Precautions

Warning!

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

1.2 Packing List

Before installation, please ensure all the items listed in the following table are included in the package.

Item	Description	Q'ty
1	OFT-07WAD	1
1	power cord, AC/DC adapter 12V/5A 90 Screw Type (Option)	1

If any of the above items is damaged or missing, contact your retailer.

Purposes and Applications

OFT-07WAD is used the Intel® IOTG Alder Lake-N Processor, which has stronger performance and lower power consumption. it also inherits from OFT-series strength, Modularized, Flexible Expansion, Reliability and Stability.
OFT series have been passed stricter vibration and shock testing. It can be used on extreme environment like manufacture or factory. Typical applications are HMI, Automation, POI, KIOSK.

Unpacking

Note:
If any of the components listed in the checklist below are missing, do not proceed with the installation. Contact the Avalue reseller or vendor the product was purchased from or contact an Avalue sales representative directly by sending an email to sales@avalue.com.tw.

To unpack the flat bezel panel PC, follow the steps below.
WARNING!
The front side LCD screen has a protective plastic cover stuck to the screen. Only remove the plastic cover after the fiat bezel panel PC has been properly installed. This ensures the screen is protected during the installation process.

Step 1: Carefully cut the tape sealing the box. Only cut deep enough to break the tape.
Step 2: Open the outside box.
Step 3: Carefully cut the tape sealing the box. Only cut deep enough to break the tape.
Step 4: Open the inside box.
Step 5: Lift the panel PC out of the boxes.
Step 6: Remove the peripheral parts box from the main box.

1.3 System Specifications

System Information	
SBC	JRX12
Processor	Intel® IOTG Alder Lake-N Processor 6W N50
CPU Cooler (Type)	By mechanical design
System Memory	Onboard 8GB LPDDR5 (16GB Optional)
Microphone	A-MIC in (1x3P, pitch 2.0 wafer ; 90D ,the same as OFT-xxW04
Speaker	1x4P, pitch 2.0 wafer; 90D
Camera	2x5P, pitch 2.0 wafer ; 90D ; USB camera with DMIC
Wireless LAN	802.11a/b/g/n/ac/ax MIMO 2x2, BL-M8852BP4
Bluetooth	BT5.2, BL-M8852BP4
Operating System	Windows11 2024 21H2 / Windows10 2021 21H2 LTSC / Ubuntu 24.04 compatible
Micro SD slot	Micro SD slot
Storage	
Other Storage Device	Onboard 64GB eMMC (32G/128G optional)
Panel	
LCD Panel	2 SKU 1. KD070D50-31NI-A020 (MIPI) 600x1024, 350 Nits 2. KD070D30-31NB-A030 (MIPI) 800x1280, 350 Nits Only Windows OS is supported. The 800 x 1280 resolution is not compatible with Linux due to an issue with the Intel MIPI VGA driver. This issue is unresolved at present, and Intel has indicated that the driver-related problem must be addressed by them. We will continue to monitor the situation.
Touch Screen	WGJ070993A-GDA-A1_600x1024 WGJ0701012A-GDA-A1_800x1280
Touch Controller	ILI 2132
Rear I/O	
Head phone jack	1x TRS, LEFT/RIGHT/GROUND
HDMI	1x HDMI 2.0a Type A up to 4096x2304@60fps
USB Port	2xUSB 3.0 Type A
LAN Port	RJ-45 10/100/1000
Physical button	1 x Power button
DC in Connector	1 x 12V~24V wide range x 5A ; lock jack

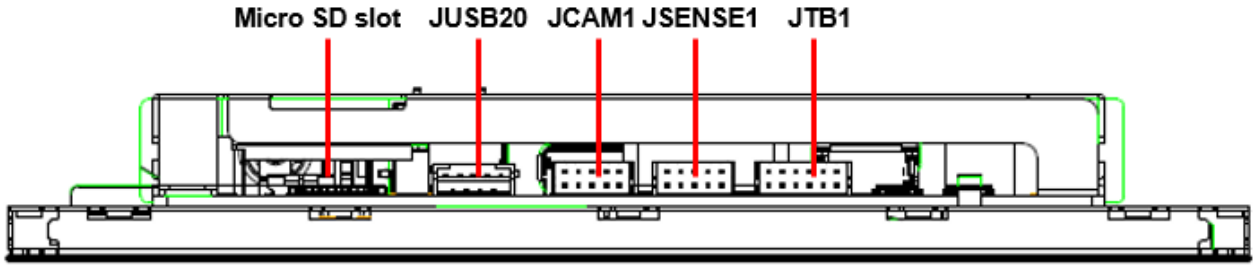
	AT / ATX optional by jumper
Others	Micro SD slot
Onboard I/O	
DC-in wafer	2x2P, pitch 2.0 wafer ; 90D
Display interface	1 x MIPI-DSI (for K&D, KD101N89-40NI-B042)
M.2 Socket	M.2 Key-E 2230 for WIFI&BT Module (PCIE V2.1 Gen2 / USB2.0)
SD Socket	1 x Micro SD slot
USB2.0	1x5P, pitch 2.0 wafer ; 90D
USB2.0 + DMIC	2x5P, pitch 2.0 wafer ; 90D ; USB camera with DMIC
i2C	2x5P, pitch 2.0 wafer ; 90D
Touch Key	2x6P, pitch 2.0 pin wafer ; 90D
Touch Panel	i2C, FFC type ; 90D
	1xUSB, FFC type ; 90D
COM port	1 x RS-485/232(Default) – 2wires with 5V ; 2x5P pitch 2.0 wafer (RS232/485 by BIOS setting and connector)
Speaker	stereo 2Wx2/4ohm ; 1x4P, pitch 2.0 wafer; 90D
RTC	1 x CR-2032 w/ cable 107mm (220mAh/3.0V) -20°C~70°C 1x2P, pitch 1.25 pin wafer ; 90D
GPIO extender	2 x 10P pitch 1.0 wafer 90D
A-MIC	1x3P, pitch 2.0 wafer ; 90D
LED	1xSMT LED (for system power), color is green and near the edge of the board
Others	Thermal solution (for 6W CPU, N50/N200/x7211E)
Power Requirement	
DC Input Voltage	+12~24V DC input, 5A
Power Mode	AT / ATX optional by jumper
Power Button	1x Power key
Power Connector Type	1 x 12V~24V wide range x 5A ; lock jack
Power Adapter	ACC-ADP-060N-08R
Mechanical	
Dimension	183.1x115.85x24.3 mm
Weight	520g
Thermal Solution	Fanless
Reliability	
Vibration Test	Random Vibration Operation 1. Test PSD : 0.00454G²/Hz , 1.5 Grms 2. System condition : operation mode 3. Test frequency : 5~500 Hz 4. Test axis : X,Y and Z axis

	5. Test time : 30 minutes per each axis 6. IEC60068-2-64 Test Fh 7. Storage : mSATA Sine Vibration test (Non-operation) 1. Test Acceleration : 2G 2. Test frequency : 5~500 Hz 3. Sweep：1 Oct/ per one minute. (logarithmic) 4. Test Axis : X,Y and Z axis 5. Test time :30 min. each axis 6. 6 System condition : Non-Operating mode 7. Reference IEC 60068-2-6 Testing procedures Package Vibration Test: 1. Test PSD : 0.026G²/Hz , 2.16 Grms 2. Test frequency : 5~500 Hz 3. Test axis : X,Y and Z axis 4. Test time : 30 minutes per each axis 5. IEC 60068-2-64 Test Fh
Mechanical Shock Test	1. Wave from : Half Sine wave 2. Acceleration Rate : 10g for operation mode 3. Duration Time : 11ms 4. No. of shock : Z axis 300 times 5. Test Axis : Z axis 6. Operation mode 7. Reference IEC 60068-2-27 testing procedures Test Eb : Shock Test
Drop Test	Package drop test Reference ISTA 2A, Method : IEC-60068-2-32 Test:Ed Test Ea : Drop Test 1. Test phase : One corner, three edges, six faces 2. Test high : 96.5cm 3. Package weight : 4.4 kg Test drawing
Operating Temperature	0°C ~ 40°C
Operating Humidity	40°C @ 95% relative humidity, non-condensing
Storage Temperature	-20°C ~ 60°C

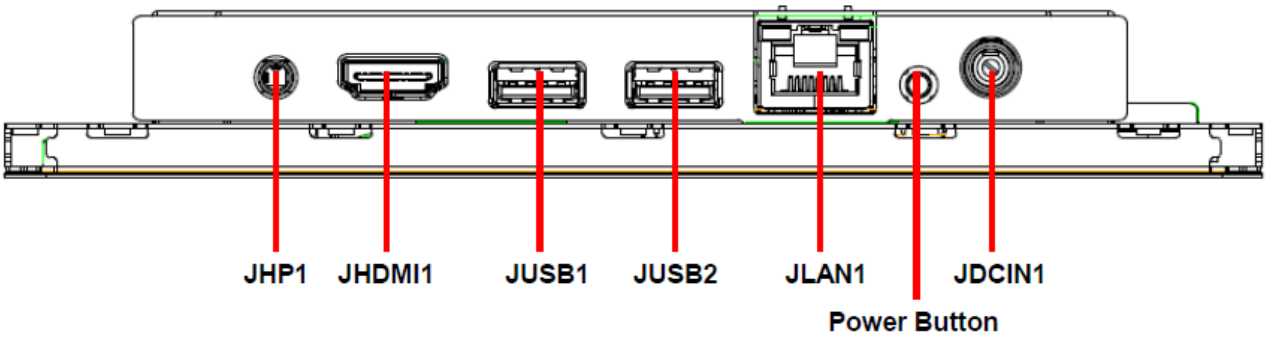
Note: Specifications are subject to change without notice.

1.4 System Overview

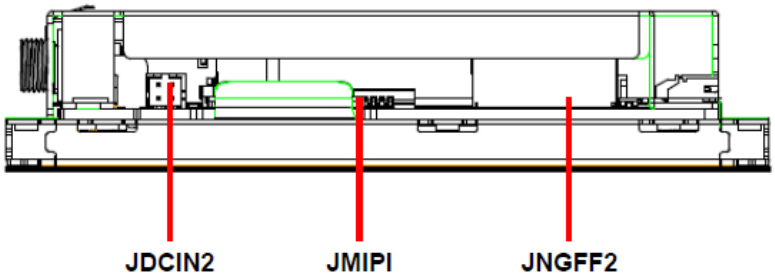
1.4.1 Top View



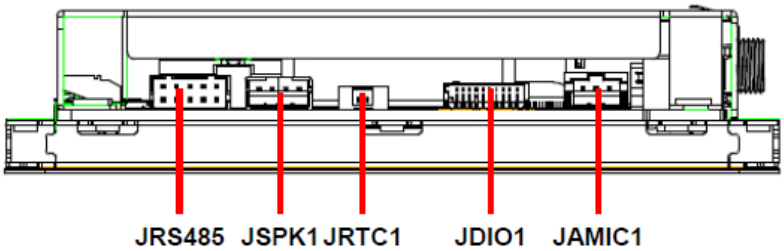
1.4.2 Bottom View



1.4.3 Left View



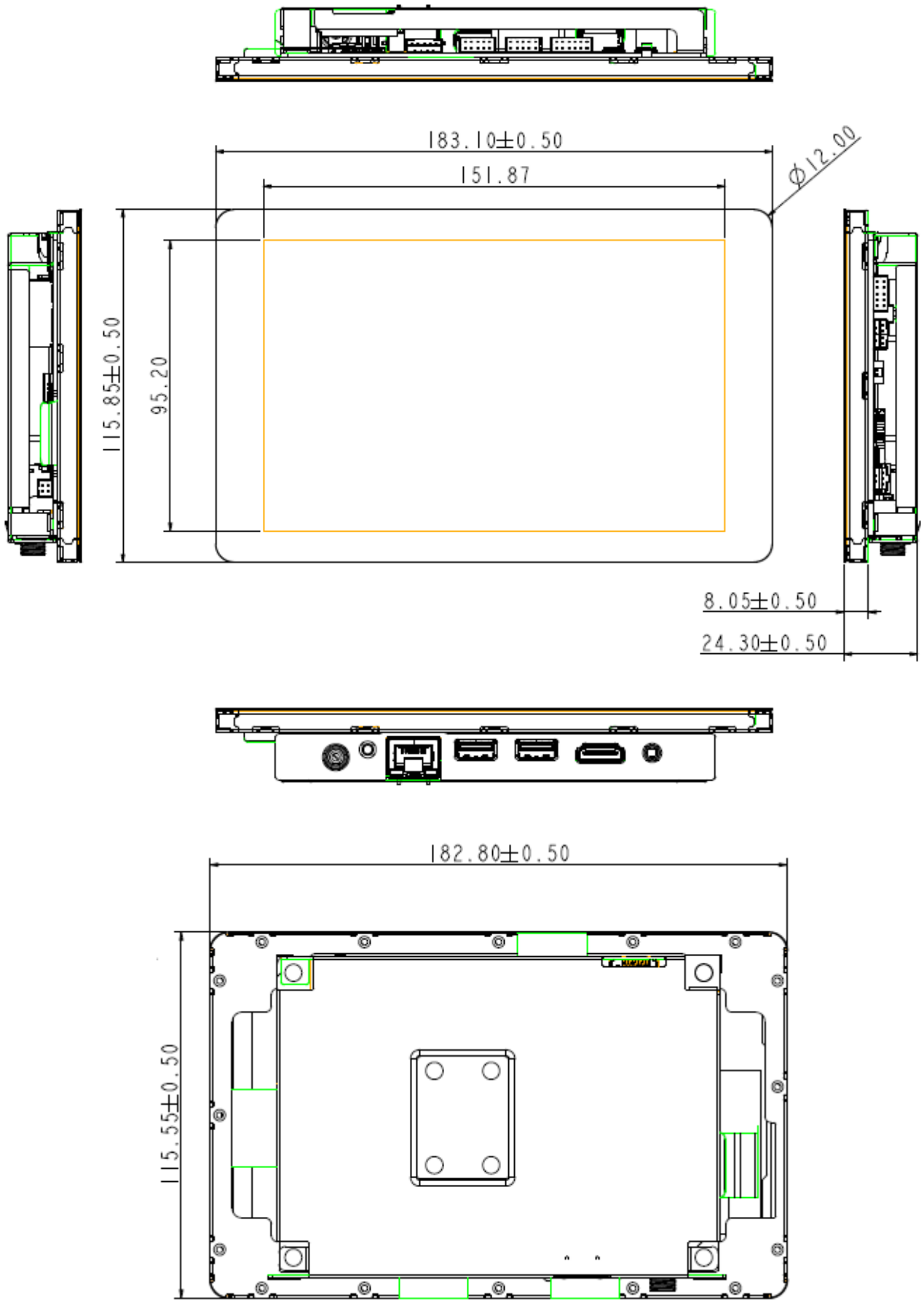
1.4.4 Right View



Connectors

Label	Function	Note
JAMIC1	A-MIC connector	3 x 1 wafer, pitch 2.00 mm
JDIO1	General purpose I/O connector	10 x 2 wafer, pitch 1.00 mm
JRTC1	RTC battery connector	2 x 1 wafer, pitch 1.25 mm
JSPK1	Speaker interface	4 x 1 wafer, pitch 2.00 mm
JRS485	RS-485 connector	5 x 2 wafer, pitch 2.00 mm
JTB1	Touch button board connector	6 x 2 wafer, pitch 2.00 mm
JSENSE	Sensor connector	5 x 2 wafer, pitch 2.00 mm
JCAM1	Camera connector	5 x 2 wafer, pitch 2.00 mm
JUSB20	USB connector	
JNGFF2	M.2 E-Key	
JMIPI	MIPI Port	40 x 1 FPC, pitch 0.30 mm
JDCIN2	DC Power-in connector	2 x 2P pitch wafer
JDCIN1	DC Power-in connector	1 x 12V~24V wide range x 5A ; lock jack
JLAN1	RJ-45 Ethernet connector	1 x 10/100/1000 Mbps
JUSB1/2	USB 3.0 connector	2 x type A
JHDMI1	HDMI connector	1 x type A 2.0a up to 4096x2304@60fps
JHP1	Audio line-out connector	1 x TRS, LEFT/RIGHT/GROUND

1.5 System Dimensions



(Unit: mm)

2. Hardware Configuration

For advanced information, please refer to:

1- JRX12 included in this manual.

Note: If you need more information, please visit our website:

www.avalue.com

2.1 Powering On the System

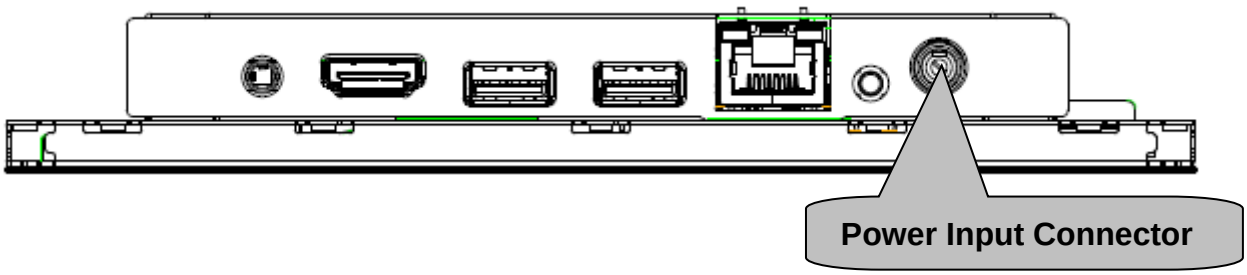
To power on the system, follow the steps below.

Step 1: Connect the power cord to the power adapter. Connect the other end of the power cord to a power source. Ensure to connect the power cord to a socket-outlet with earthing connection.

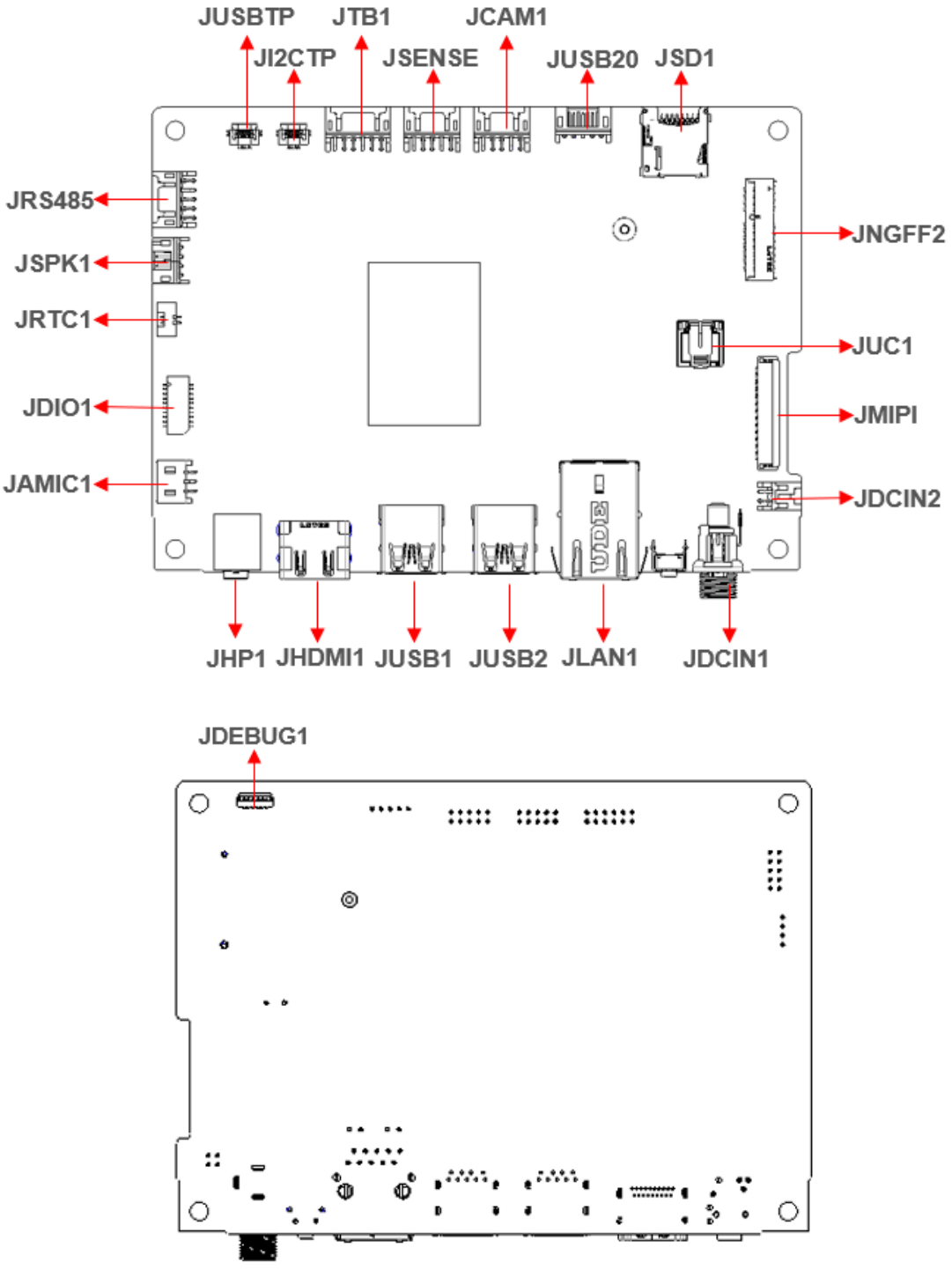
Step 2: Connect the power adapter to the power connector of the product.

Step 3: Locate the power button on the product.

Step 4: Switch on the power button can turn on the system. Keep holding the power button on can force shutdown the PC.



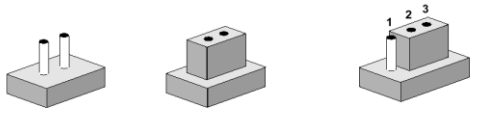
2.2 JRX12 Overview



2.3 JRX12 Jumper and Connector List

You can configure your board to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch.

It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip. To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either two pins.



Open Closed Closed 2-3

The jumper settings are schematically depicted in this manual as follows:

Open Closed Closed 2-3

A pair of needle-nose pliers may be helpful when working with jumpers.

Connectors on the board are linked to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

The following tables list the function of each of the board’s jumpers and connectors.

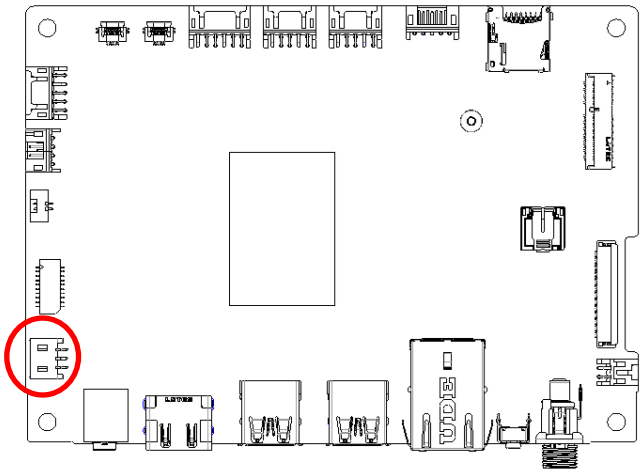
Connectors

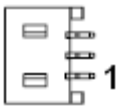
Label	Function	Note
JUSBTP	USB Touch connector	
JI2CTP	I2C connector	
JAMIC1	A-MIC connector	3 x 1 wafer, pitch 2.00 mm
JDIO1	General purpose I/O connector	10 x 2 wafer, pitch 1.00 mm
JRTC1	RTC battery connector	2 x 1 wafer, pitch 1.25 mm
JSPK1	Speaker interface	4 x 1 wafer, pitch 2.00 mm
JRS485	RS-485 connector	5 x 2 wafer, pitch 2.00 mm
JTB1	Touch button board connector	6 x 2 wafer, pitch 2.00 mm
JSENSE	Sensor connector	5 x 2 wafer, pitch 2.00 mm
JCAM1	Camera connector	5 x 2 wafer, pitch 2.00 mm
JUSB20	USB connector	1 x 5P pitch 2.0 wafer

JSD1	Micro SD card slot	1 x Micro SD slot
JNGFF2	M.2 E-Key	1 x M.2 2230 Key E
JUC1	BIOS ROM Socket	
JMIPI	MIPI Port	40 x 1 FPC, pitch 0.30 mm
JDCIN2	DC Power-in connector	2 x 2P pitch wafer
JDCIN1	DC Power-in connector	1 x 12V~24V wide range x 5A ; lock jack
JLAN1	RJ-45 Ethernet connector	1 x 10/100/1000 Mbps
JUSB1/2	USB 3.0 connector	2 x type A
JHDMI1	HDMI connector	1 x type A 2.0a up to 4096x2304@60fps
JHP1	Audio line-out connector	1 x TRS, LEFT/RIGHT/GROUND

2.4 JRX12 Jumpers & Connectors settings

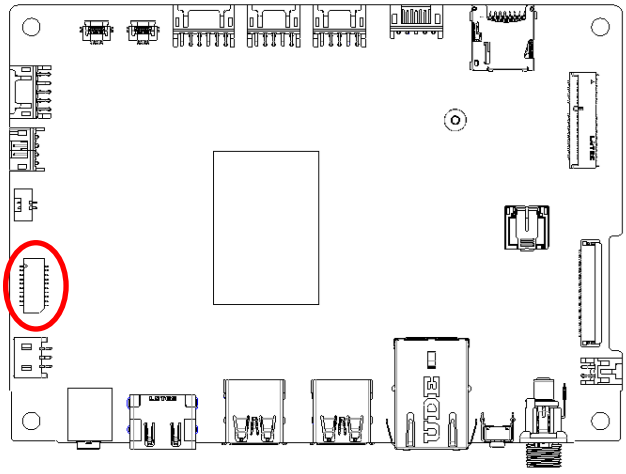
2.4.1 A-MIC connector (JAMIC1)

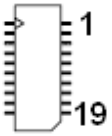




Signal	PIN
MIC_JD#	3
AMIC_IN	2
GNDA	1

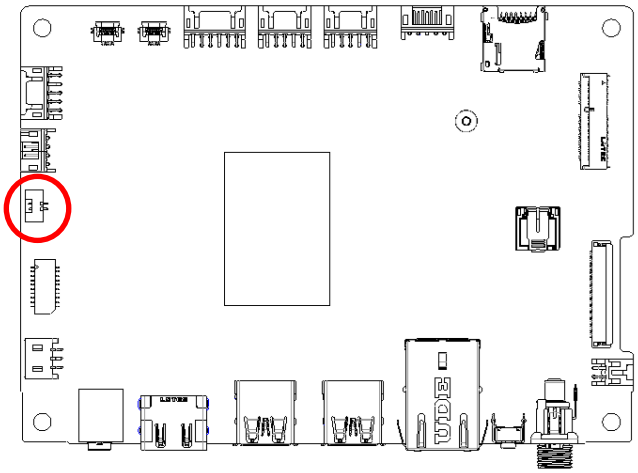
2.4.2 General purpose I/O connector (JDIO1)





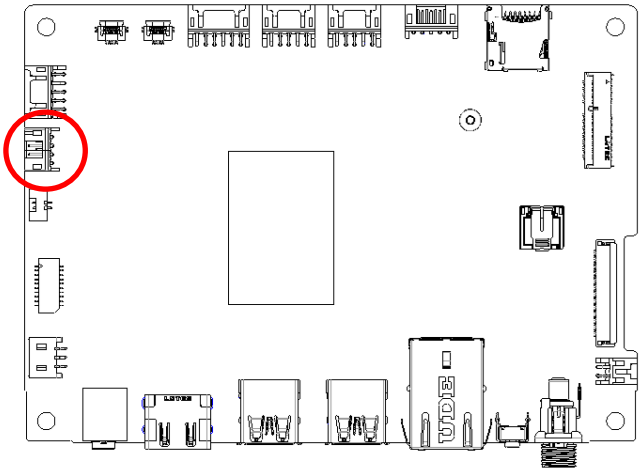
Signal	PIN	PIN	Signal
DIO_GP20	2	1	DIO_GP10
DIO_GP21	4	3	DIO_GP11
DIO_GP22	6	5	DIO_GP12
DIO_GP23	8	7	DIO_GP13
DIO_GP24	10	9	DIO_GP14
DIO_GP25	12	11	DIO_GP15
DIO_GP26	14	13	DIO_GP16
DIO_GP27	16	15	DIO_GP17
I2C_1_LV_SCL	18	17	I2C_1_LV_SDA
GND	20	19	+V5S_DIO

2.4.3 RTC Battery connector (JRTC)



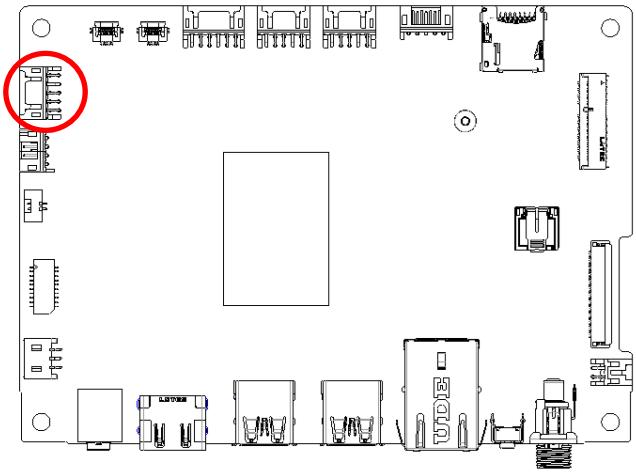
Signal	PIN
+RTCBATT	1
GND	2

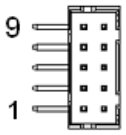
2.4.4 Speaker connector (JSPK1)



Signal	PIN
SPK_L+	1
SPK_L-	2
SPK_R+	3
SPK_R-	4

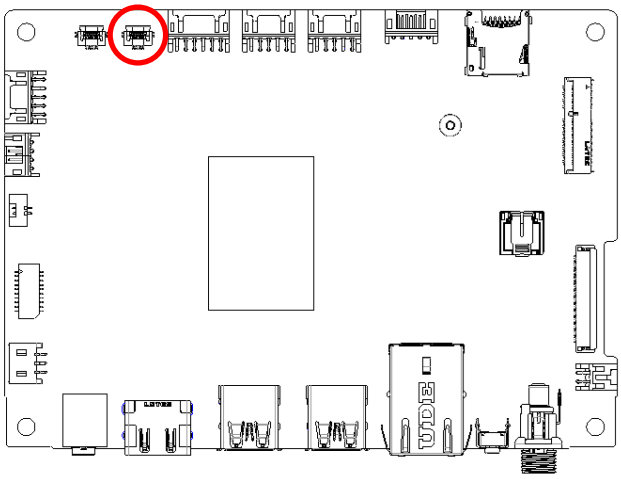
2.4.5 RS232/RS-485 connector (JRS485)

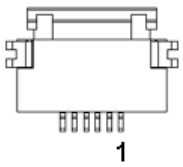




Signal	PIN	PIN	Signal
GND	9	10	GND
NC	7	8	NC
+3.3V	5	6	NC
485TX+	3	4	232-RXD
485TX-	1	2	232-TXD

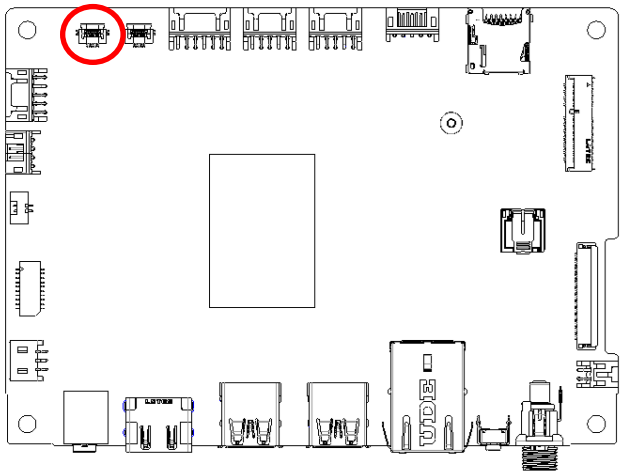
2.4.6 I2C connector (JI2CTP)

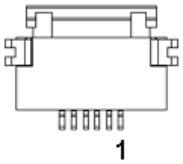




Signal	PIN
TOUCH_RST#_R	1
I2C_5_SDA_R	2
I2C_5_SCL_R	3
TOUCH_INT#_R	4
GND	5
+3.3VA_I2CTP	6

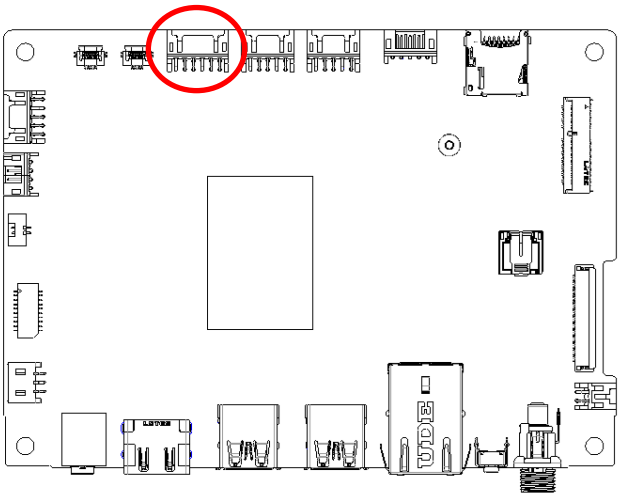
2.4.7 USB Touch connector (JUSBTP)

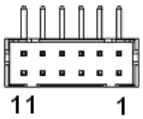




Signal	PIN
+5V_TOUCH	1
USB2_P5_N_L	2
USB2_P5_P_L	3
GND	4
GND	5
NC	6

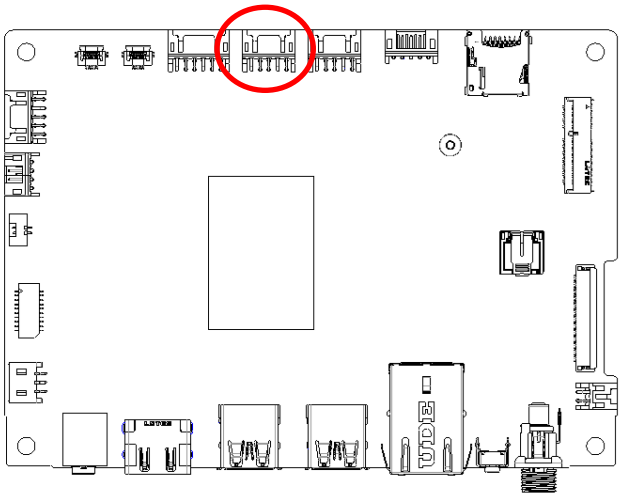
2.4.8 Touch button board connector (JTB1)

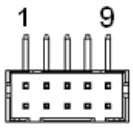




Signal	PIN	PIN	Signal
GND	2	1	+PWR_JTB1 (5V)
BU1_TV_3V	4	3	RSTBTN
VOL_DOWN_3V	6	5	VOL_UP_3V
BU_BR+_3V	8	7	PWRBTN_3V
BU7_3V	10	9	BU_BR-_3V
LED_ORANGE_R	12	11	LED_GREEN_R

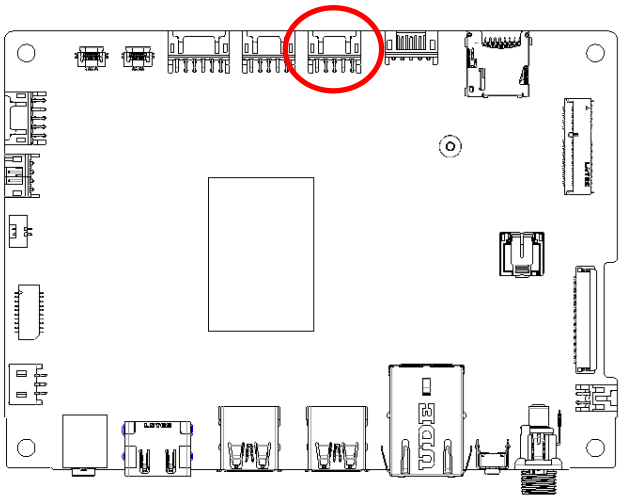
2.4.9 Sensor connector (JSENSE)

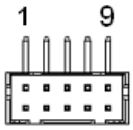




Signal	PIN	PIN	Signal
+3VS_SEN_CONN	9	10	+3VS_SEN_CONN
I2C_1_SCL_3.3V_CONN	7	8	I2C_0_SCL_3.3V_CONN
I2C_1_SDA_3.3V_CONN	5	6	I2C_0_SDA_3.3V_CONN
SENSE1_IRQ	3	4	SENSE0_IRQ
GND	1	2	GND

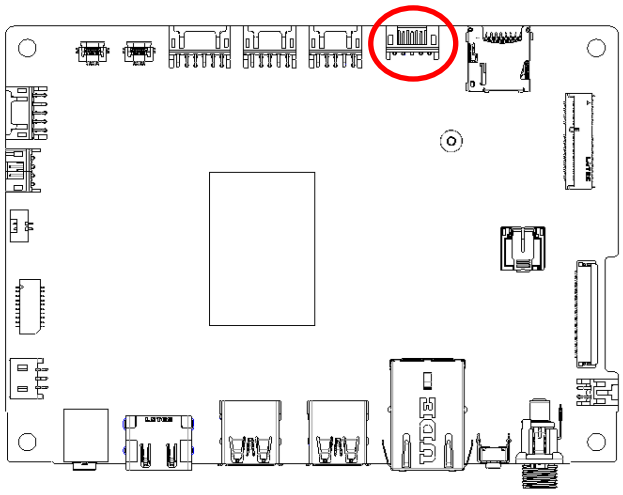
2.4.10 Camera connector (JCAM1)

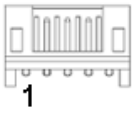




Signal	PIN	PIN	Signal
+CAM_VCC	9	10	+DMIC_VCC
USB2_P6_N_R	7	8	CAM_DMIC_CLK_R
USB2_P6_P_R	5	6	CAM_DMIC_DAT_R
GND	3	4	GND
GND	1	2	GND

2.4.11 USB Touch connector (JUSB20)





Signal	PIN
+5V_USB	5
USB2_P4_N_R	4
USB2_P4_P_R	3
GND	2
GND	1

3. Installation

Removing the Top Cover Warning

To prevent electric shock or system damage, before removing the chassis cover, must turn off power and disconnect the unit from power source.

Electrostatic discharge (ESD) can cause serious damage to electronic components. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the product is accessed internally, or any other electrical component is handled, the following anti-static precautions are strictly adhered to:

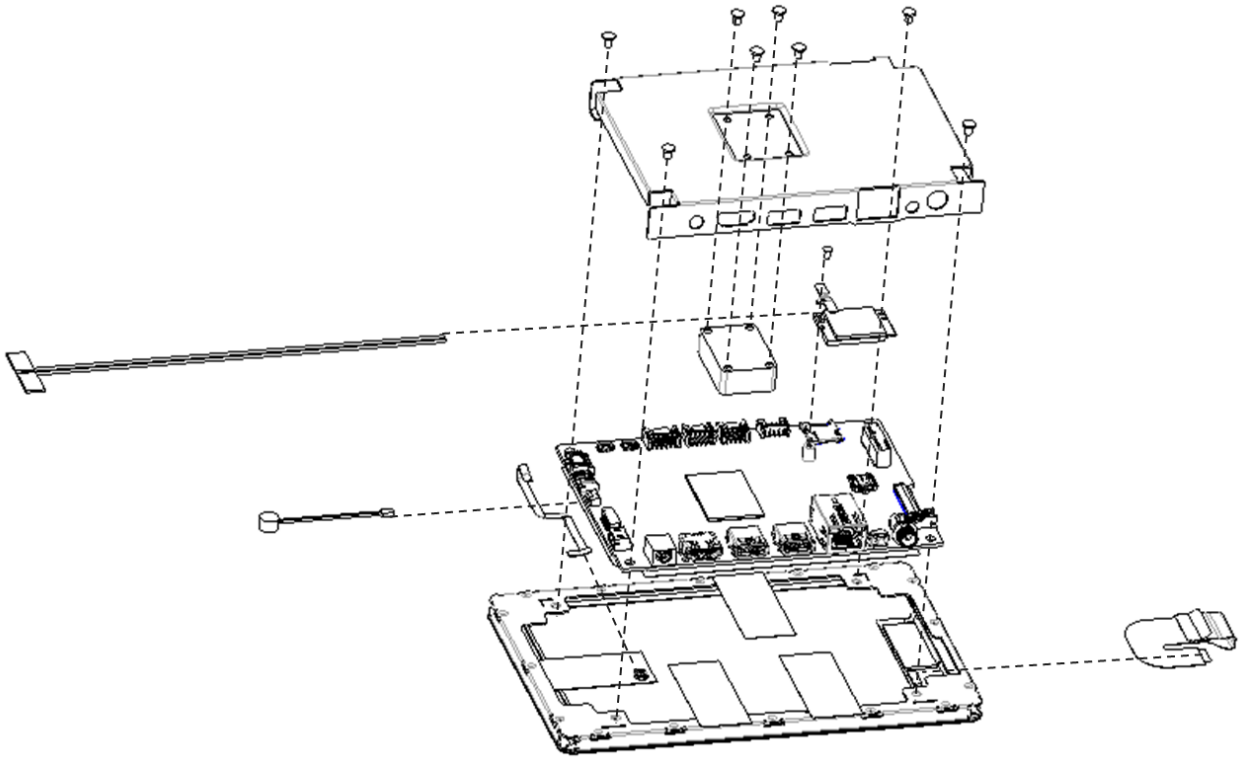
- Wear an anti-static wristband: Wearing a simple anti-static wristband can help to prevent ESD from damaging the board.
- Self-grounding: Before handling the board, touch any grounded conducting material. During the time the board is handled, frequently touch any conducting materials that are connected to the ground.
- Use an anti-static pad: When configuring the product, place it on an anti-static pad. This reduces the possibility of ESD damaging the product.
- Only handle the edges of the PCB: When handling the PCB, hold the PCB by the edges.

Installation Precautions

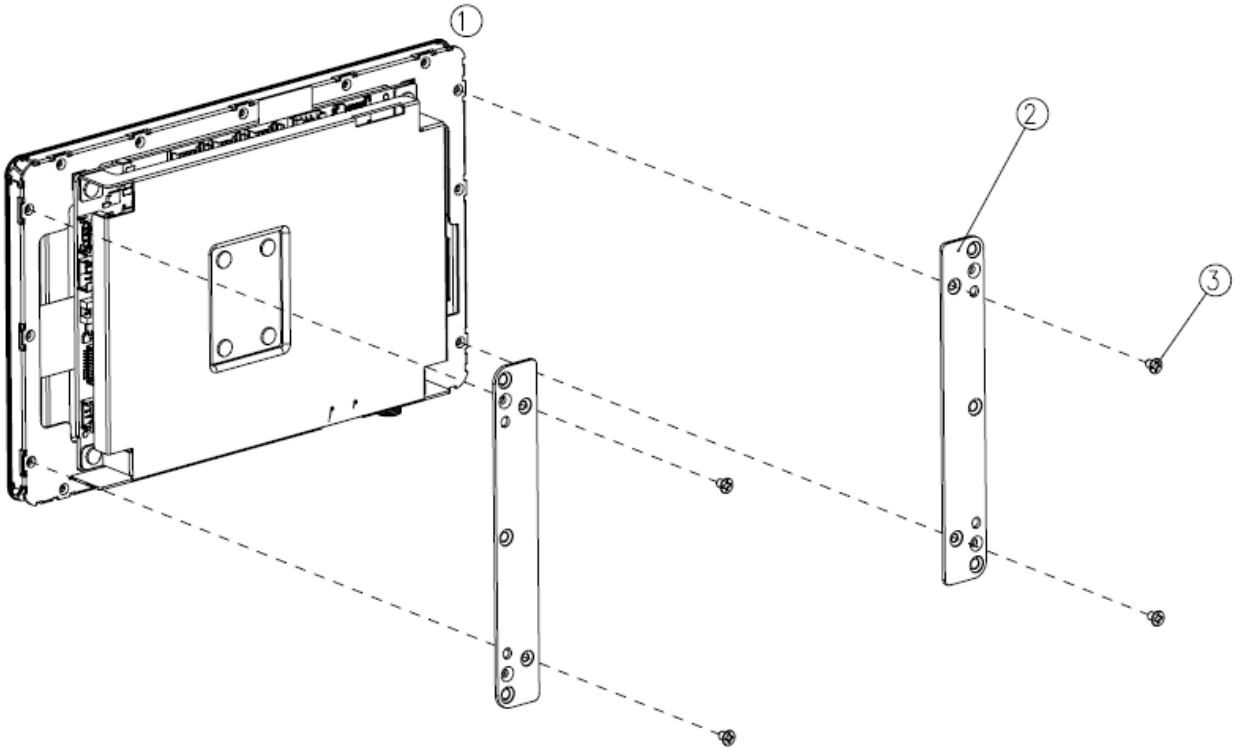
When installing the flat bezel panel PC, please follow the precautions listed below:

- Power turned off: When installing the flat bezel panel PC, make sure the power is off. Failing to turn off the power may cause severe injury to the body and/or damage to the system.
- Certified Engineers: Never open the equipment. For safety reasons, the equipment should be opened only by qualified skilled person.
- Anti-static Discharge: If a user open the rear panel of the flat bezel panel PC, to configure the jumpers or plug in added peripheral devices, ground themselves first and wear an anti-static wristband.

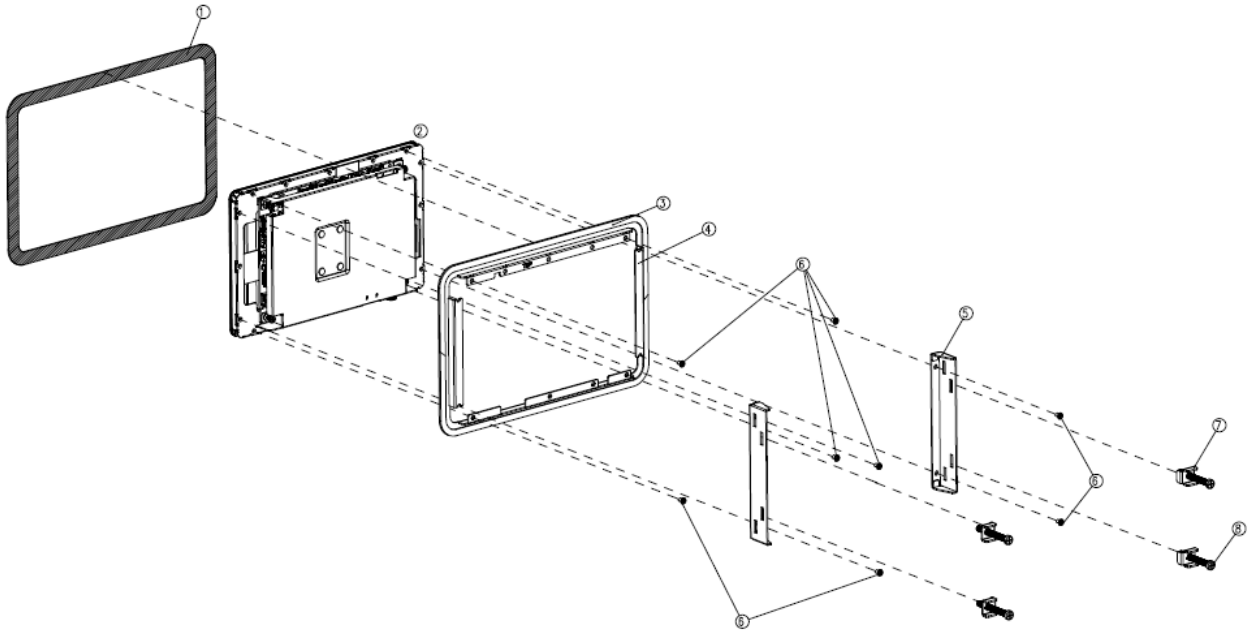
3.1 Installing OFT-07WAD



3.2 Installing Extend Brackets



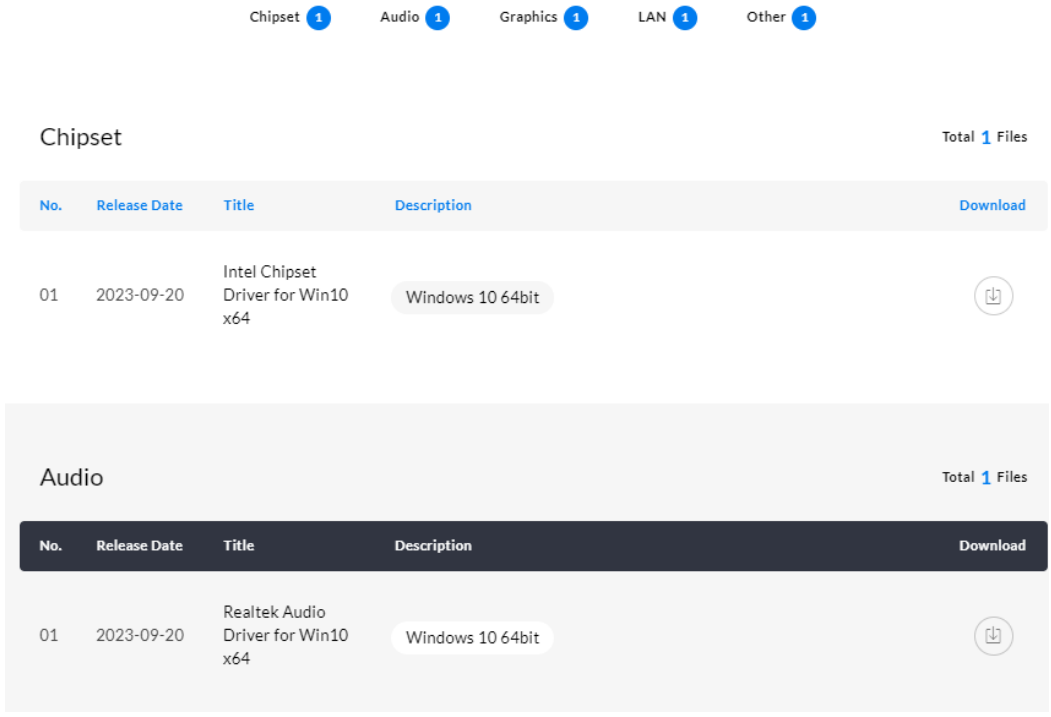
3.3 Panel Mounting



4. Drivers Installation

All the drivers are available on Avalue Downloads Area (https://www.avaluetech.com/en/support/download). Type the model name and press Enter to find all the relevant software, utilities, and documentation.

Note:
The panel PC with projected capacitive type touchscreen and Windows 7 (or later) OS does not require touch driver installation. This is because there is a HID touch digitizer built-in driver in Windows 7 or later.

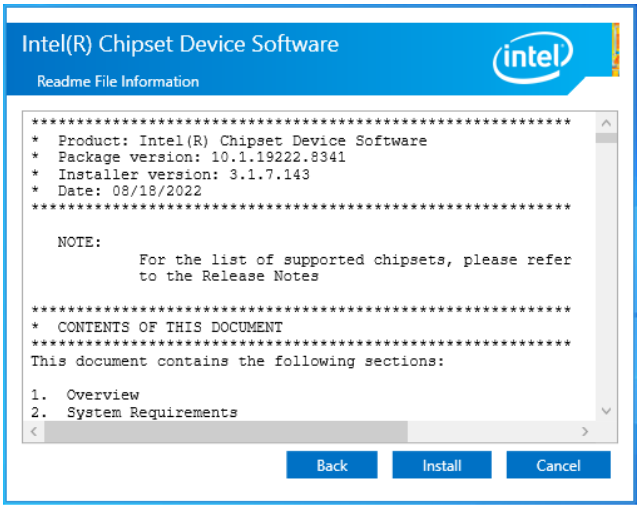


Note: Installation procedures and screen shots in this section are for your reference and may not be exactly the same as shown on your screen.

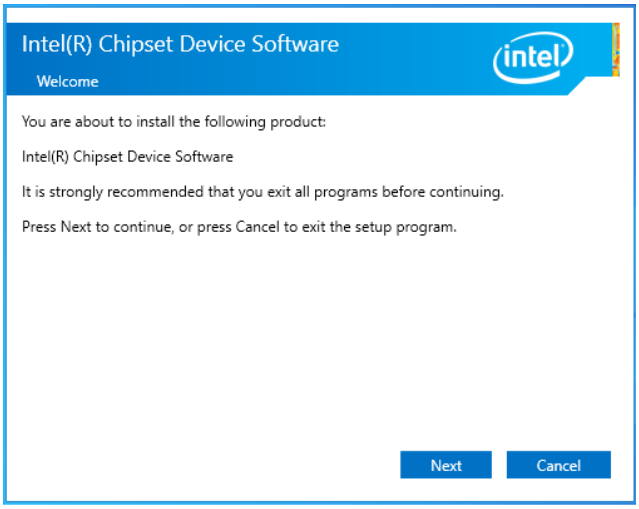
4.1 Install Chipset Driver

All drivers can be found on the Avalue Official Website:
www.avalue.com.

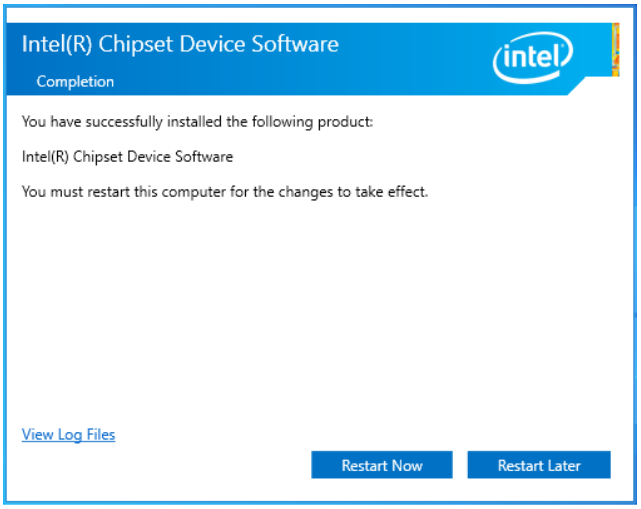
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.



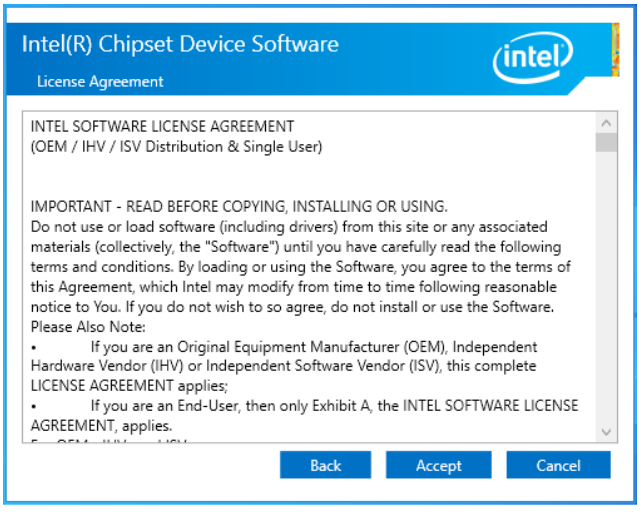
Step 3. Click **Install**.



Step1. Click **Next**.



Step 4. Click **Restart**.

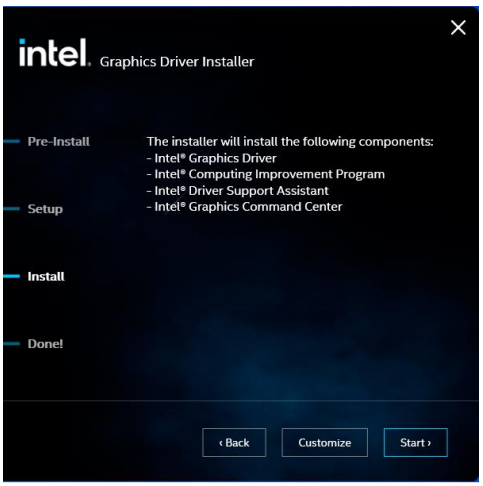


Step 2. Click **Accept**.

4.2 Install VGA Driver

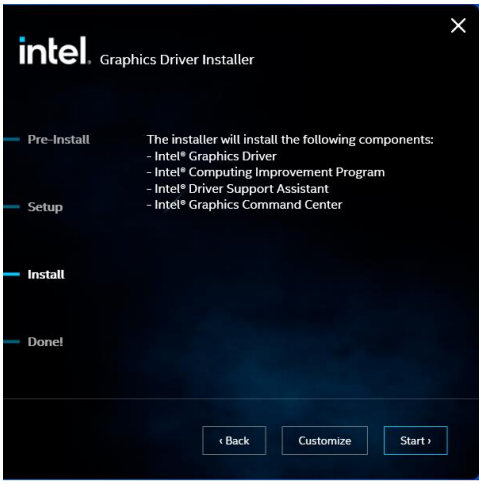
All drivers can be found on the Avalue Official Website: www.avalue.com.

Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.

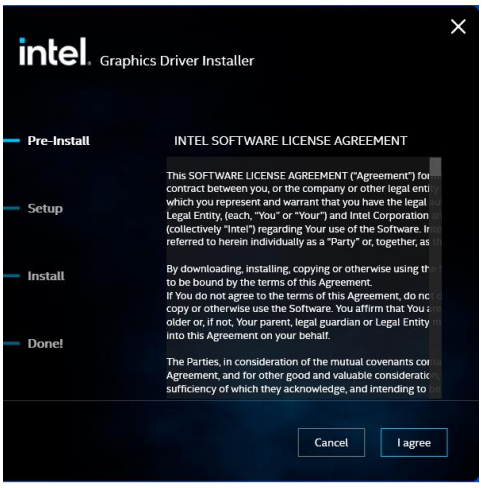


Step 3. Click **Start.**

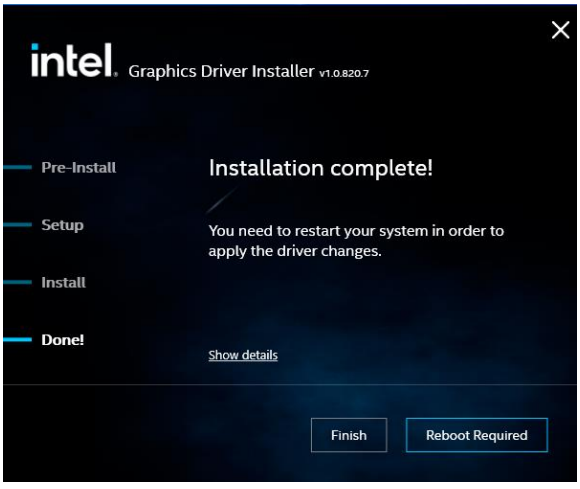
Step 1. Click **Begin installation**.



Step 4. Installing.



Step 2. Click **I agree**.

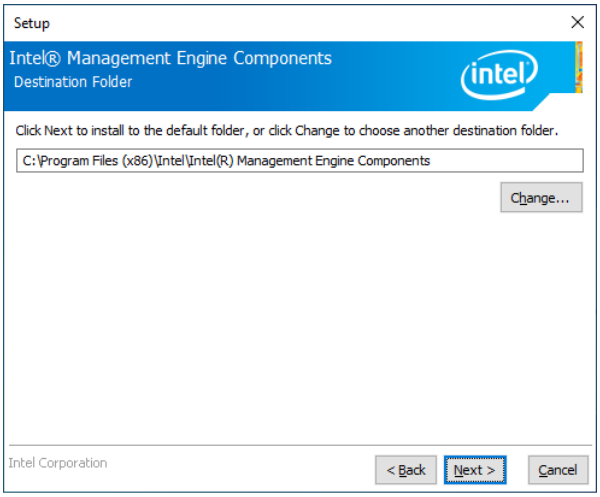


Step 5. Click **Finish** to complete setup.

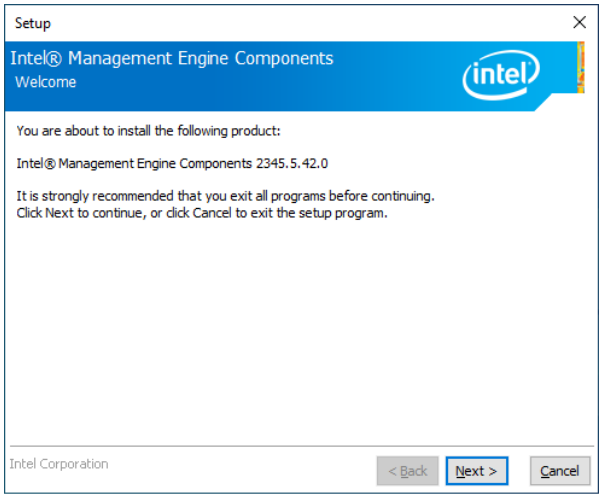
4.3 Install ME Driver

All drivers can be found on the Avalue Official Website:
www.avalue.com.

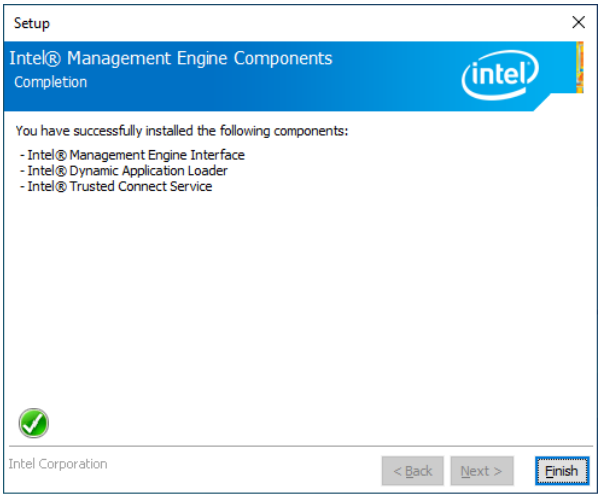
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.



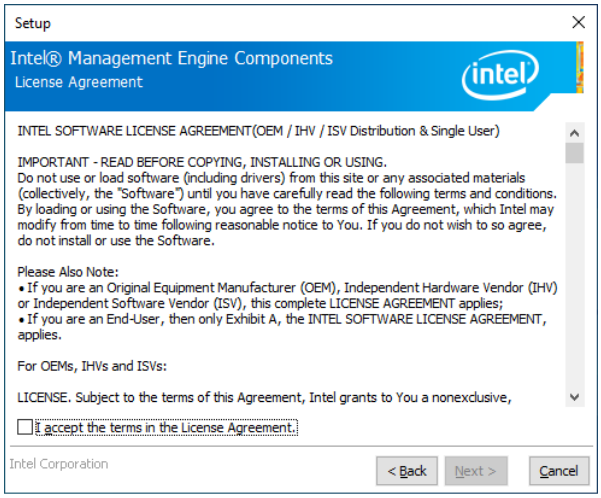
Step 3. Click **Next**.



Step 1. Click **Next** to continue setup.



Step 4. Click **Finish** to complete setup.



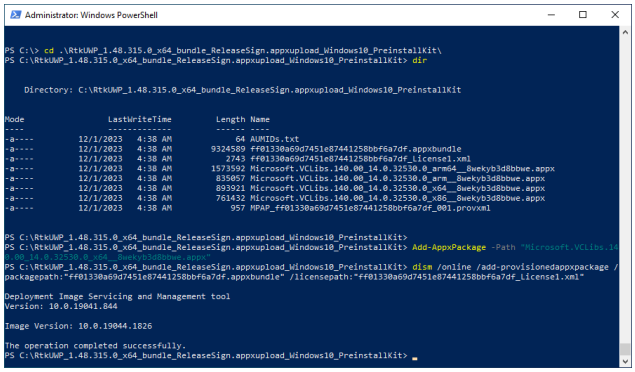
Step 2. Click **Next**.

4.4 Install Audio Driver

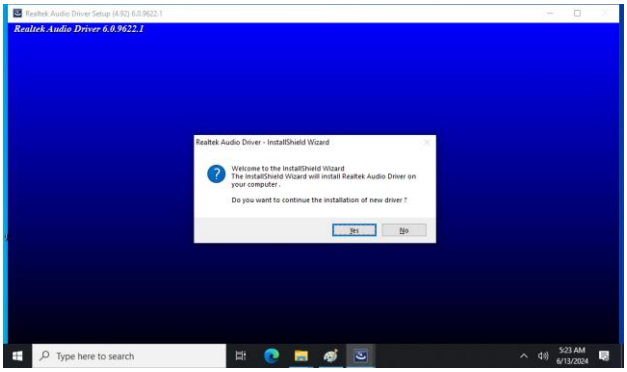
All drivers can be found on the Avalue Official Website:

www.avalue.com.

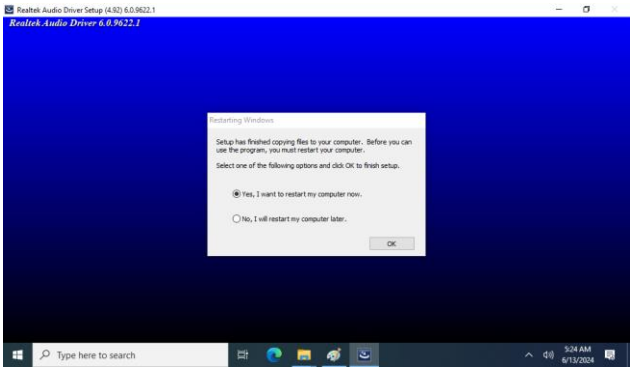
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system.



Step 3. Installing.



Step 1. Click **YES.**

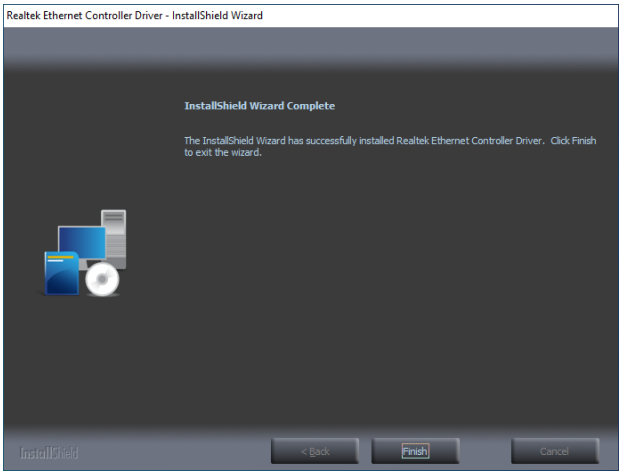


Step 2. Click **OK**.

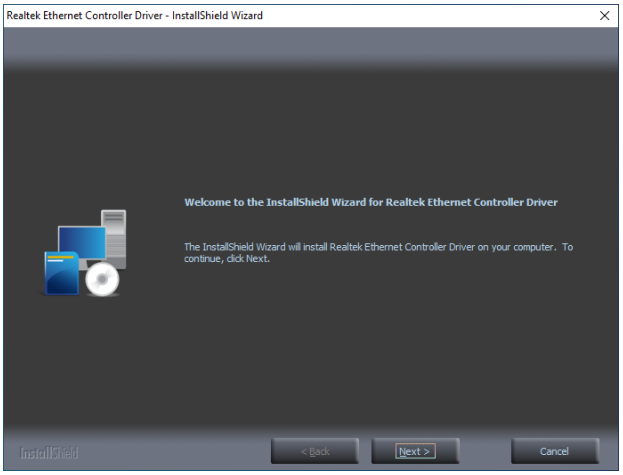
4.5 Install LAN Driver

All drivers can be found on the Avalue Official Website: www.avalue.com.

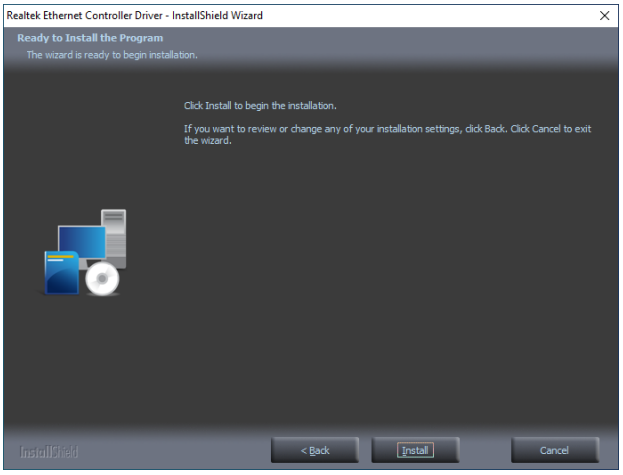
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.



Step 3. Click **Finish** to complete setup.



Step 1. Click **Install Drivers and Software**.

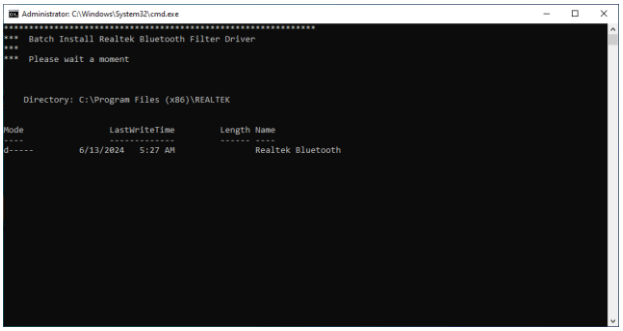


Step 2. Click **Next**.

4.6 Install Bluetooth Driver

All drivers can be found on the Avalue Official Website:
www.avalue.com.

Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.

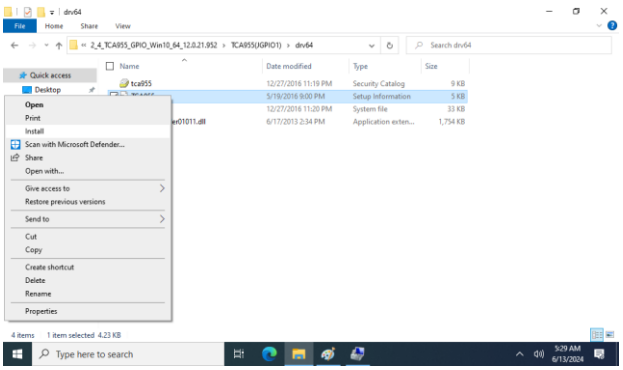


Step 1.

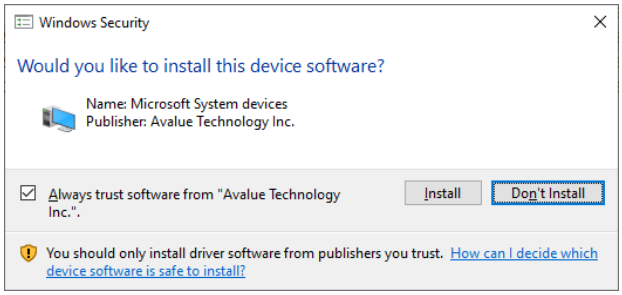
4.7 Install GPIO Driver

All drivers can be found on the Avalue Official Website: www.avalue.com.

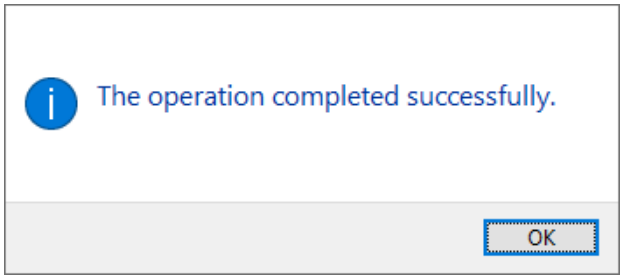
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.



Step 1. Click **Install**.



Step 2. Click **Install**.

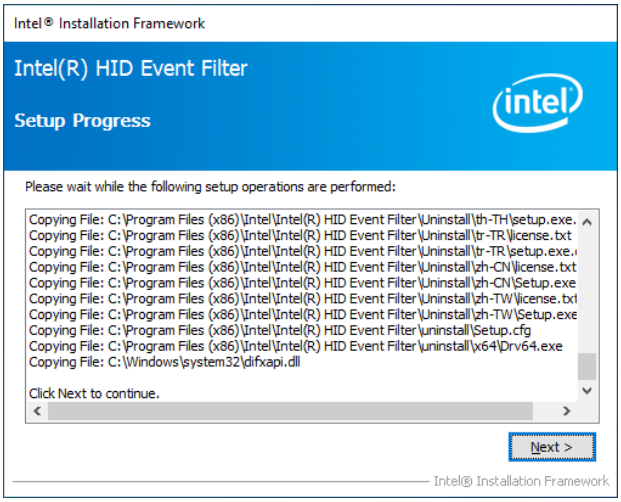


Step 3. Click **OK**.

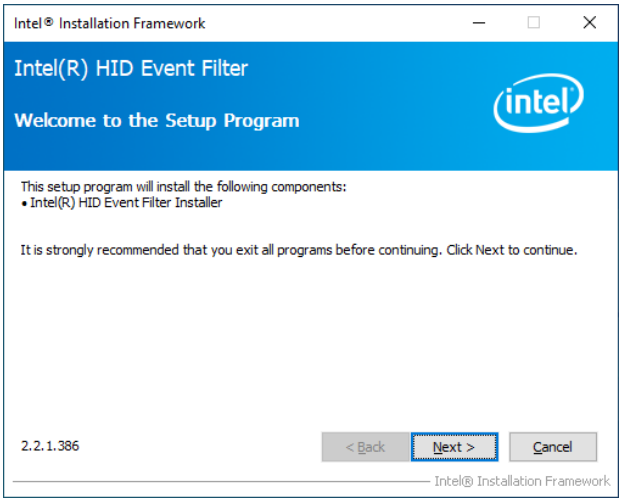
4.8 Install HID Driver

All drivers can be found on the Avalue Official Website: www.avalue.com.

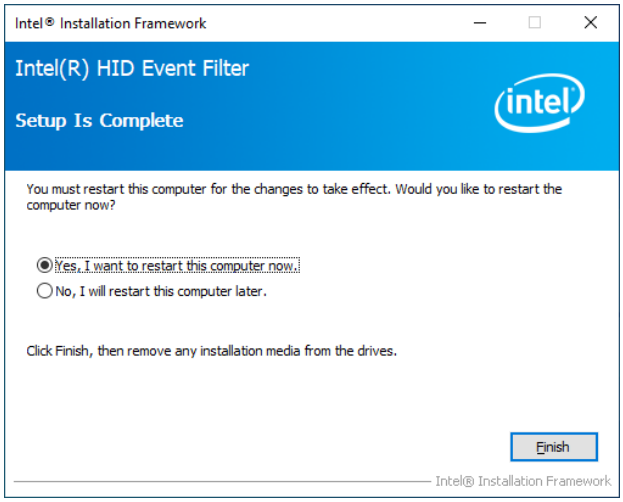
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.



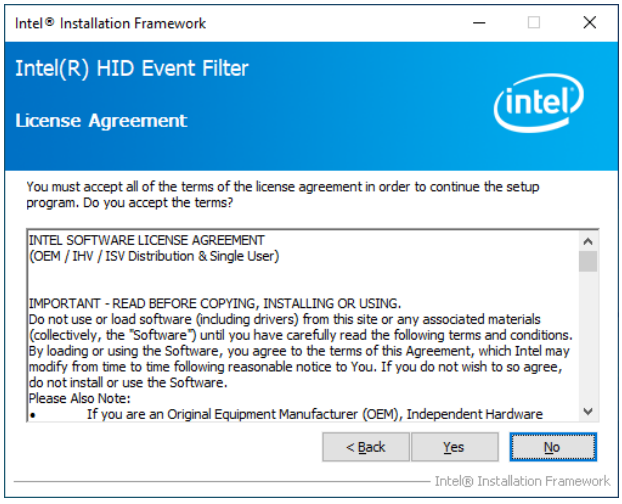
Step 3. Click **Next.**



Step 1. Click **Next.**



Step 4. Click **Finish** to complete setup.

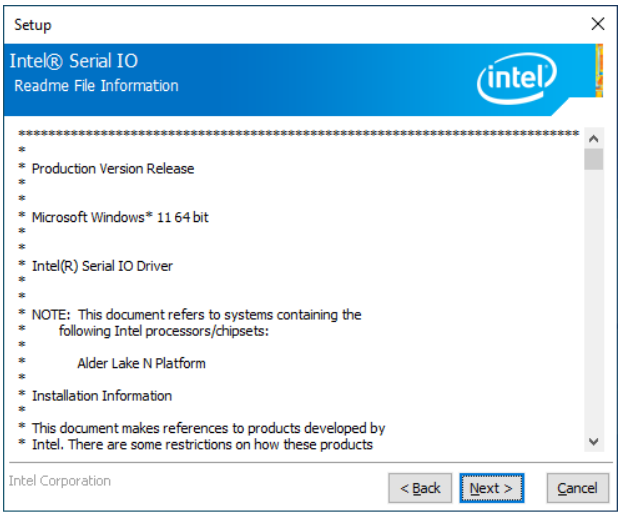


Step 2. Click **YES**.

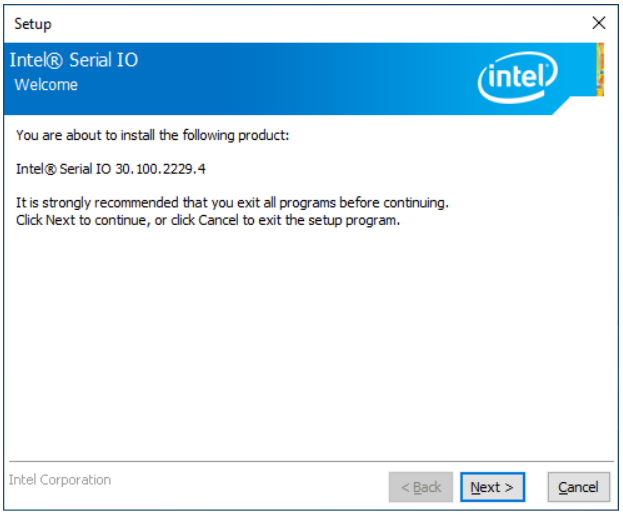
4.9 Install SIO Driver

All drivers can be found on the Avalue Official Website: www.avalue.com.

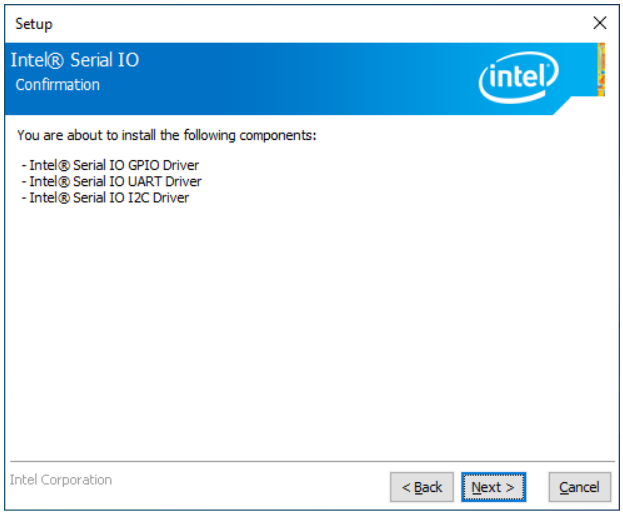
Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.



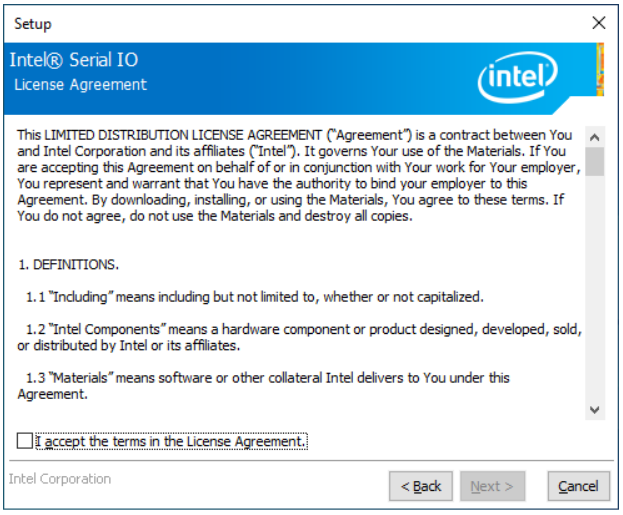
Step 3. Click **Next.**



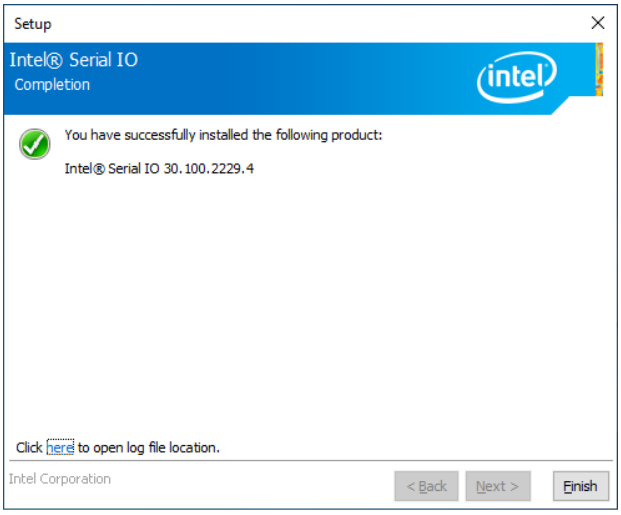
Step 1. Click **Next.**



Step 4. Click **Next.**



Step 2. Click **YES**.

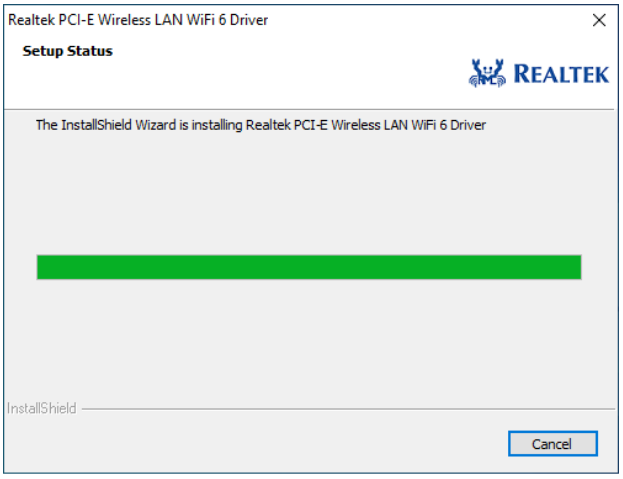


Step 5. Click **Finish** to complete setup.

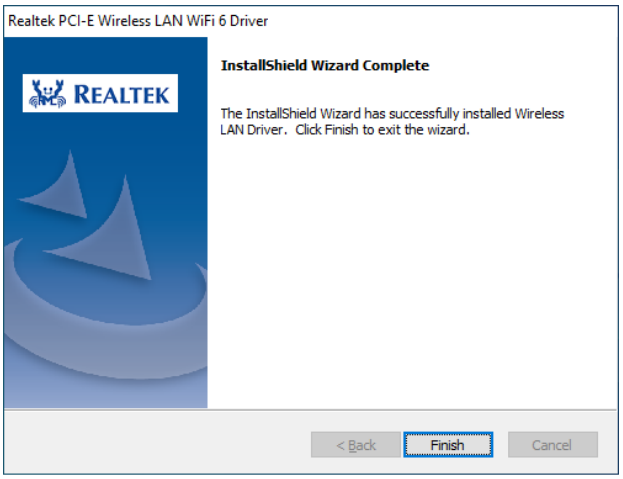
4.10 Install wifi Driver

All drivers can be found on the Avalue Official Website:
www.avalue.com.

Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.



Step 1. Click **Next.**



Step 2. Click **Finish** to complete setup.

5. Product Application

For detailed instructions on the operation of the Watchdog Timer and Digital I/O (DIO) features of this Panel PC, please refer to the comprehensive guide available in the "AvalueIOAPI" manual. Please reaching out to your respective distributors, Avalue technical support team, or Avalue customer service representatives for further information. Feel free to inquire about this supplementary resource to enhance your understanding of the Watchdog Timer and Digital I/O (DIO) Application for optimal utilization of your Panel PC.

6. Operating the Device

The Multi-Touch mode was pre-installed on the Panel PC and need tools for any customizations. Should you have specific requirements or encounter scenarios where a customized touch mode is necessary, we recommend reaching out to your local distributors, Avalue technical support team, or Avalue customer service representatives. These professionals can provide tailored guidance and assistance to address any unique needs related to Multi-Touch mode adjustments.