

RITY-1539

15" XGA Flat Touch Panel PC with Intel® Alder Lake N Processor

Quick Reference Guide

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Document Amendment History

Revision	Date	By	Comment
1 st	March 2026	Avalue	Initial Release

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.

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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/> 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.

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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://www.avalue.com/en/member> 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

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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

		<p>Fragile Packaging</p>
		<p>Beware of water damage, moisture-proof</p>
		<p>Carton recyclable</p>
		<p>Handle with care</p>
		<p>Follow operating instructions or consult instructions for use.</p>
		<p>WARNING</p> <ul style="list-style-type: none"> ● INGESTION HAZARD: This product contains a button cell or coin battery. ● DEATH or serious injury can occur if ingested. ● A swallowed button cell or coin battery can cause Internal Chemical Burns in as little as 2 hours. ● KEEP new and used batteries OUT OF REACH of CHILDREN. ● Seek immediate medical attention if a battery is suspected to be swallowed or inserted inside any part of the body.

Disposing of your old product

WARNING:

There is danger of explosion if the battery is mishandled or incorrectly 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 other 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.

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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	RITY-1539	1
2	60W Power Adapter	1



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

Purposes and Applications

RITY-1539 is a versatile and reliable computing solution designed to meet the needs of industrial and commercial applications. Its robust design, efficient performance, and extensive connectivity options make it an ideal choice for a wide range of environments.

RITY-1539 was required VESA mounted alongside metalworking machinery, provides an user-friendly HMI solution to monitor and control various production processes within metalworking operations.

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

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

Component				
SBC	SV3-12N26-x7211E			
Processor	Intel® Alder Lake-N x7211E			
BIOS Setting	Turbo mode default as Disable Enable Turbo mode testing during SE/DQV verification			
CPU Cooler (Type)	Fanless			
System Memory	DDR5 4800MHz 8GB 262pin SO-DIMM			
Watchdog Timer	System reset, programmable 1-255 sec or min			
H/W Status Monitor	System-temp, CPU-temp, Voltage-12V,5V,3.3V, Vcpu, Vddr			
TPM	TPM 2.0			
Speaker	Speaker x2(2W/4Ω) on back			
Wireless LAN	Optional Intel M.2 2230 AX210 802.11ax Dual-band,-40° to 85°			
Bluetooth	Optional Intel M.2 2230 AX210 BT5.3			
Operating System	Windows 10/11, Linux			
Audio	Realtek Audio HDA codec			
Storage				
Solid State Drive	1 x 2.5" SSD			
Panel				
LCD Panel	15" 1024 x 768 XGA CMI G150XNE-L03 300nits (LVDS interface) (Default)			
B/L Inverter/Converter	Panel built in			
Touch Screen	Resistive: 15" Black 5W touch ZCR-12130			
Touch Controller	5-Wire USB Touch Controller RoHS			
Rear I/O				
Serial Port	2 x COM			
USB Port	4 x USB3.0, 2 x USB2.0			
Video Port	1 x HDMI Port			
Audio Port	1 x MIC + LINE out			
LAN Port	2 x RJ45 Gigabit LAN			
LAN Port LED Indicator	Max. 1G LAN Port			
	ACT/LINK		SPEED	
	LED	Definition	LED	Definition
	Light Off	No Link	Solid Orange	1G
	Solid Yellow	Connection	Solid Green	100M
	Yellow Flashing	Activity	Light Off	10M
	Max. 2.5G LAN Port			
	ACT/LINK		SPEED	

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	LED	Definition	LED	Definition
	Light Off	No Link	Solid Orange	2.5G/1G
	Solid Yellow	Connection	Solid Green	100M
	Yellow Flashing	Activity	Light Off	10M
Wireless LAN Antenna	WiFi Antenna			
Switch	Power switch on right side with cover			
Indicator Light	Front panel right side with PWR/ HDD			
Expansion Slots	1, M.2 E-Key 2230, PCIE+USB2.0, support WiFi +Bluetooth Module			
Power Requirement				
DC Input Voltage	+12V DC-In			
Power Mode	ATX Mode			
Power Button	1 x power button			
Power Connector Type	DC-Jack			
Power Adapter	AC/DC adapter 12V/5A 90 Screw Type			
Mechanical				
Dimension	362.1 X 290.08 X 51.08 mm			
Weight	5.3 kg			
Construction- Front	White Plastic			
Construction- Rear	White Plastic			
Thermal Solution	Fanless			
Reliability				
Dust and Rain Test	IP 65 for front panel, IP 41 for back			
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 : 2.5Kg 4 Test drawing			
Operating	0°C ~ 40°C (32°F ~ 104°F)			

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Temperature	
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Storage Temperature	0°C ~ 60°C (14°F ~ 140°F)



Note: Specifications are subject to change without notice.

1.4 System Overview

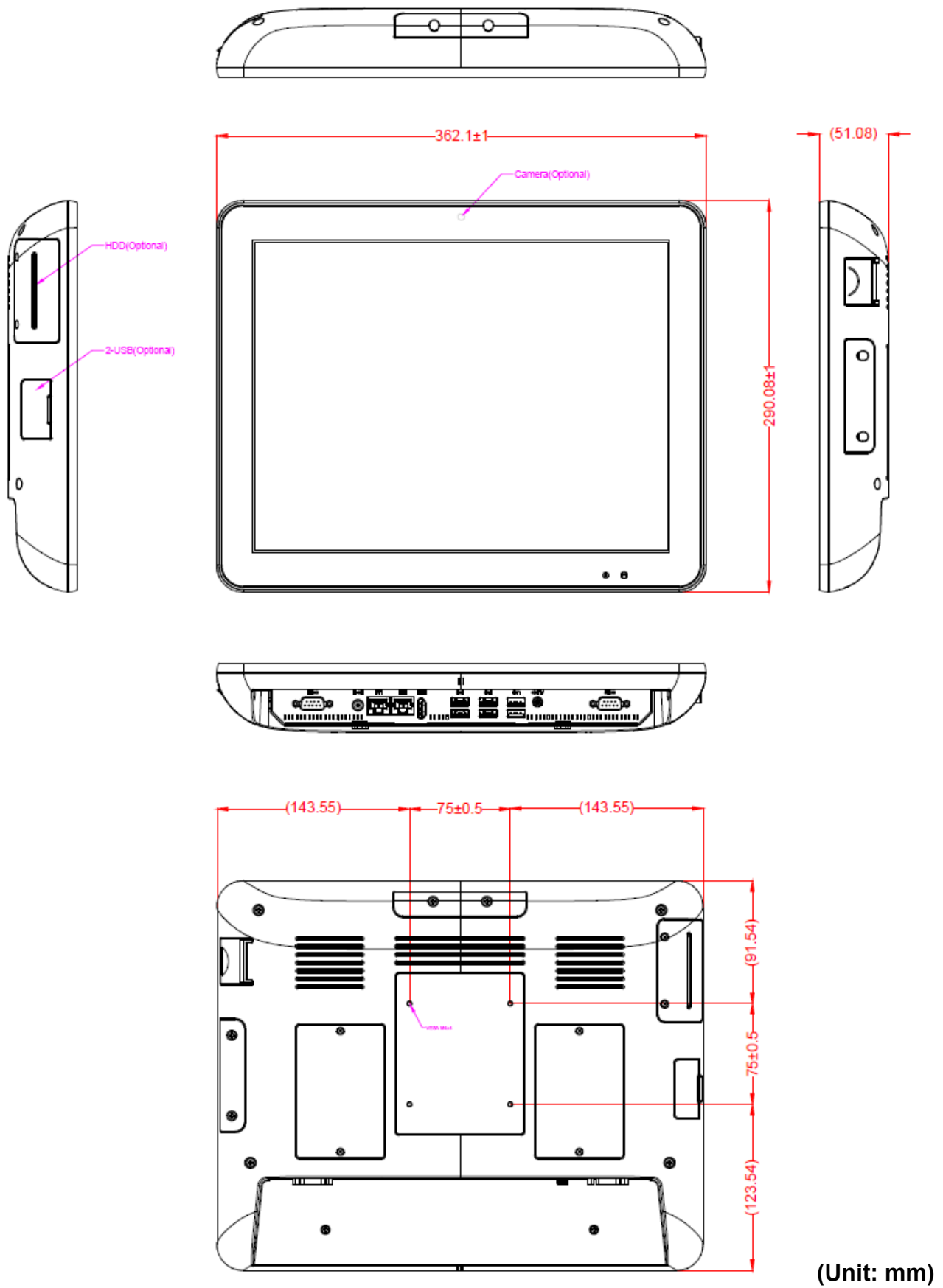
1.4.1 I/O View



Connectors

Label	Function	Note
AUDIO	MIC in + LINE out	
DC IN	DC power-in connector	
COM1/2	Serial port connector 1/2	
USB 2.0	2 x USB 2.0 connector	
USB 3.0	4 x USB 3.0 connector	
HDMI	HDMI connector	
LAN	2 x RJ-45 Ethernet connector	

1.5 System Dimensions



2. Hardware Configuration

For advanced information, please refer to:

- 1- Main board SV3-12N26-x7211E included in this manual.

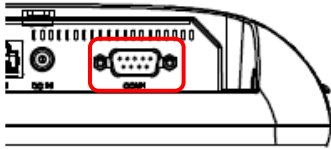


Note: If you need more information, please visit our website:

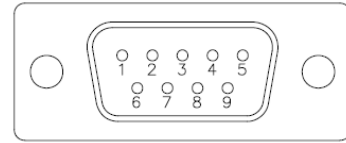
www.avalue.com

2.1 RITY-1539 connector mapping

2.1.1 Serial port connector 1 (COM1)

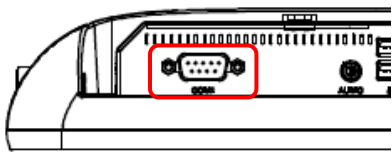


* Default

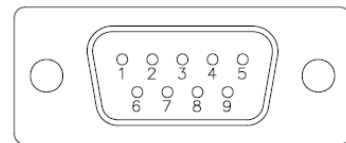


Signal	PIN	PIN	Signal
DCD	1	6	DSR
RXD	2	7	RTS
TXD	3	8	CTS
DTR	4	9	RI
GND	5		

2.1.2 Serial port connector 2 (COM2)



* Default



Signal	PIN	PIN	Signal
DCD	1	6	DSR
RXD	2	7	RTS
TXD	3	8	CTS
DTR	4	9	RI
GND	5		

2.2 Powering On the System

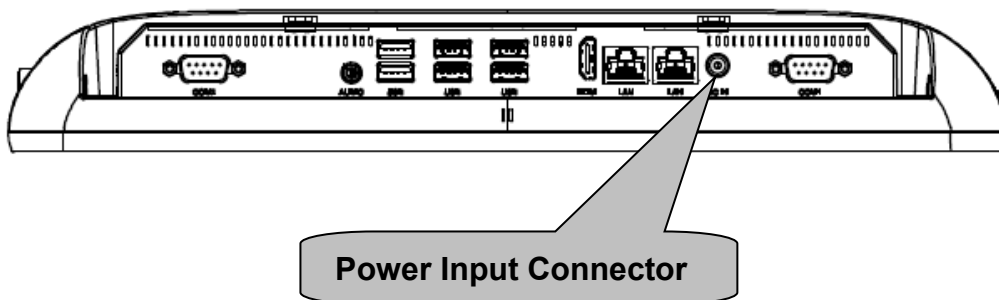
To power on the system, follow the steps below.

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.

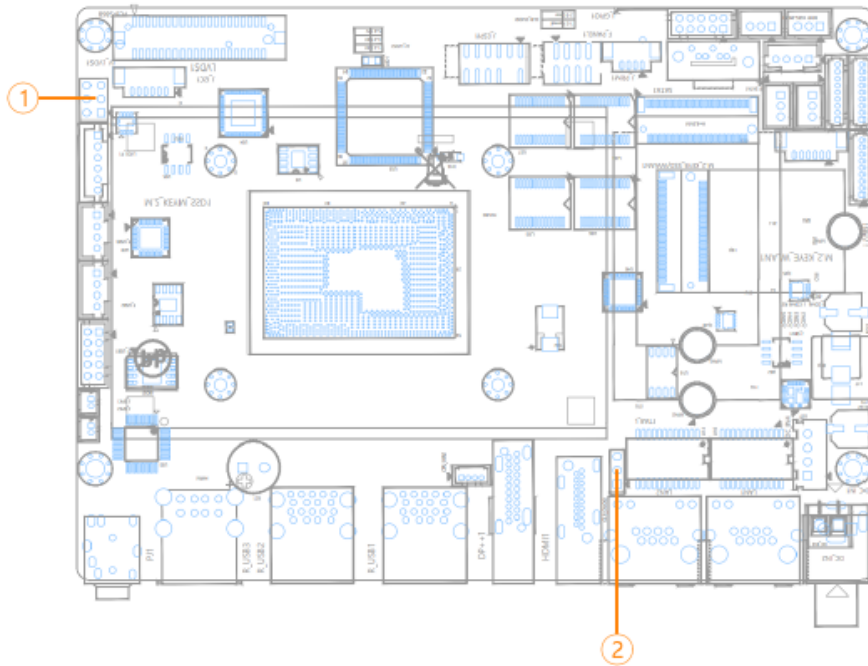
Step 2: Connect the power adapter to the power connector of the product.

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.



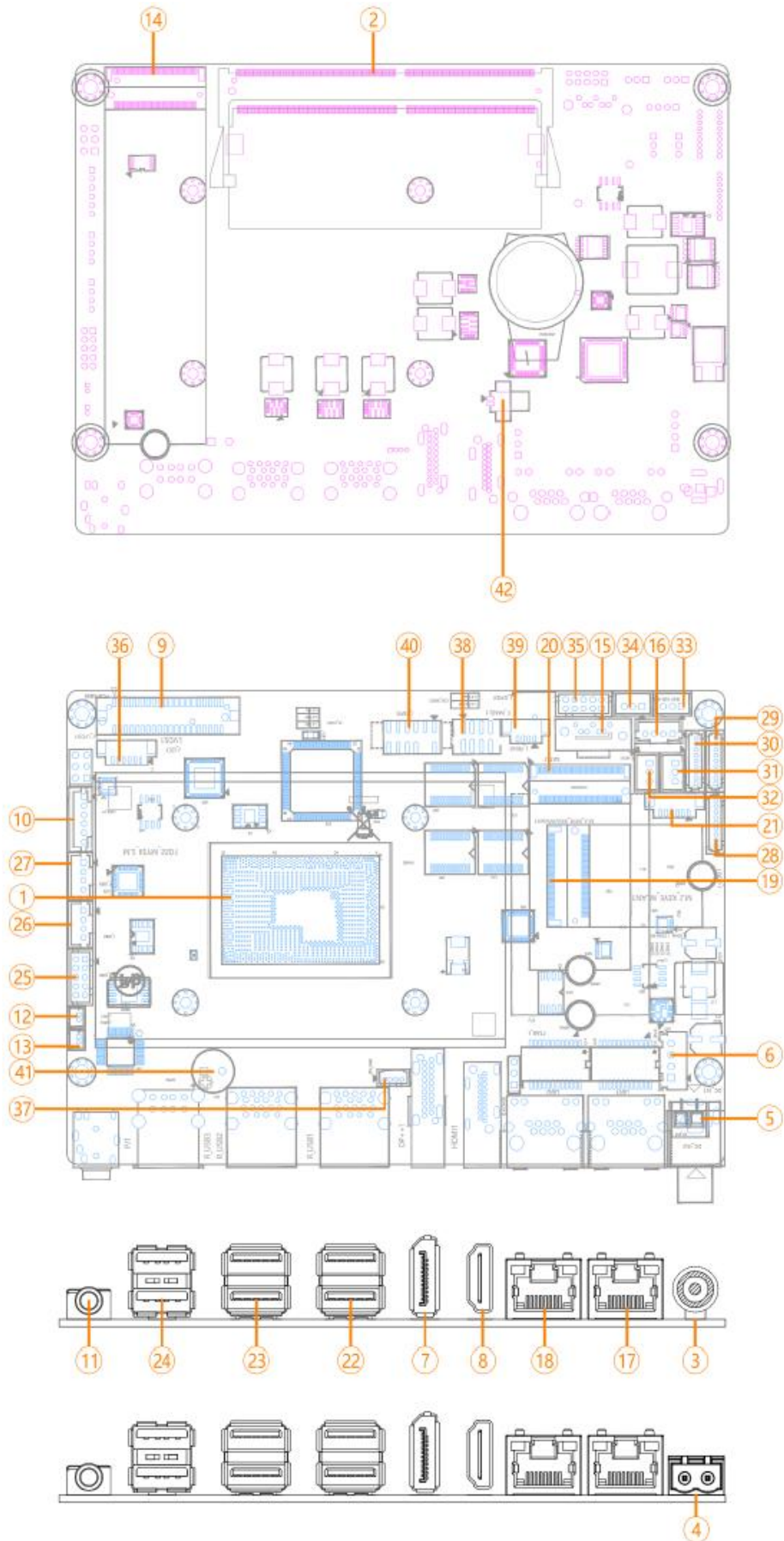
2.3 SV3-12N26-x7211E Product Overview (Jumper)



2.4 SV3-12N26-x7211E Jumper List

Jumpers			
①	JV_LVDS1	LVDS Power VCC3.3/VCC5/VCC12 Select Jumper	3*2P, 2.54mm
②	CLR_CMOS	CMOS Clear Select Jumper	3*1P, 2.54mm

2.5 SV3-12N26-x7211E Product Overview (Headers/Wafers and Connectors)



2.6 SV3-12N26-x7211E Connector List

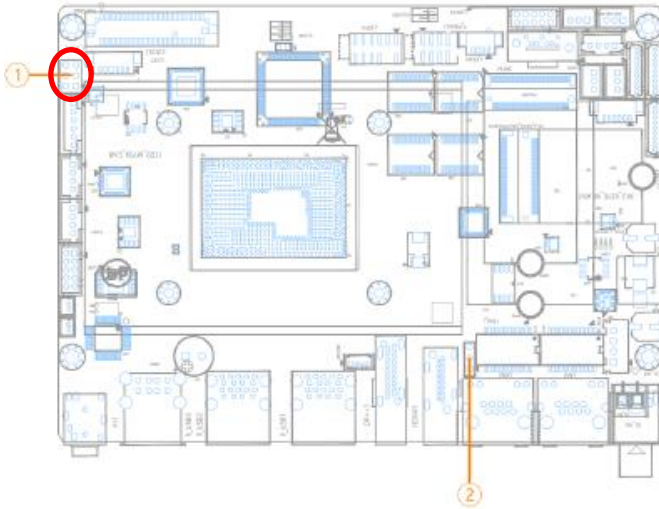
Headers / Wafers and Connectors			
①	U1	CPU	
②	DIMM1	DDR4 SO-DIMM Slot	
③	DC_IN1	DC 12/19/24V Power Input Φ 2.5mm Thread Jack	
④	DC_IN3	DC 12/19/24V Power Input 5.08mm 2P Terminal Block	Terminal Black, 2*1P, 5.08mm
⑤	DC_IN2	DC 12/19/24V Power Input 3.5mm 2P Terminal Block	Terminal Black, 2*1P, 3.50mm
⑥	DC_IN4	DC 12/19/24V Power Input Wafer	Wafer, 4*1P, 2.54 mm
⑦	DP++1	DP++ Upright Connector	
⑧	HDMI1	HDMI TYPE-A Connector	
⑨	LVDS1	eDP/LVDS Signal Wafer	DF13, 20*2P, 1.25mm
⑩	LVDS_P1	eDP/LVDS Backlight Control Wafer	Wafer, 6*1P, 2.00mm
⑪	PJ1	Line-Out + MIC 2in1 3.5mm Jack	
⑫	J_SPK1	Right Amplifier Wafer	Wafer, 2*1P, 1.25mm
⑬	J_SPK2	Left Amplifier Wafer	Wafer, 2*1P, 1.25mm
⑭	M.2_KEYM_SSD1	M.2 M-Key Slot (PCIe x1/SATA, 2280)	
⑮	SATA1	SATA3.0 7P Connector	
⑯	P_SATA1	SATA Power Header	Wafer, 4*1P, 2.00mm
⑰	LAN1	GbE LAN RJ45 Connector	RJ45, 8P
⑱	LAN2	GbE LAN RJ45 Connector	RJ45, 8P
⑲	M.2_KEYE_WLAN1	M.2 E-Key Slot (PCIE+USB2.0, 2230)	
⑳	M.2_KEYB_SSD/WWAN1	M.2 B-Key Slot (USB3.0 + USB2.0, 2242/3052)	
㉑	J_SIM1	SIM Card Wafer	Wafer, 6*1P, 1.25mm
㉒	R_USB1	Dual USB3.0 TYPE-A Connector	
㉓	R_USB2	Dual USB3.0 TYPE-A Connector	
㉔	R_USB3	Dual USB2.0 TYPE-A Connector	
㉕	F_USB1	Front Dual USB2.0 Wafer	Wafer, 5*2P, 2.00mm
㉖	F_USB2	Front USB2.0 Wafer	Wafer, 4*1P, 2.00mm
㉗	F_USB3	Front USB2.0 Wafer	Wafer, 4*1P, 2.00mm

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②⑧	J_COM1	COM1 Wafer	Wafer, 9*1P, 1.25mm
②⑨	J_COM2	COM2 Wafer	Wafer, 9*1P, 1.25mm
③⑩	J_COM3	COM3 Wafer	Wafer, 9*1P, 1.25mm
③①	J_COM4	COM4 RS232/TTL Wafer	Wafer, 3*1P, 2.00mm
③②	J_COM5	COM5 RS232/TTL Wafer	Wafer, 3*1P, 2.00mm
③③	J_COM6	COM6 RS232/TTL Wafer	Wafer, 3*1P, 2.00mm
③④	J_COM6_RS1	COM6 RS485 Wafer	Wafer, 3*1P, 2.00mm
③⑤	J_GPIO1	GPIO Wafer	Wafer, 5*2P, 2.00mm
③⑥	J_I2C1	I2C Wafer	Wafer, 6*1P, 2.00mm
③⑦	CPU_FAN1	CPU FAN Wafer	Wafer 4*1P, 1.25mm
③⑧	F_PANEL1	Front Panel Wafer	Header, 4*2P, 2.00mm
③⑨	J_PRM1	Power Debug Wafer	Wafer, 4*1P, 1.25mm
④⑩	J_ESPI1	ESPI Debug Header	Header, 6*2P, 2.00mm
④①	J_BAT1	CMOS Battery Wafer	Wafer, 2*1P, 1.25mm
④②	BZ1	Buzzer	

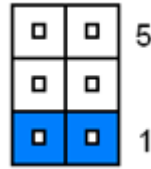
2.7 SV3-12N26-x7211E Jumpers & Connectors settings

2.7.1 LVDS Power VCC3.3/VCC5/VCC12 Select (JV_LVDS1)

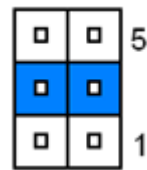


* Default

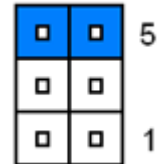
VCC3.3*



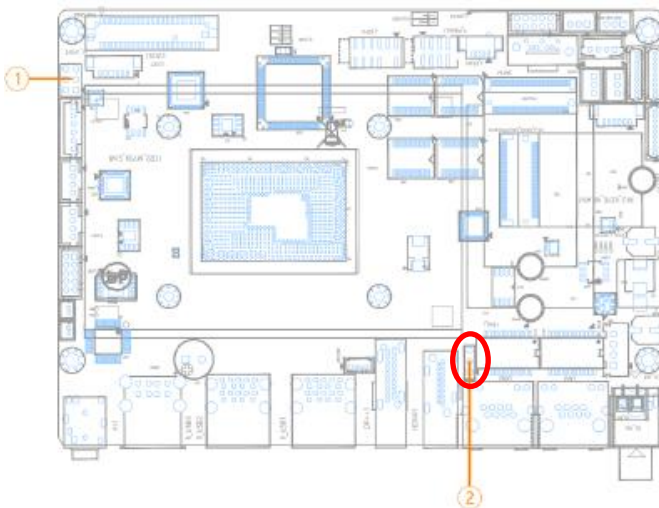
VCC5



VCC12

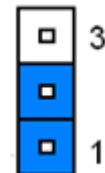


2.7.2 CMOS Clear Select (CLR_CMOS1)

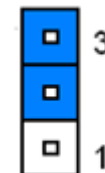


* Default

Normal*

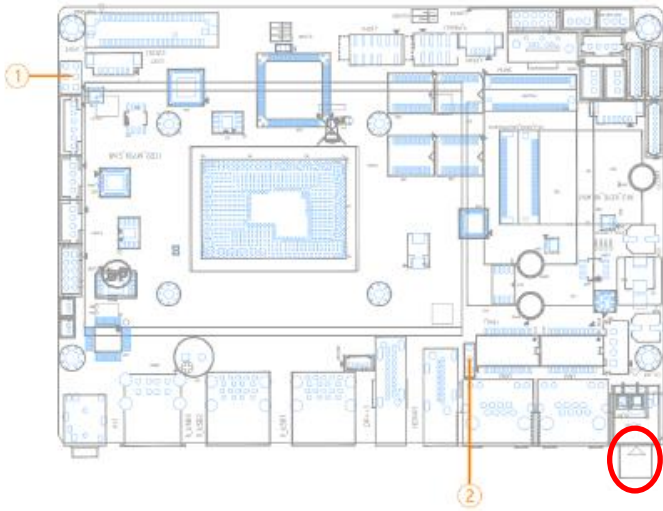


Clear CMOS



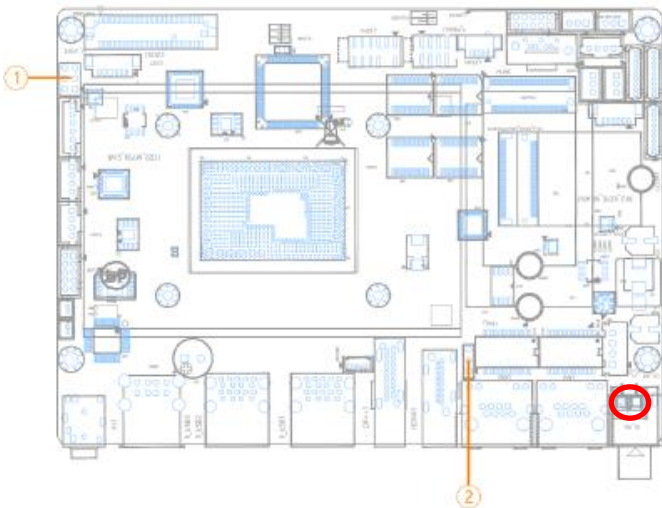
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2.7.3 DC 12/19/24V Power Input (DC_IN3)



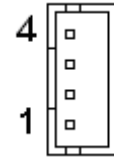
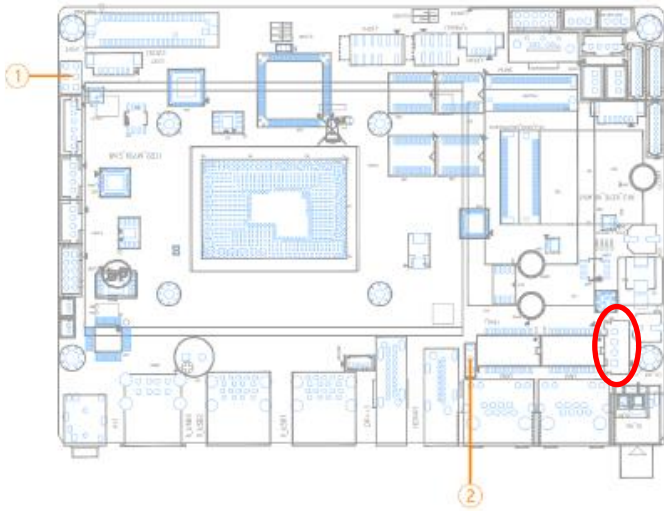
Signal	PIN	PIN	Signal
GND	2	1	DC_IN

2.7.4 DC 12/19/24V Power Input (DC_IN2)



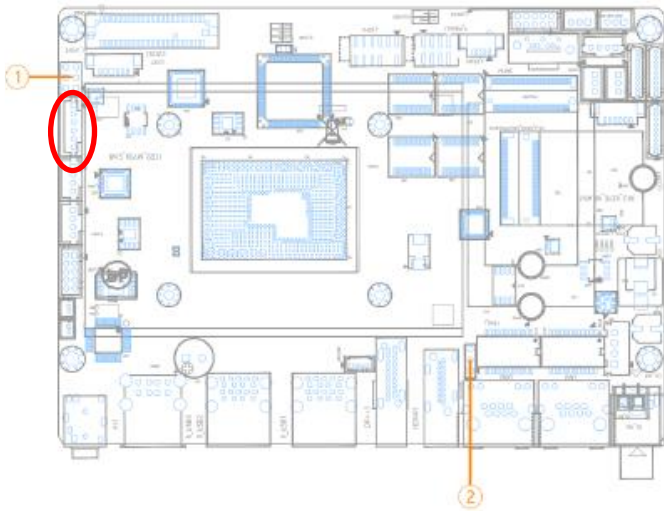
Signal	PIN	PIN	Signal
DC_IN	1	2	GND

2.7.5 DC 12/19/24V Power Output (DC_IN4)



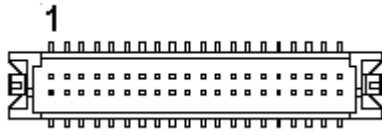
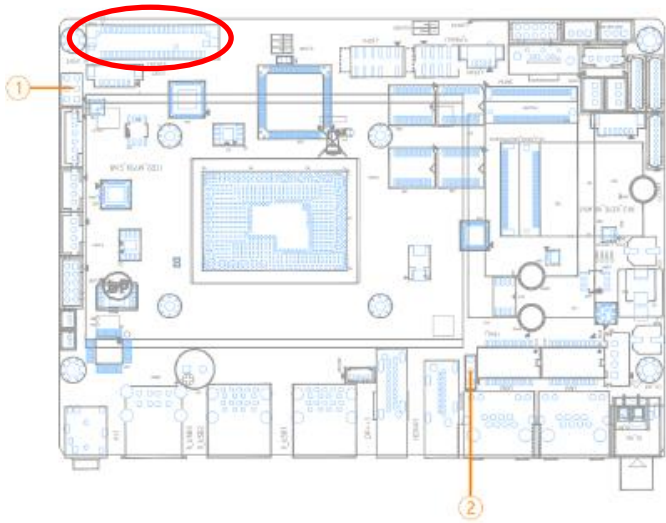
Signal	PIN
GND	4
GND	3
VCC_IN	2
VCC_IN	1

2.7.6 eDP/LVDS Backlight Control (LVDS_P1)



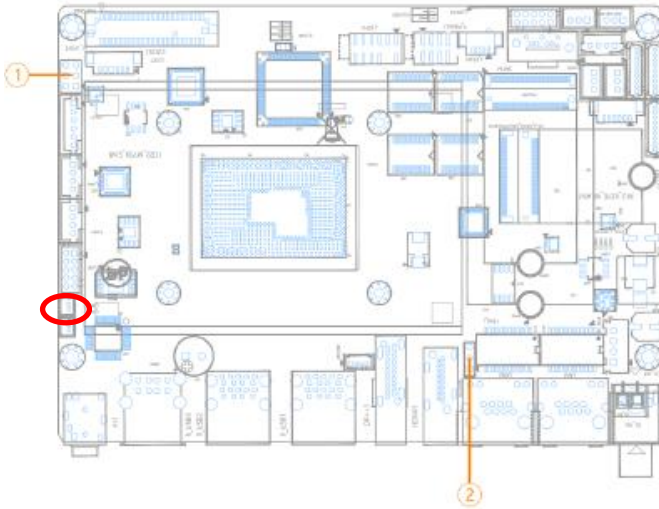
Signal	PIN
GND	1
GND	2
LVDS_BKLT_CTL	3
LVDS_BKLT_EN	4
VCC12	5
VCC12	6

2.7.7 eDP/LVDS connector (JLVDS1)



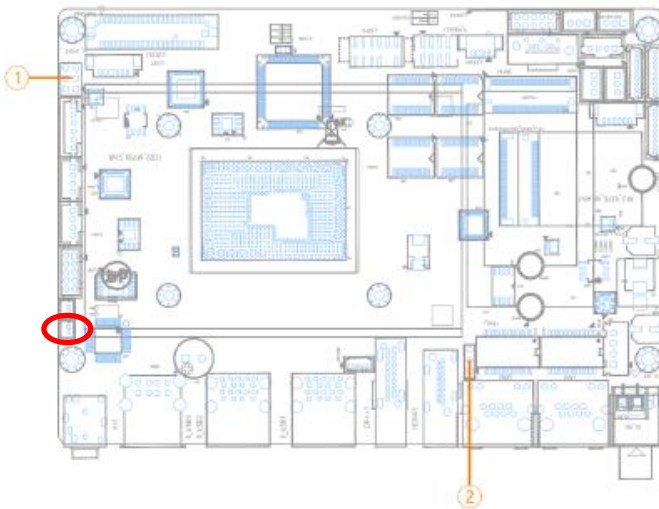
Signal	PIN	PIN	Signal
VCC3.3/VCC5/VCC12	1	2	VCC3.3/VCC5/VCC12
LVDS_PRSENT	3	4	GND
VCC3.3/VCC5/VCC12	5	6	VCC3.3/VCC5/VCC12
LVDS_A_DATA0-	7	8	LVDS_B_DATA0-/EDP1_TX0-
LVDS_A_DATA0+	9	10	LVDS_B_DATA0+/EDP1_TX0+
GND	11	12	GND
LVDS_A_DATA1-	13	14	LVDS_B_DATA1-/EDP1_TX1-
LVDS_A_DATA1+	15	16	LVDS_B_DATA1+/EDP1_TX1+
GND	17	18	GND
LVDS_A_DATA2-	19	20	LVDS_B_DATA2-/EDP1_TX2-
LVDS_A_DATA2+	21	22	LVDS_B_DATA2+/EDP1_TX2+
GND	23	24	GND
LVDS_A_CLK-	25	26	LVDS_B_CLK-/EDP1_TX3-
LVDS_A_CLK+	27	28	LVDS_B_CLK+/EDP1_TX3+
GND	29	30	GND
N/C	31	32	EDP1_HPD
GND	33	34	GND
LVDS_A_DATA3-	35	36	LVDS_B_DATA3-/EDP1_AUX-
LVDS_A_DATA3+	37	38	LVDS_B_DATA3+/EDP1_AUX+
N/C	39	40	GND

2.7.8 Right Amplifier (J_SPK1)



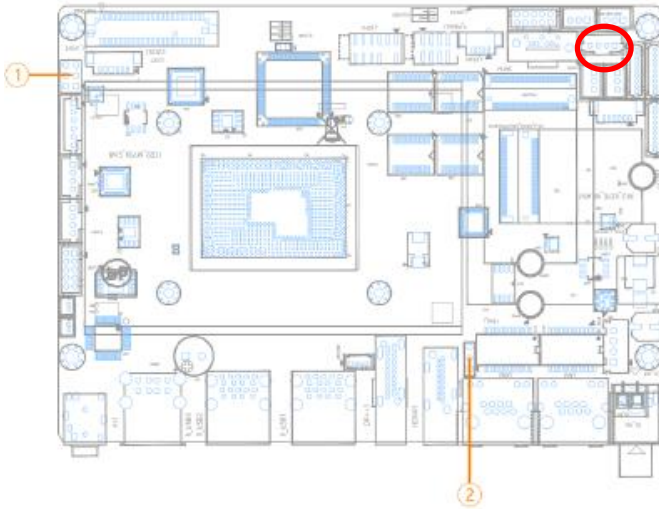
Signal	PIN
SPK_OUT_R+	1
SPK_OUT_R-	2

2.7.9 Left Amplifier (J_SPK2)



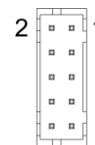
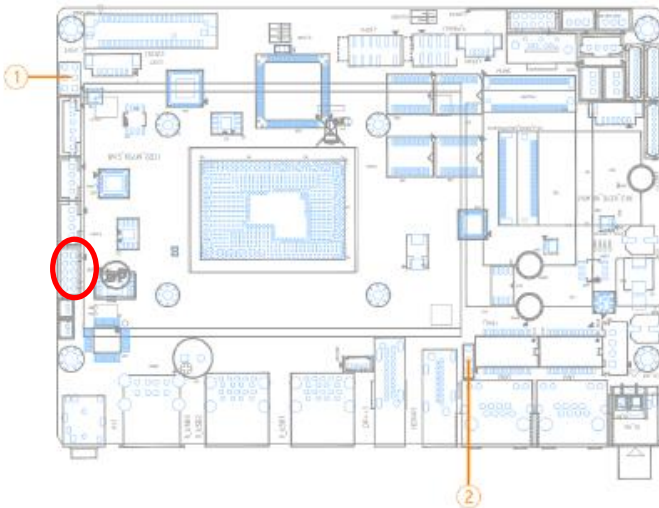
Signal	PIN
SPK_OUT_L+	1
SPK_OUT_L-	2

2.7.10 SATA Power (P_SATA1)



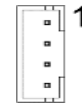
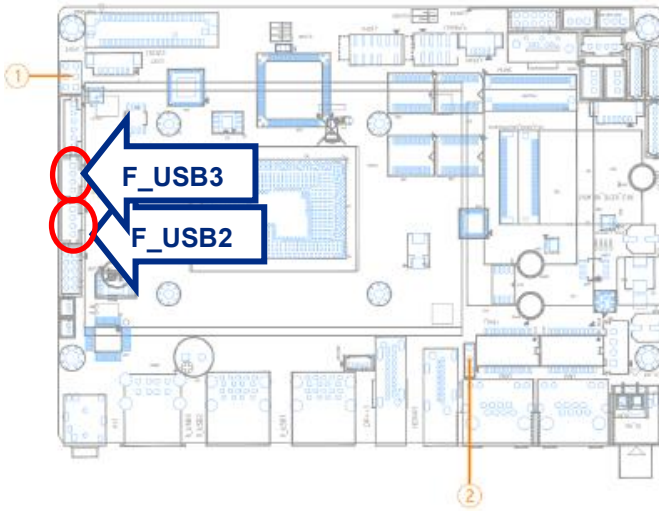
Signal	PIN
VCC12	1
GND	2
GND	3
VCC5	4

2.7.11 Front Dual USB2.0 (F_USB1)



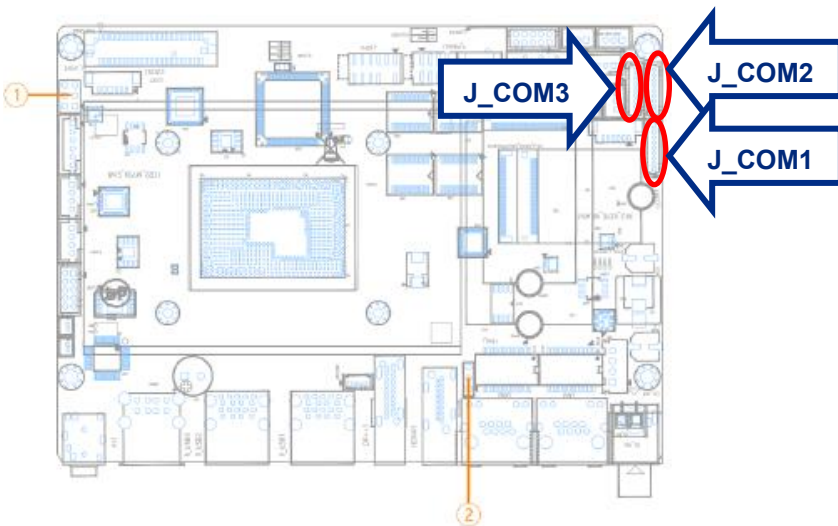
Signal	PIN	PIN	Signal
VCC5	2	1	VCC5
USB2.0_2-	4	3	USB2.0_1-
USB2.0_2+	6	5	USB2.0_1+
GND	8	7	GND
GND	10	9	GND

2.7.12 Front USB2.0 (F_USB2/3)



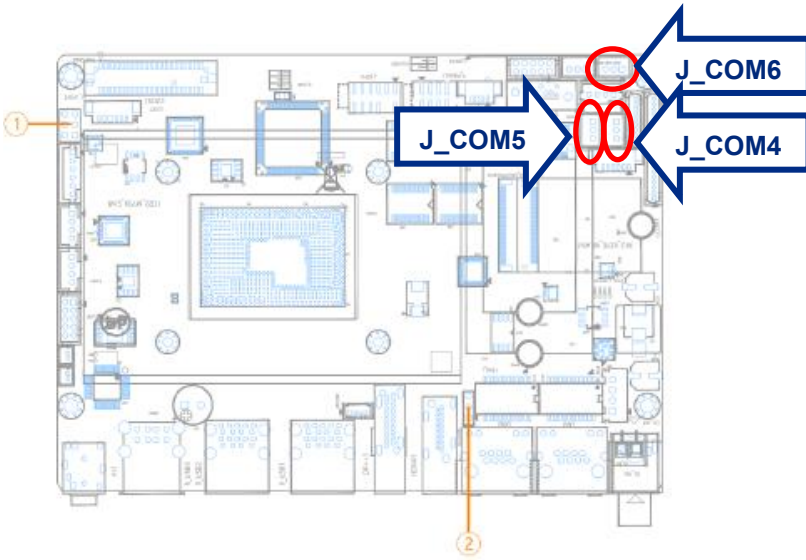
Signal	PIN
VCC5	1
USB2.0-	2
USB2.0+	3
GND	4

2.7.13 COM1/2/3 (J_COM1/2/3)



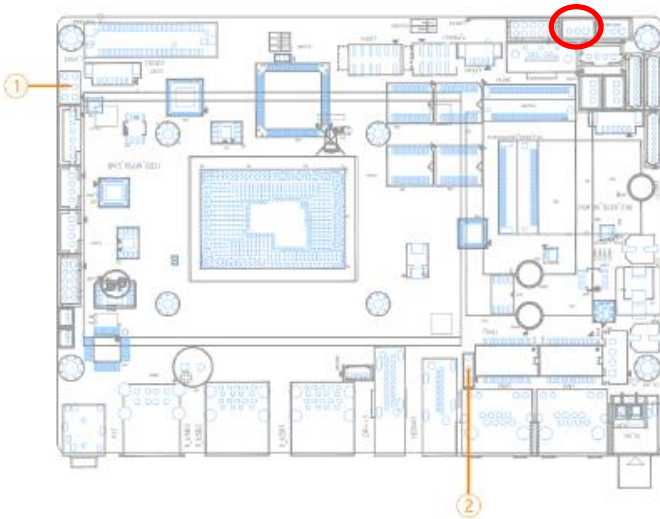
Signal	PIN
GND	9
RI/VCC12	8
DTR	7
CTS	6
TXD	5
RTS	4
RXD	3
DSR	2
DCD/VCC5	1

2.7.14 COM4/5/6 RS232/TTL (J_COM4/5/6)



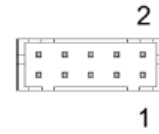
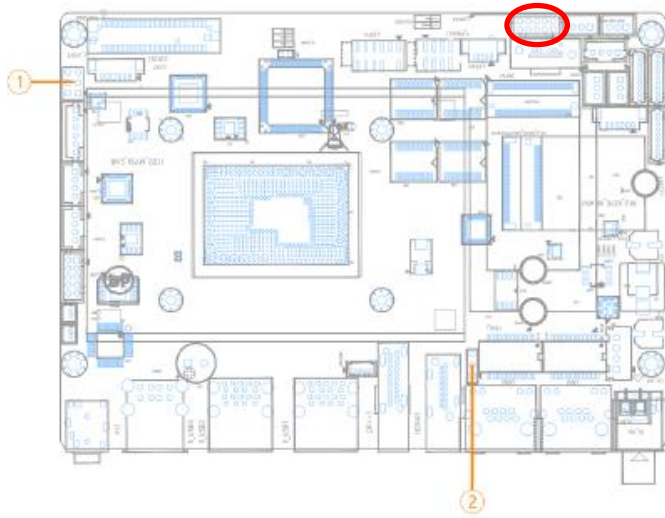
Signal	PIN
RXD	1
TXD	2
GND	3

2.7.15 COM6 RS485 (J_COM6_RS1)



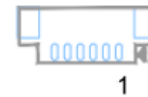
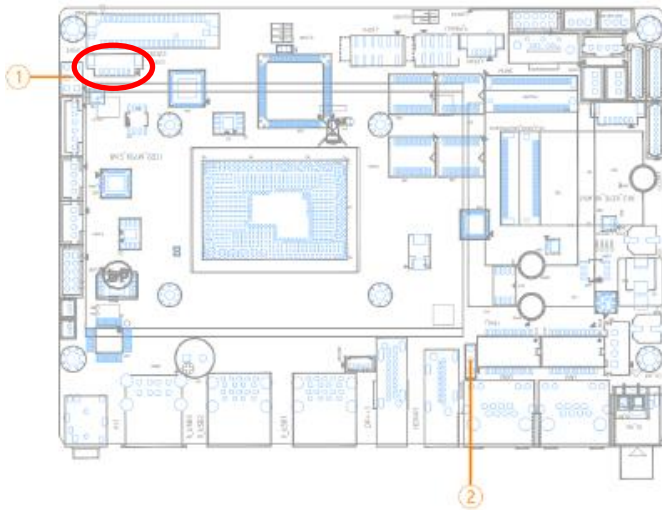
Signal	PIN
RS485+	1
RS485-	2
GND	3

2.7.16 GPIO (J_GPIO1)



Signal	PIN	PIN	Signal
SIO_GPI71 (0xA06 Bit1, H)	1	2	SIO_GPI70 (0xA06 Bit0, H)
SIO_GPI73 (0xA06 Bit3, H)	3	4	SIO_GPI72 (0xA06 Bit2, H)
SIO_GPO75 (0xA06 Bit5, H)	5	6	SIO_GPO74 (0xA06 Bit4, H)
SIO_GPO77 (0xA06 Bit7, H)	7	8	SIO_GPO76 (0xA06 Bit6, H)
GND	9	10	+3.3V

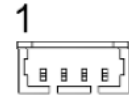
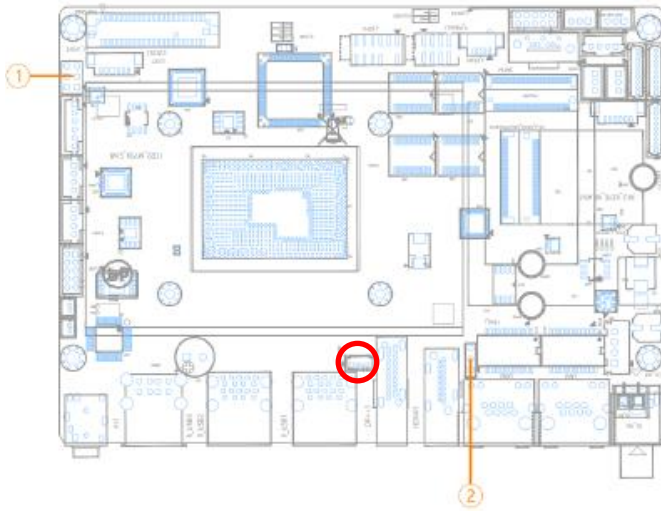
2.7.17 I2C (J_I2C1)



Signal	PIN
VCC3.3	1
GND	2
INT	3
RST	4
SCL	5
SDA	6

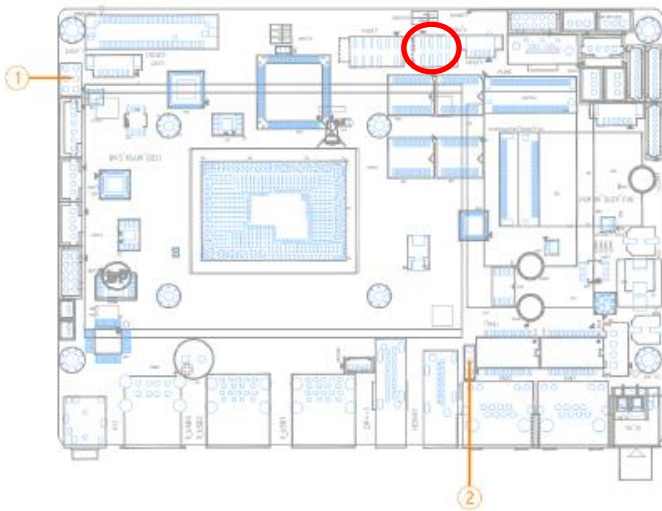
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2.7.18 CPU FAN (CPU_FAN1)



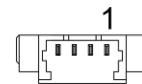
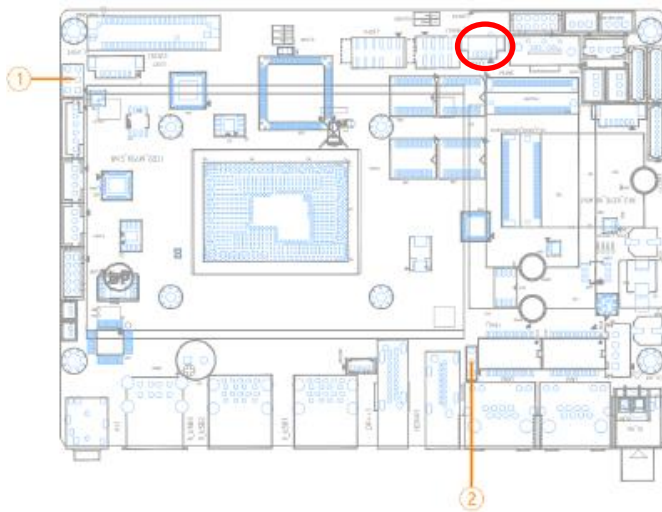
Signal	PIN
GND	1
VCC12	2
FAN Speed Detection	3
FAN Speed Control	4

2.7.19 Front Panel (F_PANEL1)



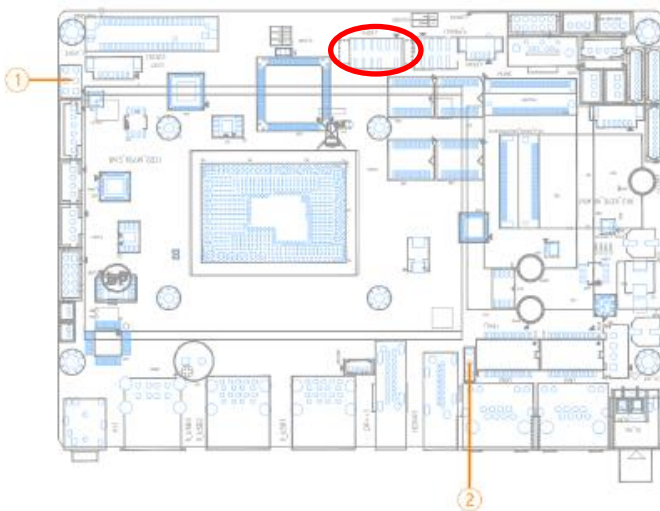
Signal	PIN	PIN	Signal
PWR LED+	1	2	HDD_LED+
PWR LED-	3	4	HDD_LED-
PWR On+	5	6	RESET-
PWR On-	7	8	RESET+

2.7.20 Power Debug (J_PRM1)



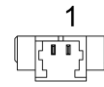
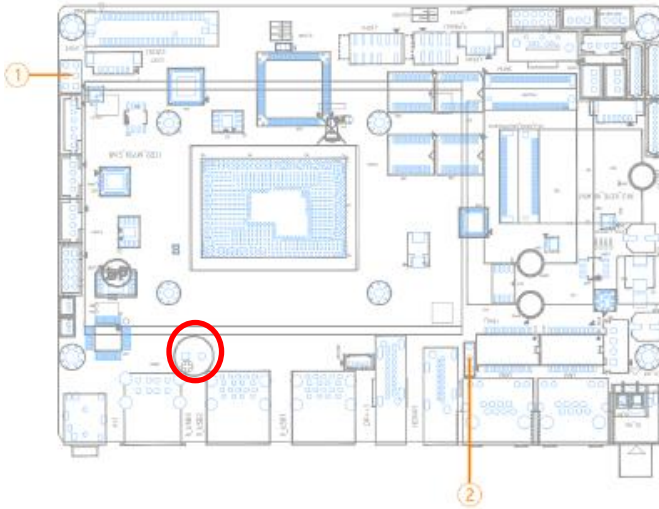
Signal	PIN
GND	1
N/C	2
MPS_SCL	3
MPS_SDA	4

2.7.21 ESPI (J_ESPI1)



Signal	PIN	PIN	Signal
ESPI_IO0	1	2	VCC3.3
ESPI_IO1	3		
ESPI_IO2	5	6	ESPI_CLK
ESPI_IO3	7	8	GND
ESPI_CS0	9	10	VCC3.3
ESPI_ALERT0_N	11	12	PLTRST_N

2.7.22 CMOS Battery (J_BAT1)



Signal	PIN
VCC_BAT	1
GND	2

3. Maintenance & Troubleshooting

System Maintenance Introduction

If the components of the product fail they must be replaced.

Please contact the system reseller or vendor to purchase the replacement parts. Please follow the safety precautions outlined in the sections that follow:

General Safety Precautions

Please ensure the following safety precautions are adhered to at all times.

1. Follow the electrostatic precautions outlined below whenever the device is opened.
2. Make sure the power is turned off and the power cord is disconnected whenever the product is being installed, moved or modified.
3. To prevent the risk of electric shock, make sure power cord is unplugged from wall socket. To fully disengage the power to the unit, please disconnect the power cord from the AC outlet. Refer servicing to qualified service personnel. The AC outlet shall be readily available and accessible.
4. Do not apply voltage levels that exceed the specified voltage range. Doing so may cause fire and/or an electrical shock. Use a power cord that matches the voltage of the power outlet, which has been approved and complies with the safety standard of your particular country.
5. Electric shocks can occur if the product chassis is opened when it is running. To avoid risk of electric shock, this device must only be connected to a supply mains with protective earth.
6. Do not drop or insert any objects into the ventilation openings of the product.
7. If considerable amounts of dust, water, or fluids enter the device, turn off the power supply immediately, unplug the power cord, and contact your dealer or the nearest service center.
8. This equipment is not suitable for use in locations where children are likely to be present.
9. DO NOT:
 - Drop the device against a hard surface.
 - Strike or exert excessive force onto the LCD panel.
 - Touch any of the LCD panels with a sharp object.
 - In a site where the ambient temperature exceeds the rated temperature.

Anti-Static Precautions

WARNING:

Failure to take ESD precautions during the installation of the product may result in permanent damage to the product and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the product. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the product is opened and any of the electrical components are 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 any electrical component.
 - Self-grounding: Before handling any electrical component, touch any grounded conducting material. During the time the electrical component is handled, frequently touch any conducting materials that are connected to the ground.
 - Use an anti-static pad: When configuring or working with an electrical component, place it on an anti-static pad. This reduces the possibility of ESD damage.
 - Only handle the edges of the electrical component. When handling the electrical component, hold the electrical component by its edges. Please ensure the following safety precautions are adhered to at all times.
1. Follow the electrostatic precautions outlined below whenever the device is opened.
 2. Make sure the power is turned off and the power cord is disconnected

Maintenance and Cleaning

When maintaining or cleaning the product, please follow the guidelines below.

WARNING:

- For safety reasons, turn-off the power and unplug the panel PC before cleaning.
- If you dropped any material or liquid such as water onto the panel PC when cleaning, unplug the power cable immediately and contact your dealer or the nearest service center. Always make sure your hands are dry when unplugging the power cable.

Maintenance and Cleaning

Prior to cleaning any part or component of the product, please read the details below.

- Except for the LCD panel, never spray or squirt liquids directly onto any other components. To clean the LCD panel, gently wipe it with a piece of soft dry cloth or a slightly moistened cloth.
- The interior of the device does not require cleaning. Keep fluids away from the device interior.
- Be cautious of all small removable components when vacuuming the device.
- Never drop any objects or liquids through the openings of the device.
- Be cautious of any possible allergic reactions to solvents or chemicals used when cleaning the device.
- Avoid eating, drinking and smoking within vicinity of the device.

Cleaning Tools

Some components in the panel PC may only be cleaned using a product specifically designed for the purpose. In such case, the product will be explicitly mentioned in the cleaning tips. Below is a list of items to use when cleaning the panel PC.

- Cloth: Although paper towels or tissues can be used, a soft, clean piece of cloth is recommended when cleaning the device.
- Water or rubbing alcohol: A cloth moistened with water or rubbing alcohol can be used to clean the device.
- Using solvents: The use of solvents is not recommended when cleaning the device as they may damage the plastic parts.
- Vacuum cleaner: Using a vacuum specifically designed for computers is one of the best methods of cleaning the device. Dust and dirt can restrict the airflow in the device and cause its circuitry to corrode.
- Cotton swabs: Cotton swabs moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas.
- Foam swabs: Whenever possible, it is best to use lint free swabs such as foam swabs for cleaning.

Basic Troubleshooting

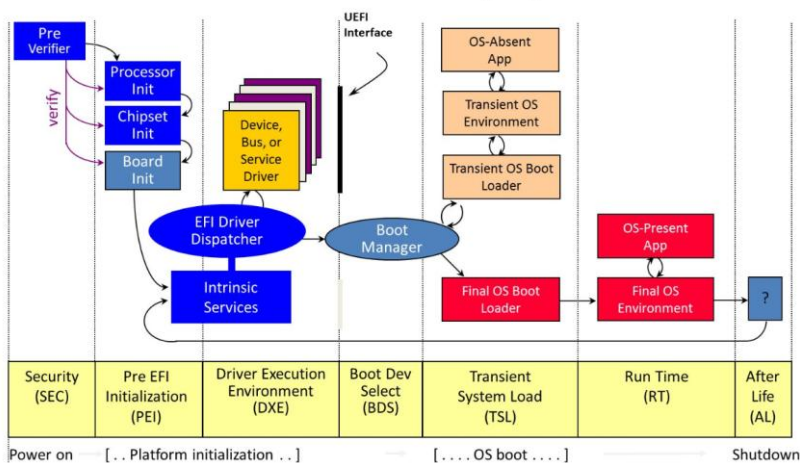
PEI Beep Codes

# of Beeps	Description
1	Memory not Installed
2	Recovery started
3	Typically for development use. The beep code is generated when DXE IPL PPI or DXE Core is not found.
4	Recovery failed
4	S3 Resume failed
7	Typically for development use. The beep code is generated when platform cannot be reset because reset PPI is not available.

DXE Beep Codes

# of Beeps	Description
1	Invalid password
4	Typically for development use. The beep code is generated when some of the Architectural Protocols are not available.
5	No Console Input or Output Devices are found
5	No Console Input Devices are found
6	Flash update is failed
7	Typically for development use. The beep code is generated when platform cannot be reset because reset protocol is not available.
8	Platform PCI resource requirements cannot be met

Platform Initialization (PI) Boot Phases



https://uefi.org/specs/PI/1.8/V2_Overview.html

4. 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.

5. 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.