

EEV-EX26

Micro ATX Type 6 COM Express Carrier Board

User's Manual

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Document Amendment History

Revision	Date	By	Comment
1 st	October 2024	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

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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

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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

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		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 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	EEV-EX26 Micro ATX Type6 COM Express Carrier Board	1
2	M3*5mm Ni Screws for installing Carrier Board	8
3	Expansion board for PCIe	1
4	AUX-A02 IET Module (Double Layer DP/HDMI + DP/HDMI + DP/HDMI)	1
5	AUX-B01 IET Module (1 x VGA + 1 x 2.5G LAN + 4 x USB3.2)	1
6	AUX-C01 IET Module (SD/DIO+SPI ROM)	1



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

1.3 Manual Objectives

This manual describes in details Avalue Technology EEV-EX26 Single Board.

We have tried to include as much information as possible but we have not duplicated information that is provided in the standard IBM Technical References, unless it proved to be necessary to aid in the understanding of this board.

We strongly recommend that you study this manual carefully before attempting to set up EEV-EX26 or change the standard configurations. Whilst all the necessary information is available in this manual we would recommend that unless you are confident, you contact your supplier for guidance.

Please be aware that it is possible to create configurations within the CMOS RAM that make booting impossible. If this should happen, clear the CMOS settings, (see the description of the Jumper Settings for details).

If you have any suggestions or find any errors regarding this manual and want to inform us of these, please contact our Customer Service department with the relevant details.

1.4 System Specifications

System			
BIOS	SPI Flash SOIC 8-Pin Socket by 1 x IET Module_AUX-C01 (SD/DIO + SPI ROM)		
Expansion Slot			
PCIe	1 x PCI-e Gen4 x16 slot 2 x PCI-e Gen4 x4 Slot		
Others	3 x IET Module (Standard / Default)		
	AUX-A02	AUX-B01	AUX-C01
	3 x DP/HDMI (DDI1/2/3) *Only 3DP or 3HDMI	1 x VGA, 1 x 2.5G LAN, 4 x USB3.2 Gen2 x1 (USB_SS0/1/2/3)	1 x SD/DIO, 1 x SPI ROM
Storage			
SATA	4 x SATA III		
SD Card	1 x SD by 1 x IET Module_AUX-C01 (SD/DIO + SPI ROM)		
Edge I/O			
LAN	1 x 2.5 Gigabit RJ45 Ethernet connector by 1 x IET Module_AUX-B01		
USB	4 x USB3.2 Gen2 x1 by 1 x IET Module_AUX-B01		
DP/HDMI	3 x HDMI & 3 x DisplayPort by 1 x IET Module_AUX-A02		
VGA	1 x VGA by 1 x IET Module_AUX-B01		
Type C	2 x USB Type C module board by 1 x IET Module_AUX-A01 (Option)		
Onboard I/O			
USB 2.0	2 x 2 x 5 pin, pitch 2.00 connector for 4 x USB 2.0		
GPIO	1 x 2 x 6pin, pitch 2.00mm connector for GPIO: 8 bits, + 5V Level SMBus by 1 x IET Module_AUX-C01		
CPU/System FAN	1 x 1 x 4 pin, pitch 2.54mm CPU fan connector with smart fan function supported. 1 x 1 x 4 pin, pitch 2.54mm System fan connector without smart fan function supported.		
Buzzer	Onboard Buzzer		
Audio	2 x 5 pin, pitch 2.54mm connector for front Audio (Line-out, Mic-in)		
Front Panel	1 x 2 x 4 pin, pitch 2.00mm connector for front panel		
RTC Battery	1 x 2 Pin Pitch 1.25mm vertical type battery connector (CR2032 Battery), L=170mm		
AT/ATX Selector	Default ATX, (Select at on/off switch) _SW1		
Clear CMOS	1 x 1 x 3 pin, pitch 2.54mm connector for CMOS clear		
LVDS/eDP	LVDS: 1 x 2 x 20 pin, pitch 1.25mm connector for LVDS or		

	eDP: 1 x 2 x 10 pin, pitch 1.25mm connector for eDP
LCD Backlight Brightness adjustment by VR	1 x 1 x 3 pin, pitch 2.00mm connector LCD backlight brightness adjustment by VR (Variable Resistor)
LCD Inverter	1 x 1 x 5 pin, pitch 2.00mm Wafer connector for LCD inverter backlight connector (5V/12V)
eSPI	1 x 2 x 6 pin, pitch 2.00mm connector for eSPI
LPC	1 x 2 x 6 pin, pitch 2.00mm connector for LPC
SPI	1 x 1 x 6 pin, pitch 2.54mm for GP_SPI
Power / Reset	1 x Power, 1 x Reset button
SW Switch	1 x 1 x 10 pin, switch connector for SW1 function setting (Please refer to below table_ "SW1 Setting" in detail.)
Debug port	1 x 2 x 13 pin, pitch 2.00mm connector for RD debug (Please refer to below table_ "JTP1_Test Position Connector" in detail.)
DC-Input	1 x 2 x 12 pin ATX power connector 1 x 2 x 2 pin ATX 12V power connector
COMe board to board connector	1 x COM Express connector (connector row AB, CD)
Display	
Graphic Chipset	According to COMe module
Multiple Display	4 Independent Displays (According to COMe module)
Digital Display Interface (SOM)	VGA, LVDS, eDP, HDMI, DisplayPort: (Note: Select by BIOS, function support depends on platform.
	AUX-A01 2 x USB4 Type C (4K,5V/3A,Support PD)
	AUX-A02 3 x DDI configurable to DP 1.4a (max. 4096 x 2160@60Hz) or HDMI 2.0b (4096x2160@60Hz)
	AUX-B01 1 x VGA 1920 x 1200 @ 60Hz
	EEV-EX26 MB LVDS: 1920 x 1080 Dual channel 18/24-bits LVDS (Chrontel CH7511B-BFI eDP to LVDS) or 1 x eDP 4096 x 2160@60Hz (by COMe module BOM)
Audio	
Audio Codec	Realtek ALC888S HD Audio Decoding Controller
Ethernet	
LAN Spec.	1 x 2.5 Gigabit Ethernet connector by AUX-B01
Mechanical & Environmental Specification	
Power Mode	HW ATX
Operating Temp.	-40°C to 85°C (-40°F ~ 185°F) * 1. Design of materials specification based on this temperature (-40°C to 85°C). Actual tested is according to the operating temperature of COMe Module.

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	2. Except Realtek ALC888S HD Audio Decoding Controller, all components are wide-temperature SKUs.
Storage Temp.	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Size (L x W) (Please consult product engineers for the production feasibility if the size is larger than 410x360mm or smaller than 80x70mm)	9.6" x 9.6" / 244 mm x 244 mm (Micro-ATX Form Factor)
Weight	Total Weight of EEV-EX26 Standard package: 404g, incl. EEV-EX26 MB: 250g AUX-A02: 51g AUX-B01: 29g AUX-C01: 22g 4PCIe by 1: 52g
Vibration Test	<u>Package Vibration Test</u> Reference IEC60068-2-64 Testing procedures Test Fh: Vibration broadband random Test 1. PSD: 0.026G²/Hz, 2.16 Grms 2. Non-operation mode 3. Test Frequency: 5-500Hz 4. Test Axis: X,Y and Z axis 5. 30 min. per each axis 6. IEC 60068-2-64 Test:Fh <u>Random Vibration Operation</u> Reference IEC60068-2-64 Testing procedures Test Fh : Vibration broadband random Test 1. PSD: 0.00454G²/Hz, 1.5 Grms 2. Operation mode 3. Test Frequency : 5-500Hz 4. Test Axis : X,Y and Z axis 5. 30 minutes per each axis 6. IEC 60068-2-64 Test:Fh <u>Random Vibration Non Operation</u> Reference IEC60068-2-64 Testing procedures

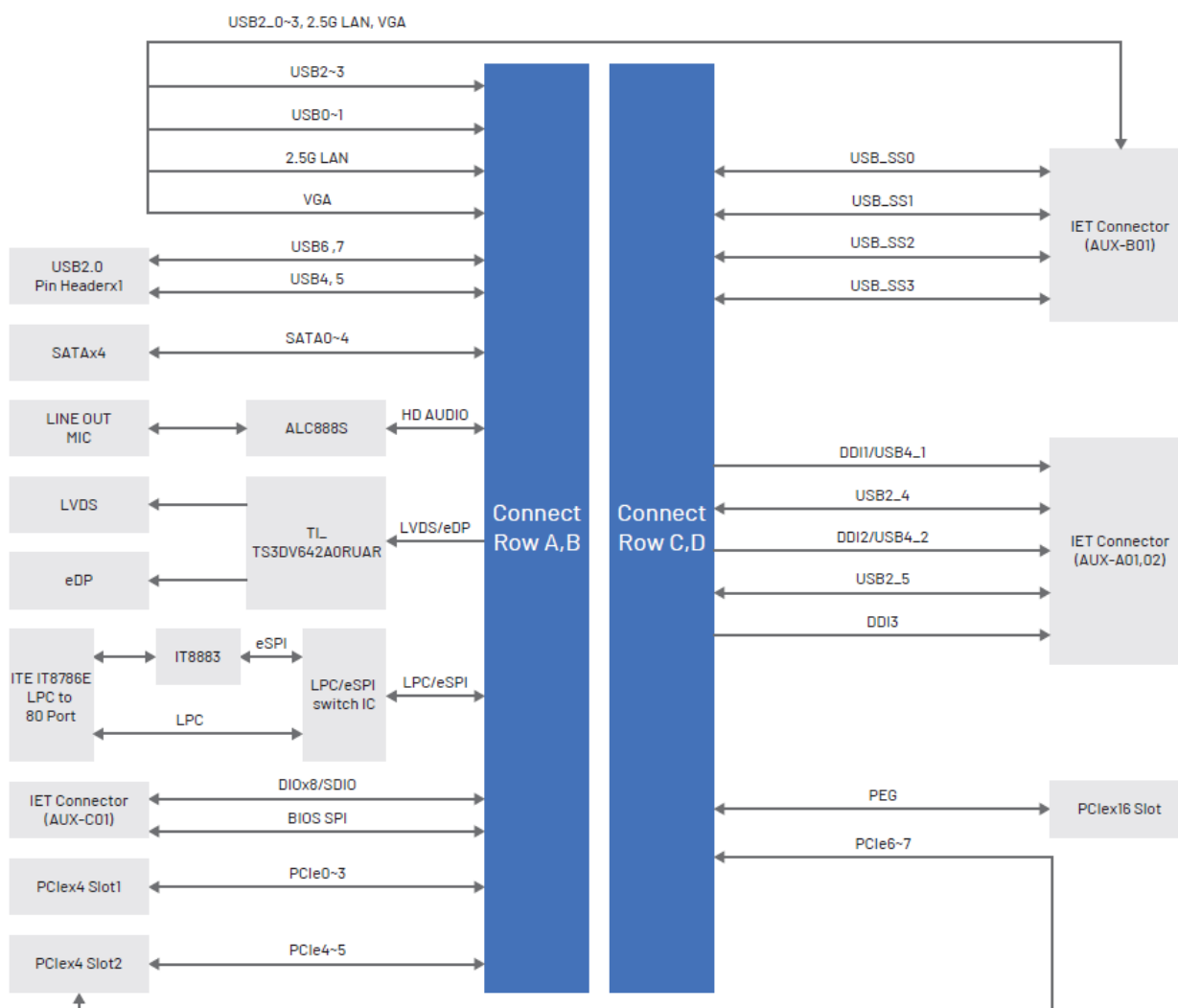
	Test Fh : Vibration broadband random Test 1. PSD: 0.01818G²/Hz, 3.0 Grms 2. Non Operation mode 3. Test Frequency : 5-500Hz 4. Test Axis : X,Y and Z axis 5. 30 minutes per each axis 6. IEC 60068-2-64 Test:Fh
Drop Test	<u>Package Drop</u> Reference ISTA 2A, Method : IEC-60068-2-32 Test: Ed Drop Test 1 One corner, three edges, six faces 2 ISTA 2A, IEC-60068-2-32 Test: Ed
OS Information	According to COMe Module solution



Note: Specifications are subject to change without notice.

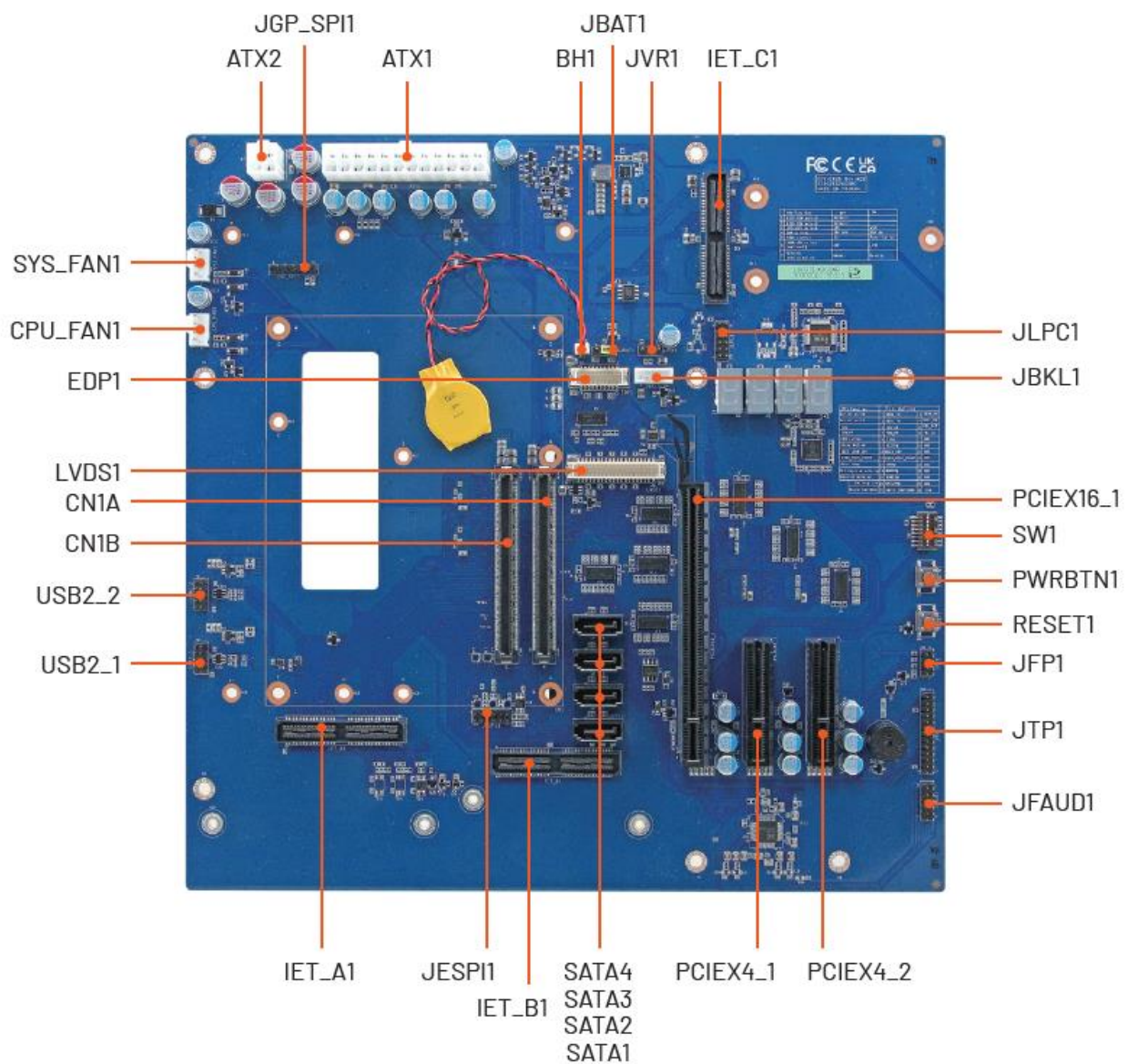
1.5 Architecture Overview—Block Diagram

The following block diagram shows the architecture and main components of EEV-EX26.



2. Hardware Configuration

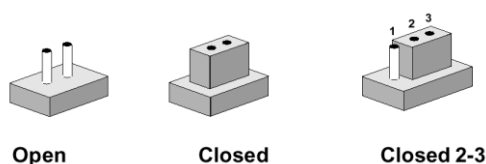
2.1 Product Overview



2.2 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.



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



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.

Jumpers

Label	Function	Note
SW1	Multi-function select	DIP switch 8pin
JBAT1	Clear CMOS	3 x 1 header, pitch 2.54mm

Connectors

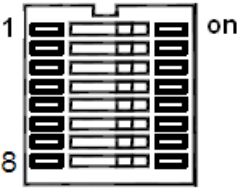
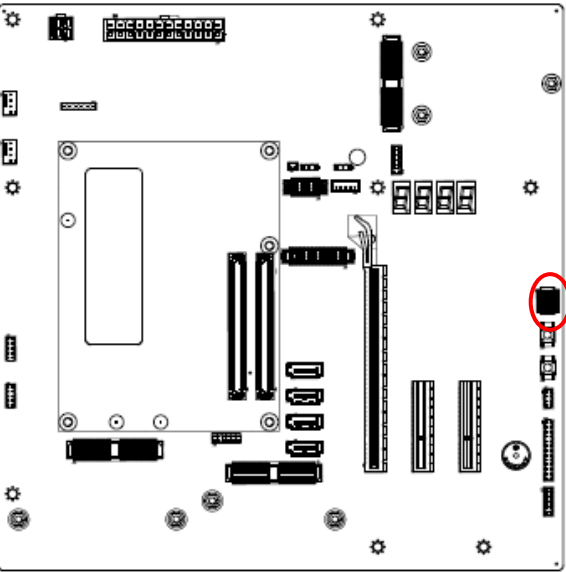
Label	Function	Note
ATX1	ATX1 Power connector	12 x 2 wafer, pitch 4.20mm
ATX2	ATX2 Power connector	2 x 2 wafer, pitch 4.20mm
CPU_FAN1	CPU fan connector	4 x 1 wafer, pitch 2.54mm
SYS_FAN1	System fan connector	4 x 1 wafer, pitch 2.54mm
JTP1	Test position connector	13 x 2 header, pitch 2.00mm
IET_A1	IET connector	40 x 2 wafer, pitch 0.80mm

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		(only used in production testing)
IET_B1	IET connector	40 x 2 wafer, pitch 0.80mm (only used in production testing)
IET_C1	IET connector	40 x 2 wafer, pitch 0.80mm (only used in production testing)
JVR1	LCD backlight brightness adjustment	3 x 1 header, pitch 2.54mm
JFAUD1	Front Audio connector	6 x 2 header, pitch 2.00mm
JFP1	Front panel connector	4 x 2 header, pitch 2.00mm
JESPI1	ESPI connector	6 x 2 header, pitch 2.00mm
JGP_SPI1	GP SPI connector	6 x 1 header, pitch 2.54mm
PWRBTN1	Power button	
RESET1	Reset button	
USB2_1	USB2.0 connector	5 x 1 header, pitch 2.00mm
USB2_1	USB2.0 connector	5 x 1 header, pitch 2.00mm
PCIEX16_1	PCI-e x 16 Gen 4 slot	
PCIEX4_1	PCI-e x 4 Gen 4 Slot	
PCIEX4_2	PCI-e x 4 Gen 4 Slot	
SATA1/2/3/4	Serial ATA connector 1/2/3/4	
LVDS1	LVDS connector	20 x 2 box header, pitch 1.25 mm Matching Connector: Hirose DF13-40DS-1.25C
JBKL1	LCD Inverter connector	5 x 1 wafer, pitch 2.00mm Matching Connector: JST PHR-5
JLPC1	LPC port connector	6 x 2 header, pitch 2.00mm
EDP1	EDP connector	10 x 2 wafer, pitch 1.25mm
BH1	Battery connector	2 x 1 wafer, pitch 1.25mm
CN1A	COM Express connector 1	
CN1B	COM Express connector 2	

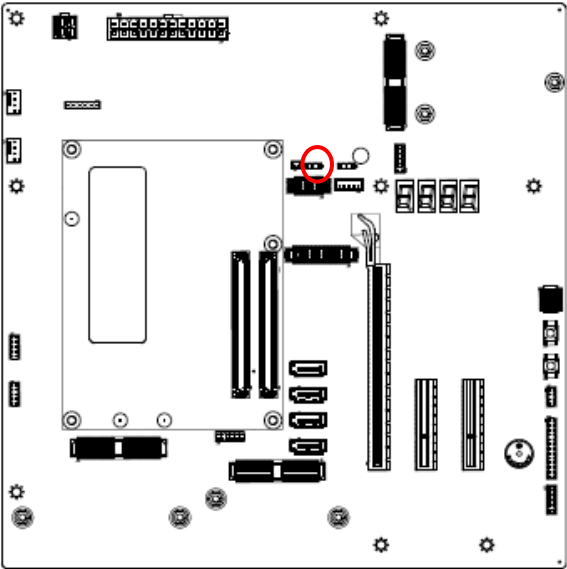
2.3 Setting Jumpers & Connectors

2.3.1 Multi-function select (SW1)



	Function	ON	OFF
1	BIOS ROM select		Default
2	BIOS ROM select		Default
3	LPC/eSPI select	eSPI	LPC
4	ERP setting	ERP ON	ERP OFF
5	PSRON Control	Power button	S3
6	LVDS/eDP select (optional)	LVDS	eDP
7	PClex16 reverse select	Reverse	Normal

2.3.2 Clear CMOS (JBAT1)



Protect*

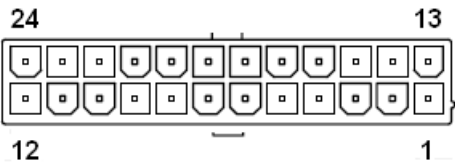
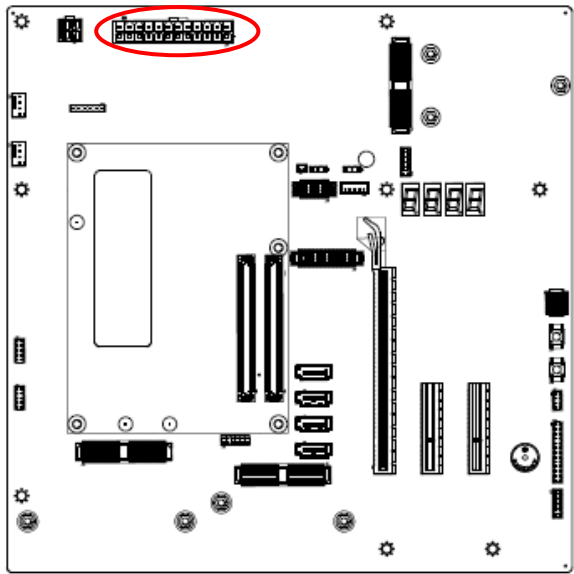


Clear CMOS



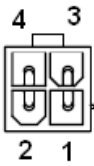
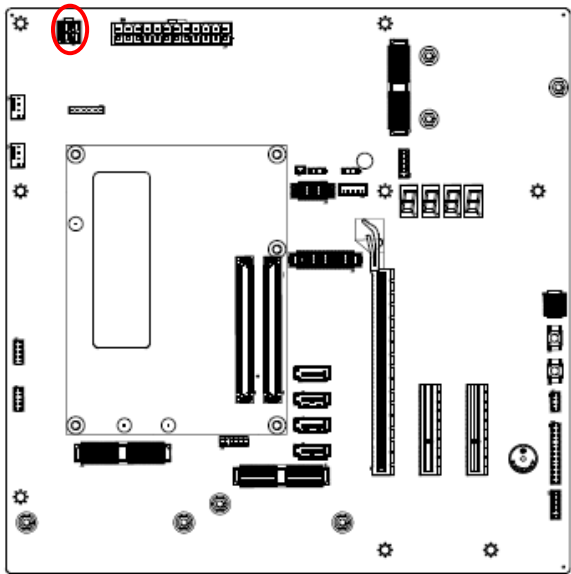
* Default

2.3.3 ATX1 Power connector (ATX1)



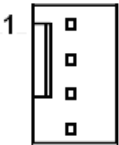
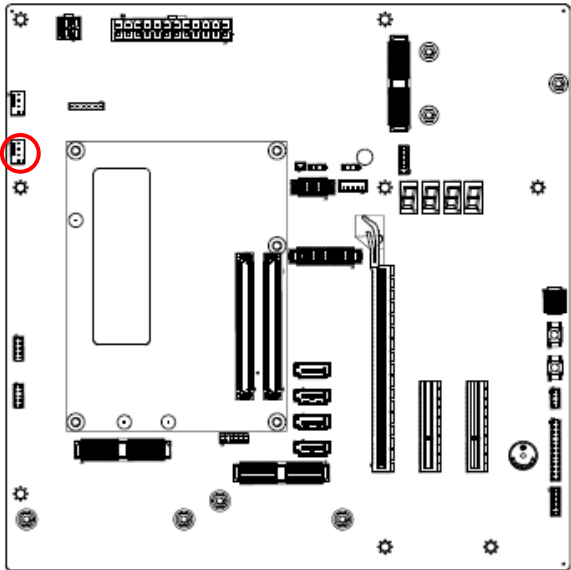
Signal	PIN	PIN	Signal
+3.3V	13	1	+3.3V
NC	14	2	+3.3V
GND	15	3	GND
PSON#	16	4	+5V
GND	17	5	GND
GND	18	6	+5V
GND	19	7	GND
NC	20	8	PWR_OK
+5V	21	9	+5VSB
+5V	22	10	+12V
+5V	23	11	+12V
GND	24	12	+3.3V

2.3.4 ATX2 Power connector (ATX2)



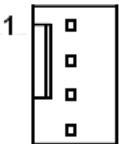
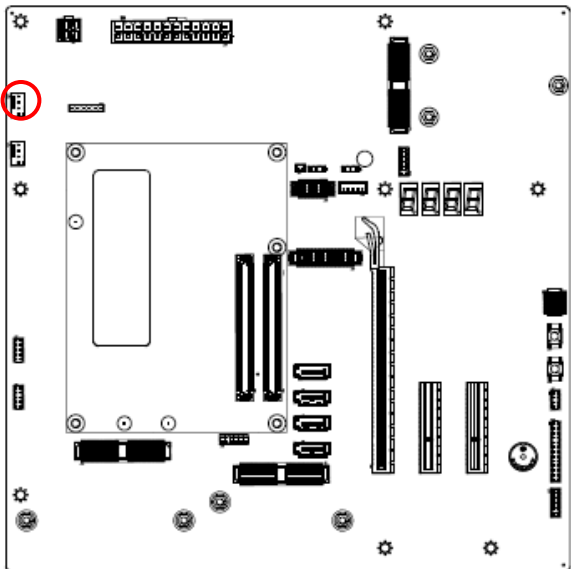
Signal	PIN	PIN	Signal
+VIN	4	3	+VIN
GND	2	1	GND

2.3.5 CPU Fan connector (CPU_FAN1)



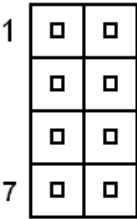
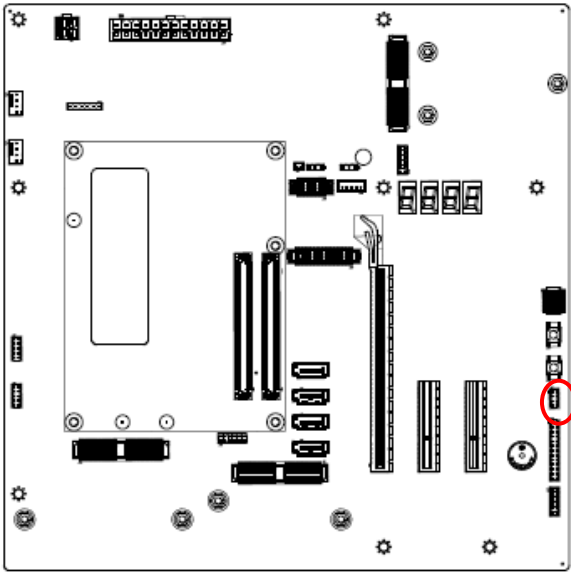
Signal	PIN
GND	1
+12V	2
FAN_TACHIM	3
+5V	4

2.3.6 System Fan connector (SYS_FAN1)



Signal	PIN
GND	1
+12V	2
SYS_FAN_TACHIM	3
+5V	4

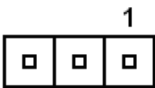
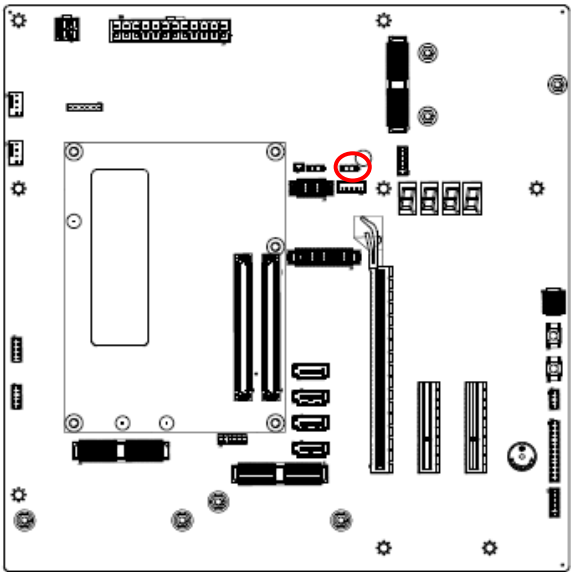
2.3.7 Front panel connector (JFP1)



Signal	PIN	PIN	Signal
PWRBTN#	1	2	GND
RERST#	3	4	GND
+5V	5	6	GND
+5V	7	8	SATA_LED#

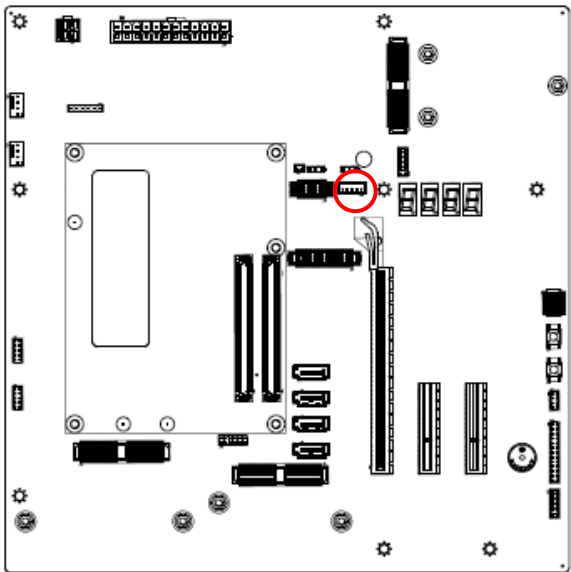
Pin	1	2	3	4	5	6	7	8
Signal	Power Button		Reset Button		Power LED		SATA LED	

2.3.8 LCD backlight brightness adjustment (JVR1)



Signal	PIN
+5V	1
EDP_BRIGHT_CTRL	2
GND	3

2.3.9 LCD Inverter connector (JBKL1)

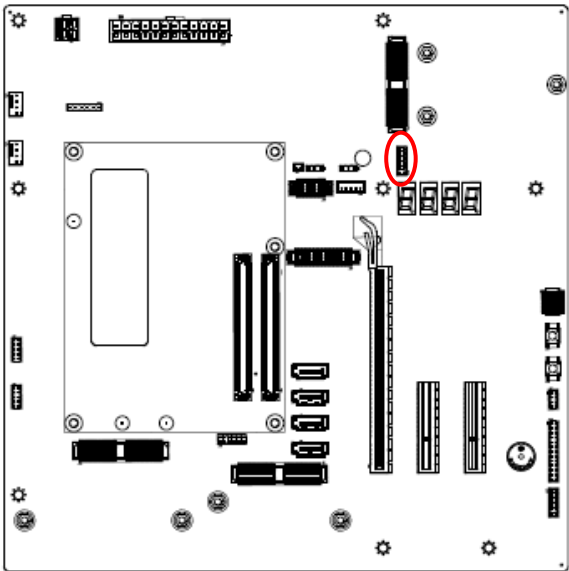


Signal	PIN
+VCC_BKL	1
GND	2
BKLEN	3
EDP_BRIGHT_CTRL	4
+5V	5

2.3.9.1 Signal Description – LCD Inverter connector (JBKL1)

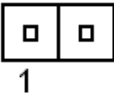
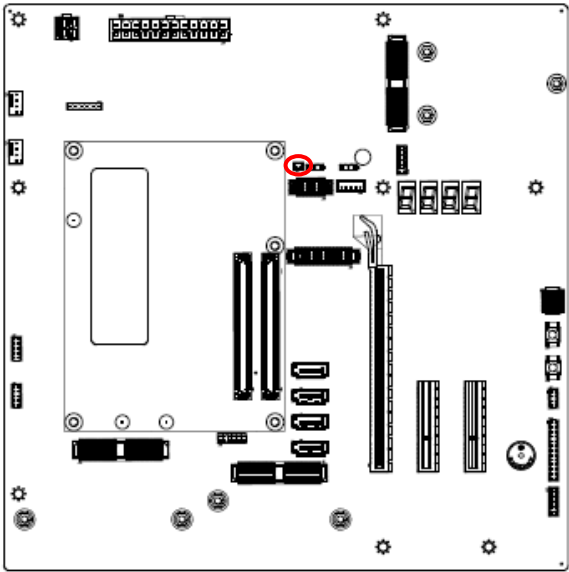
Signal	Signal Description
EDP_BKLT_CTRL	when EDP_BKLT_CTRL is controlled by carrier board's JVR1, Vadj = 0.75V ~ 4.25V (Recommended: 4.7KΩ, >1/16W)
BKLEN	LCD backlight ON/OFF control signal

2.3.10 LPC port connector (JLPC1)



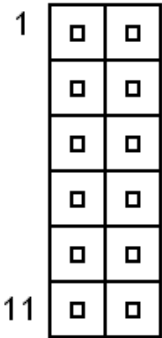
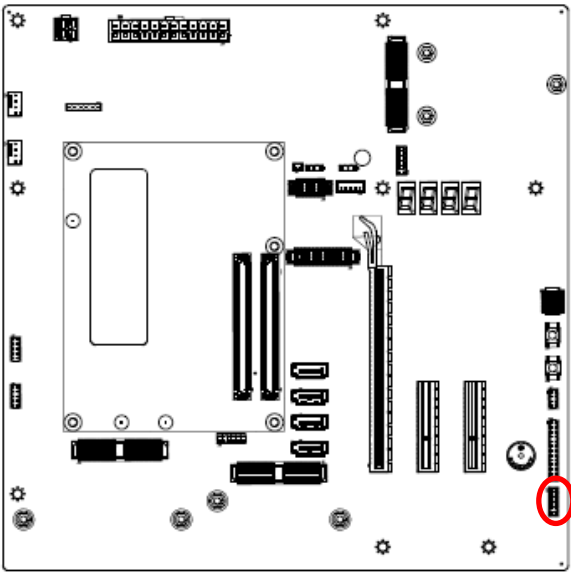
Signal	PIN	PIN	Signal
LPC_DRQ0#	12	11	NC
GND	10	9	LPC_PORT80_SERIRQ
PORT80_CLK	8	7	LPC_PORT80_AD3
LPC_PORT80_LPC_FRAME#	6	5	LPC_PORT80_AD2
CB_RST#	4	3	LPC_PORT80_AD
+3.3V	2	1	LPC_PORT80_AD0

2.3.11 Battery connector (BH1)



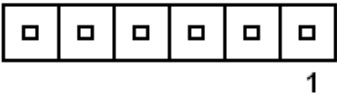
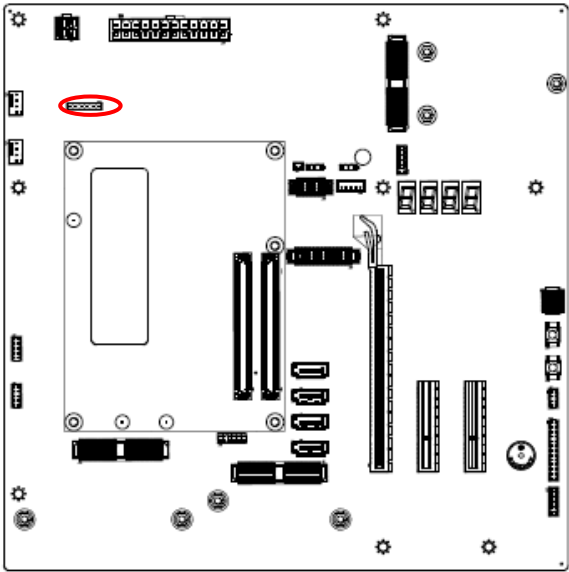
Signal	PIN
+3.3VSB	1
GND	2

2.3.12 Front Audio connector (JFAUD1)



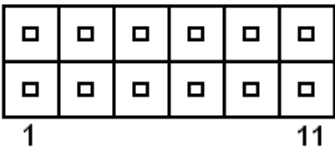
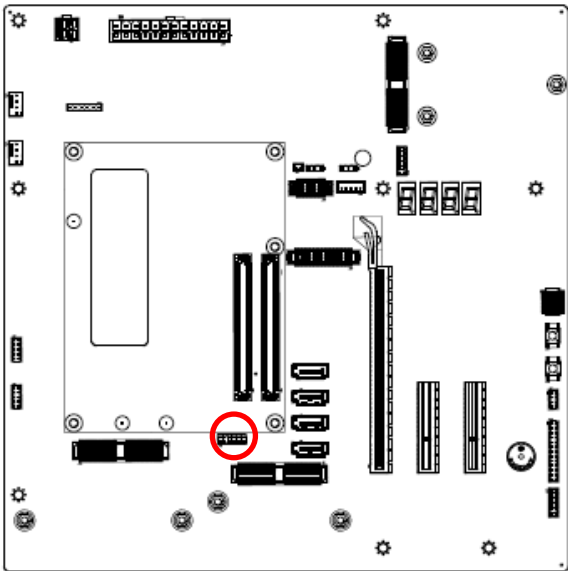
Signal	PIN	PIN	Signal
FRONT-R-OUT	1	2	FRONT-L-OUT
AUDIO_AGND	3	4	AUDIO_AGND
NC	5	6	NC
MIC1-R-IN	7	8	MIC1-L-IN
FRONT-JD	9	10	NC
MIC1-JD	11	12	AUDIO_AGND

2.3.13 GP SPI connector (JGP_SPI1)



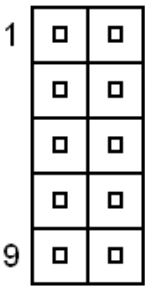
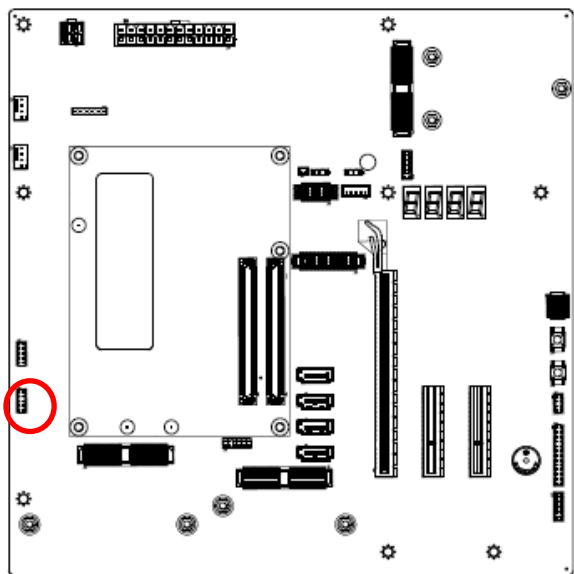
Signal	PIN
+3.3V	1
GP_SPI_MISI	2
GP_SPI_MISO	3
GP_SPI_CS#	4
GP_SPI_CK	5
GND	6

2.3.14 ESPI connector (JESPI1)



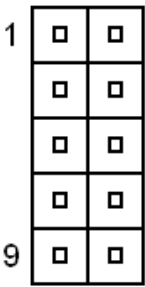
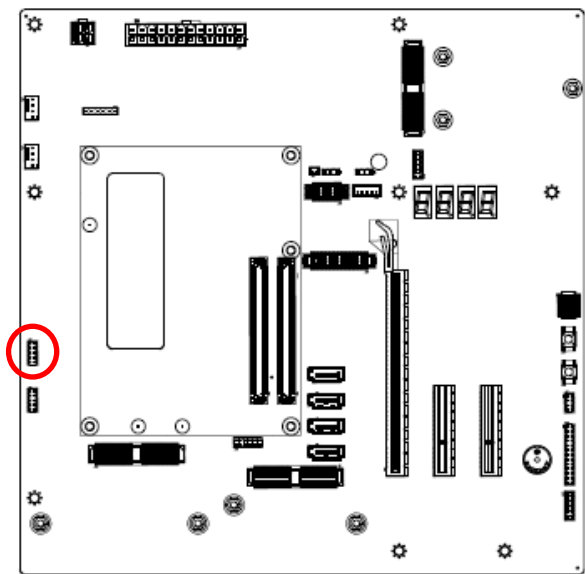
Signal	PIN	PIN	Signal
LPC_AD0/ESPI_IO_0	1	2	+3.3V
LPC_AD1/ESPI_IO_1	3	4	CB_RST#
LPC_AD2/ESPI_IO_2	5	6	ESPI_PORT80_CS#
LPC_AD3/ESPI_IO_3	7	8	LPC_CLK/ESPI_CK
+3.3VSB	9	10	GND
SUS_STAT#/ESPI_RESET#	11	12	ESPI_PORT80_ALERT#

2.3.15 USB2.0 connector (USB2_1)



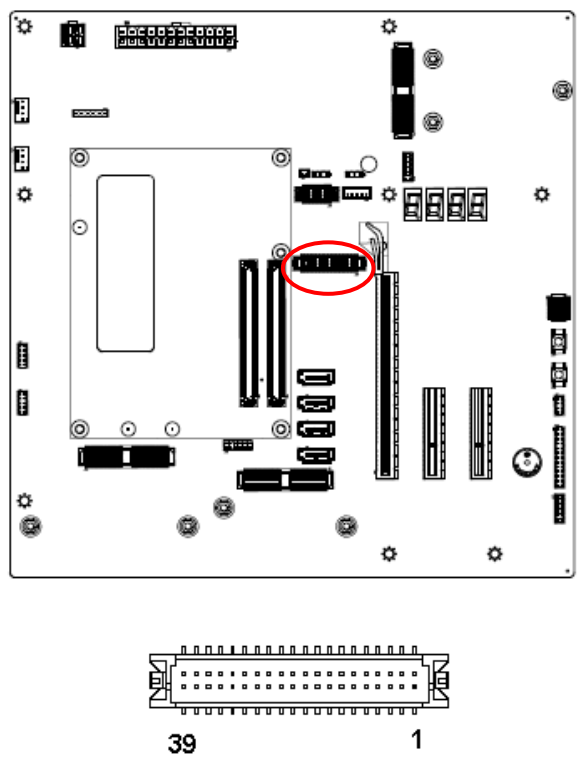
Signal	PIN	PIN	Signal
+V5_USB67	1	2	GND
USB_PN6	3	4	GND
USB_PP6	5	6	USB_PP7
GND	7	8	USB_PN7
GND	9	10	+V5_USB67

2.3.16 USB2.0 connector (USB2_2)



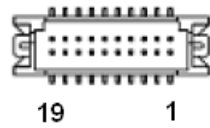
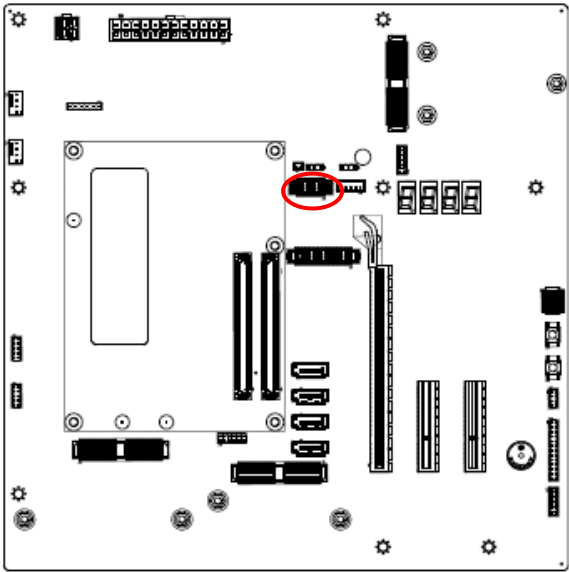
Signal	PIN	PIN	Signal
+V5_USB45	1	2	GND
USB_PN4	3	4	GND
USB_PP4	5	6	USB_PP5
GND	7	8	USB_PN5
GND	9	10	+V5_USB45

2.3.17 LVDS connector (LVDS1)



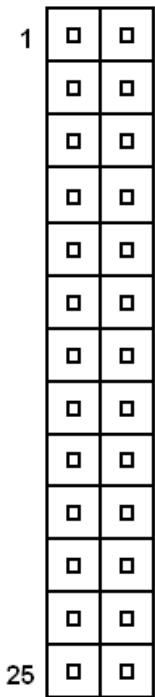
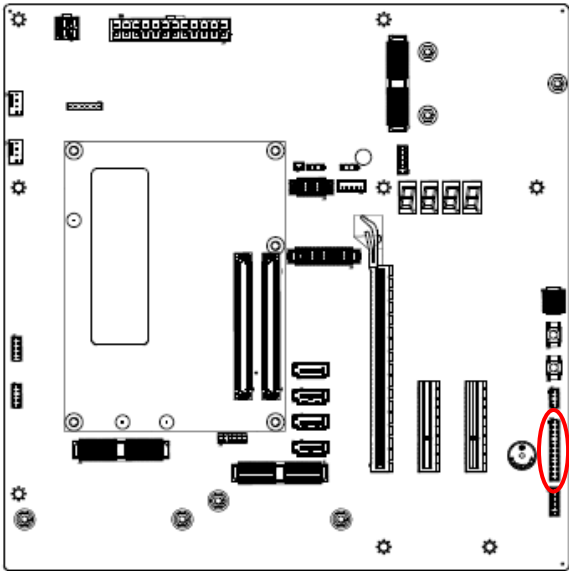
Signal	PIN	PIN	Signal
+5V	2	1	+3.3V
+5V	4	3	+3.3V
LVDS_DDC_SD	6	5	LVDS_DDC_SC
GND	8	7	GND
LVDSA_DATA0	10	9	LVDSA_DATA1
LVDSA_DATA0#	12	11	LVDSA_DATA1#
GND	14	13	GND
LVDSA_DATA2	16	15	LVDSA_DATA3
LVDSA_DATA2#	18	17	LVDSA_DATA3#
GND	20	19	GND
LVDSB_DATA0	22	21	LVDSB_DATA1
LVDSB_DATA0#	24	23	LVDSB_DATA1#
GND	26	25	GND
LVDSB_DATA2	28	27	LVDSB_DATA3
LVDSB_DATA2#	30	29	LVDSB_DATA3#
GND	32	31	GND
LVDSA_CLK	34	33	LVDSB_CLK
LVDSA_CLK#	36	35	LVDSB_CLK#
GND	38	37	GND
+12V	40	39	+12V

2.3.18 EDP connector (EDP1)



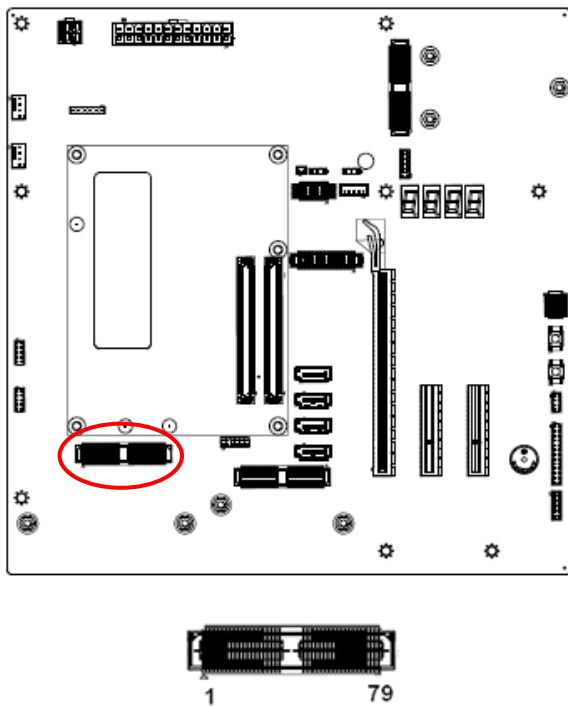
Signal	PIN	PIN	Signal
GND	2	1	GND
EDP_TX3#	4	3	EDP_TX0#
EDP_TX3	6	5	EDP_TX0
NC	8	7	GND
GND	10	9	EDP_TX1#
EDP_AUX#	12	11	EDP_TX1
EDP_AUX	14	13	GND
GND	16	15	EDP_TX2#
EMB_HPDP	18	17	EDP_TX2
+VDD_EDP	20	19	+VDD_EDP

2.3.19 Test position connector (JTP1)



Signal	PIN	PIN	Signal
SER0_TX	1	2	SER0_RX
SER1_TX	3	4	SER1_RX
I2C_CK	5	6	I2C_DAT
TPM_PP	7	8	+3.3VSB
LID#	9	10	GND
SLEEP#	11	12	GND
GBE0_SDP	13	14	GND
USB0_HOST_PRSENT	15	16	GND
THRM#	17	18	GND
WAKE0#	19	20	GND
WAKE1#	21	22	GND
BATLOW#	23	24	GND
RAPID_SHUTDOWN	25	26	+5VSB

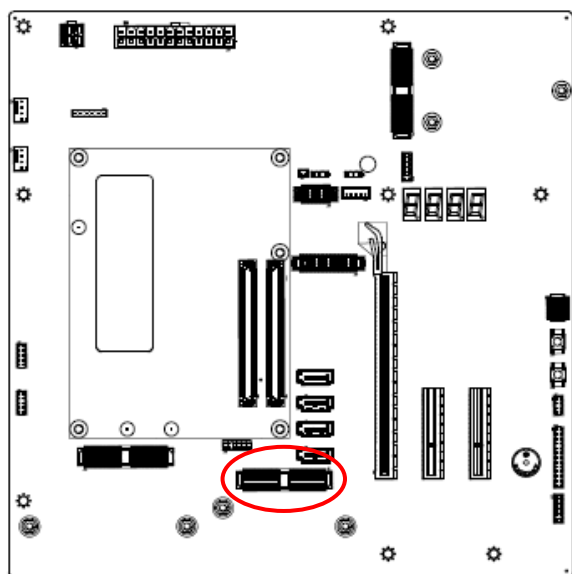
2.3.20 IET connector (IET_A1)



Signal	PIN	PIN	Signal
+3.3V	1	2	GND
+3.3V	3	4	USB_DN5_IET
DDI1_DDC_AUX_SEL	5	6	USB_DP5_IET
DDI2_DDC_AUX_SEL	7	8	GND
DDI3_DDC_AUX_SEL	9	10	DDI2_PAIR3-/ USB4_2_SSRX1-
DDI2_HPD	11	12	DDI2_PAIR3+/ USB4_2_SSRX1+
GND	13	14	GND
DDI3_PAIR0+	15	16	DDI2_PAIR2-/ USB4_2_SSTX1-
DDI3_PAIR0-	17	18	DDI2_PAIR2+/ USB4_2_SSTX1+
GND	19	20	GND
DDI3_PAIR1+	21	22	DDI2_PAIR1-/ USB4_2_SSRX0-
DDI3_PAIR1-	23	24	DDI2_PAIR1+/ USB4_2_SSRX0+
GND	25	26	GND
DDI3_PAIR2+	27	28	DDI2_PAIR0-/ USB4_2_SSTX0-
DDI3_PAIR2-	29	30	DDI2_PAIR0+/ USB4_2_SSTX0+
GND	31	32	GND
DDI3_PAIR3+	33	34	DDI2_CTRLDATA_AUX- /USB4_2_AUX-
DDI3_PAIR3-	35	36	DDI2_CTRLCLK_AUX+ /USB4_2_AUX+
GND	37	38	GND
DDI3_HPD	39	40	DDI1_HPD
DDI3_CTRLCLK_AUX+	41	42	TYPEC_USB_4_5_OC#
DDI3_CTRLDATA_AUX-	43	44	GND
TYPEC_SMB_SEL#	45	46	USB_DN4_IET
SML0_DAT_IET	47	48	USB_DP4_IET

Signal	PIN	PIN	Signal
SML0_CLK_IET	49	50	GND
USB_SEL#	51	52	DDI1_PAIR3-/ USB4_1_SSRX1-
USB4_PD_I2C_ALERT#	53	54	DDI1_PAIR3+/ USB4_1_SSRX1+
USB4_PD_I2C_DAT_IET	55	56	GND
USB4_PD_I2C_CLK_IET	57	58	DDI1_PAIR2-/ USB4_1_SSTX1-
GND	59	60	DDI1_PAIR2+/ USB4_1_SSTX1+
PMCALERT#	61	62	GND
SML1_DAT_IET	63	64	DDI1_PAIR1-/ USB4_1_SSRX0-
SML1_CLK_IET	65	66	DDI1_PAIR1+/ USB4_1_SSRX0+
GND	67	68	GND
LSX1_RXD	69	70	DDI1_PAIR0-/ USB4_1_SSTX0-
LSX1_TXD	71	72	DDI1_PAIR0+/ USB4_1_SSTX0+
GND	73	74	GND
LSX2_RXD	75	76	DDI1_CTRLDATA_AUX- /USB4_1_AUX-
LSX2_TXD	77	78	DDI1_CTRLCLK_AUX+ /USB4_1_AUX+
GND	79	80	GND

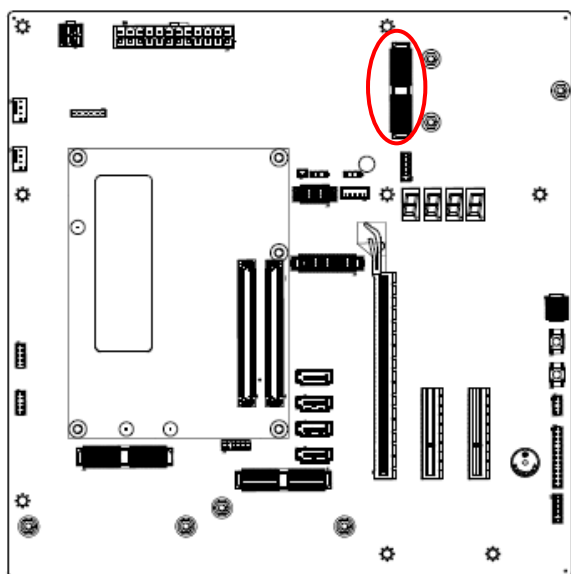
2.3.21 IET connector (IET_B1)



Signal	PIN	PIN	Signal
+5V	1	2	GND
+5V	3	4	USB0-
+5V	5	6	USB0+
+5V	7	8	GND
+3.3V	9	10	USB_SSTX0+
+3.3V	11	12	USB_SSTX0-
+3.3VSB	13	14	GND
+3.3VSB	15	16	USB_SSRX0+
GND	17	18	USB_SSRX0-
VGA_RED	19	20	GND

Signal	PIN	PIN	Signal
VGA_GRN	21	22	USB1-
VGA_BLU	23	24	USB1+
GND	25	26	GND
VGA_HSYNC	27	28	USB_SSTX1+
VGA_VSYNC	29	30	USB_SSTX1-
GND	31	32	GND
VGA_I2C_CK	33	34	USB_SSRX1+
VGA_I2C_DAT	35	36	USB_SSRX1-
GND	37	38	GND
NC	39	40	USB_0_1_OC#
GBE0_CTREF	41	42	USB_2_3_OC#
GND	43	44	GND
GBE0_MDI0+	45	46	USB2-
GBE0_MDI0-	47	48	USB2+
GND	49	50	GND
GBE0_MDI1+	51	52	USB_SSTX0+
GBE0_MDI1-	53	54	USB_SSTX0-
GND	55	56	GND
GBE0_MDI2+	57	58	USB_SSRX0+
GBE0_MDI2-	59	60	USB_SSRX0-
GND	61	62	GND
GBE0_MDI3+	63	64	USB3-
GBE0_MDI3-	65	66	USB3+
GND	67	68	GND
GND	69	70	USB_SSTX3+
GND	71	72	USB_SSTX3-
GBE0_ACT#	73	74	GND
GBE0_LINK1000#	75	76	USB_SSRX3+
GBE0_LINK2500#	77	78	USB_SSRX3-
GND	79	80	GND

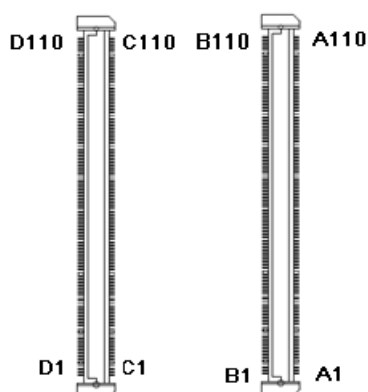
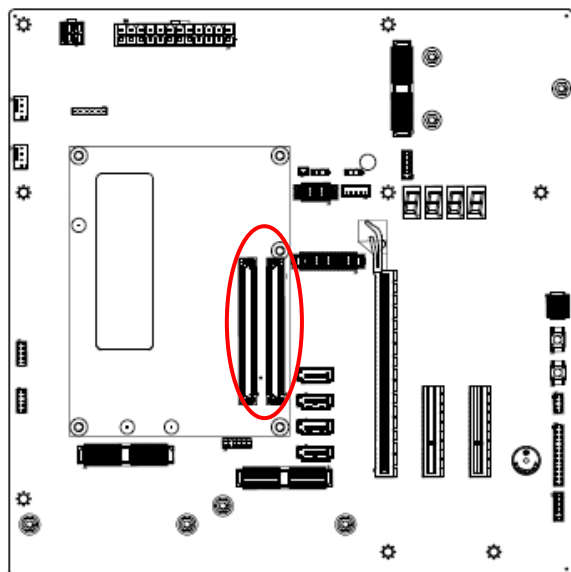
2.3.22 IET connector (IET_C1)



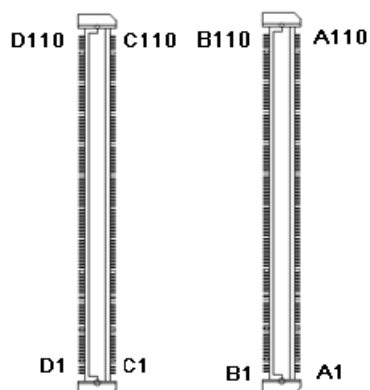
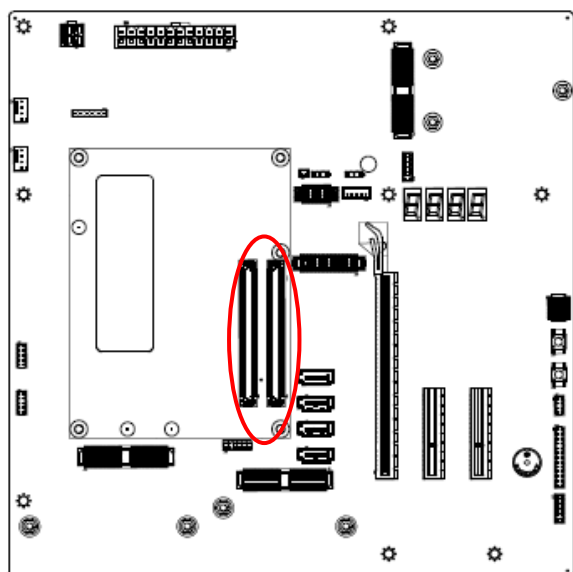
Signal	PIN	PIN	Signal
+12V	80	79	+12V
NC	78	77	GND
GND	76	75	+3.3VSB
SYS_FAN_PWMOUT	74	73	+3.3VSB
SYS_FAN_TACHIM	72	71	GND
GND	70	69	NC
NC	68	67	NC
NC	66	65	GND
GND	64	63	NC
NC	62	61	NC

Signal	PIN	PIN	Signal
NC	60	59	GND
GND	58	57	NC
LPC_PORT80_LPC_FRAME#	56	55	NC
LPC_PORT80_SERIRQ	54	53	GND
LPC_DRQ1#	52	51	NC
LPC_PORT80_AD3	50	49	NC
LPC_PORT80_AD2	48	47	GND
LPC_PORT80_AD1	46	45	NC
LPC_PORT80_AD0	44	43	NC
IET_CLK	42	41	SLP_S3#
NC	40	39	CB_RST#
NC	38	37	WAKE1#
NC	36	35	SMB_DAT
NC	34	33	SMB_CLK
NC	32	31	GND
NC	30	29	DIO_IN3_SD_DATA3
NC	28	27	DIO_IN2_SD_DATA2
GND	26	25	GND
+VCC_SPI	24	23	DIO_IN1_SD_DATA1
+VCC_SPI	22	21	DIO_IN0_SD_DATA0
GND	20	19	GND
SPI_MOSI	18	17	DIO_OUT3_SD_CD#
SPI_CLK	16	15	DIO_OUT2_SD_WP
GND	14	13	GND
SPI_MISO	12	11	DIO_OUT1_SD_CMD
SPI_CS#	10	9	DIO_OUT0_SD_CLK
GND	8	7	GND
+5V	6	5	+3.3V
+5V	4	3	+3.3V
GND	2	1	GND

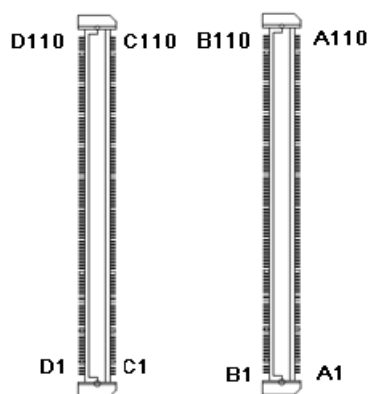
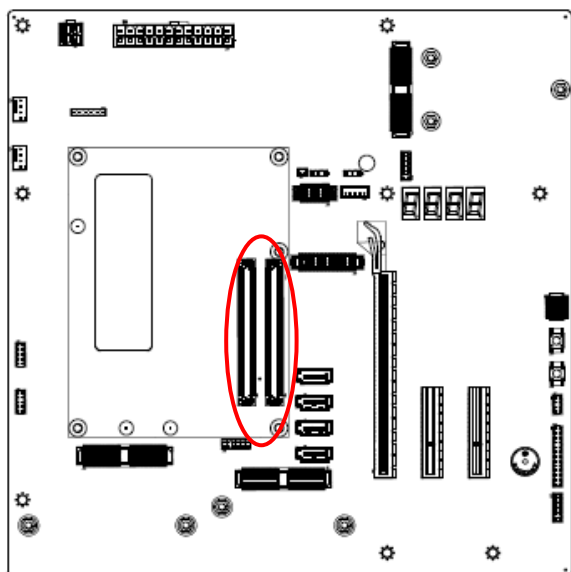
2.3.23 COM Express connector 1/2 (CN1A/CN1B)



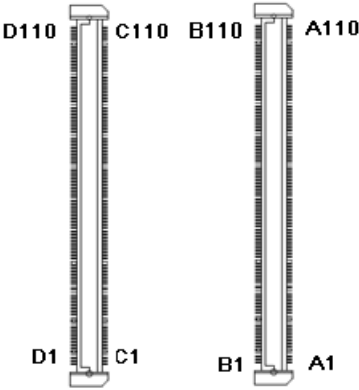
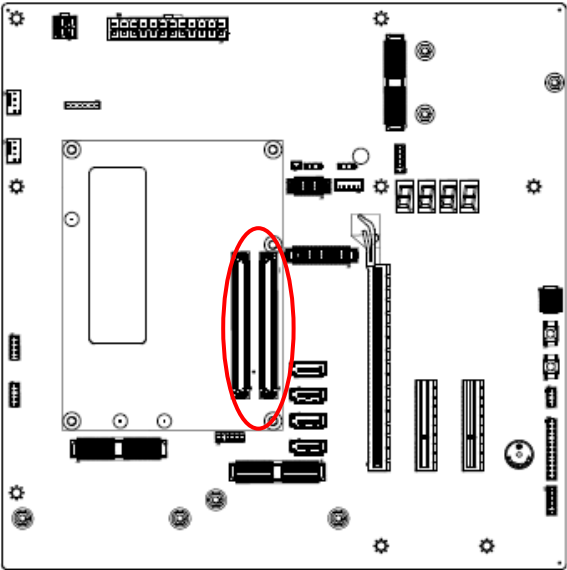
Signal	PIN	PIN	Signal
GND	B110	A110	GND
VCC	B109	A109	VCC
VCC	B108	A108	VCC
VCC	B107	A107	VCC
VCC	B106	A106	VCC
VCC	B105	A105	VCC
VCC	B104	A104	VCC
SLEEP#	B103	A103	LID#
FAN_TACHIN	B102	A102	SER1_RX
FAN_PWMOUT	B101	A101	SER1_TX
GND	B100	A100	GND
GP_SPI_CK	B99	A99	SER0_RX
GP_SPI_MISO	B98	A98	SER0_TX
SPI_CS#	B97	A97	NC
VGA_I2C_DAT	B96	A96	TPM_PP
VGA_I2C_CK	B95	A95	SPI_MOSI
VGA_VSYNC	B94	A94	SPI_CLK
VGA_HSYNC	B93	A93	GPO0/SD_CLK
VGA_BLU	B92	A92	SPI_MISO
VGA_GRN	B91	A91	SPI_POWER
GND	B90	A90	GND
VGA_RED	B89	A89	PCIE_CLK_REF-
BIOS_DIS1#	B88	A88	PCIE_CLK_REF+
+VCC_5VSB	B87	A87	EDP_HDP
+VCC_5VSB	B86	A86	GP_SPI_MOSI
+VCC_5VSB	B85	A85	GPI3/SD_DATA3
+VCC_5VSB	B84	A84	LVDS_I2C_DAT/EDP_AUX-
LVDS_BKLT_CTRL/ EDP_BKLT_CTRL	B83	A83	LVDS_I2C_CK/EDP_AUX+
LVDS_B_CK-	B82	A82	LVDS_A_CK-/EDP_TX3-
LVDS_B_CK+	B81	A81	LVDS_A_CK+/EDP_TX3+



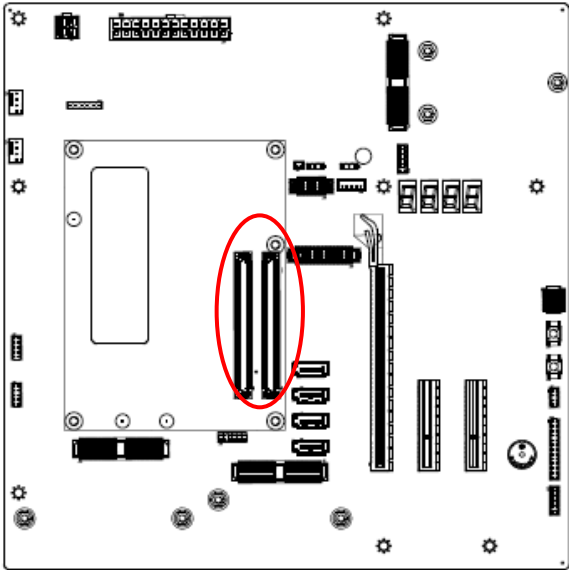
Signal	PIN	PIN	Signal
GND	B80	A80	GND
LVDS_BKLT_EN/ EDP_BKLT_EN	B79	A79	LVDS_A3-
LVDS_B3-	B78	A78	LVDS_A3+
LVDS_B3+	B77	A77	LVDS_VDD_EN /EDP_VDD_EN
LVDS_B2-	B76	A76	LVDS_A2-/EDP_TX0-
LVDS_B2+	B75	A75	LVDS_A2+/EDP_TX0+
LVDS_B1-	B74	A74	LVDS_A1-/EDP_TX1-
LVDS_B1+	B73	A73	LVDS_A1+/EDP_TX1+
LVDS_B0-	B72	A72	LVDS_A0-/EDP_TX2-
LVDS_B0+	B71	A71	LVDS_A0+/EDP_TX2+
GND	B70	A70	GND
PCIE_RX0-	B69	A69	PCIE_TX0-
PCIE_RX0+	B68	A68	PCIE_TX0+
WAKE1#	B67	A67	GPI2/SD_DATA2
WAKE0#	B66	A66	GND
PCIE_RX1-	B65	A65	PCIE_TX1-
PCIE_RX1+	B64	A64	PCIE_TX1+
GPO3/SD_CD#	B63	A63	GPI1/SD_DATA1
PCIE_RX2-	B62	A62	PCIE_TX2-
PCIE_RX2+	B61	A61	PCIE_TX2+
GND	B60	A60	GND
PCIE_RX3-	B59	A59	PCIE_TX3-
PCIE_RX3+	B58	A58	PCIE_TX3+
GPO2/SD_WP	B57	A57	GND
PCIE_RX4-	B56	A56	PCIE_TX4-
PCIE_RX4+	B55	A55	PCIE_TX4+
GPO1/SD_CMD	B54	A54	GPI0/SD_DATA0
PCIE_RX5-	B53	A53	PCIE_TX5-
PCIE_RX5+	B52	A52	PCIE_TX5+
GND	B51	A51	GND



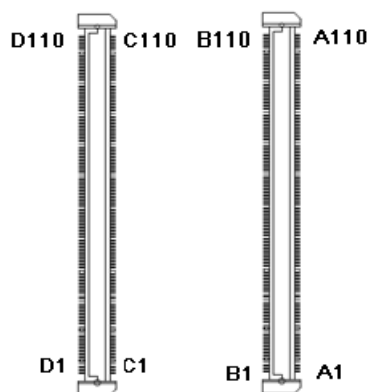
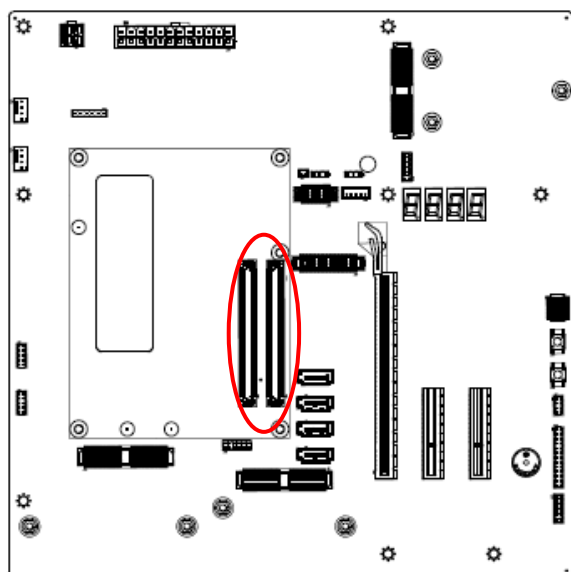
Signal	PIN	PIN	Signal
CB_RESET#	B50	A50	LPC_SERIRQ/ ESPI_CS1#
SYS_RESET#	B49	A49	GBE0_SDP
USB0_HOST_PRSENT	B48	A48	RSMRST_OUT#
ESPI_EN#	B47	A47	+3.3V
USB1+	B46	A46	USB0+
USB1-	B45	A45	USB0-
USB_0_1_OC#	B44	A44	USB_2_3_OC#
USB3+	B43	A43	USB2+
USB3-	B42	A42	USB2-
GND	B41	A41	GND
USB5+	B40	A40	USB4+
USB5-	B39	A39	USB4-
USB_4_5_OC#	B38	A38	USB_6_7_OC#
USB7+	B37	A37	USB6+
USB7-	B36	A36	USB6-
THRM#	B35	A35	THRMTRIP#
I2C_DAT	B34	A34	BIOS_DIS0#/ ESPI_SAFS
I2C_CLK	B33	A33	HDA_SDOUT
HDA_SPKR	B32	A32	HDA_BITCLK
GND	B31	A31	GND
HDA_SDIN0	B30	A30	HDA_RST#
HDA_SDIN1	B29	A29	HDA_SYNC
HDA_SDIN2	B28	A28	SATA_ACT#
WDT	B27	A27	BATLOW#
SATA3_RX-	B26	A26	SATA2_RX-
SATA3_RX+	B25	A25	SATA2_RX+
PWR_OK	B24	A24	SUS_S5#
SATA3_TX-	B23	A23	SATA2_TX-
SATA3_TX+	B22	A22	SATA2_TX+
GND	B21	A21	GND



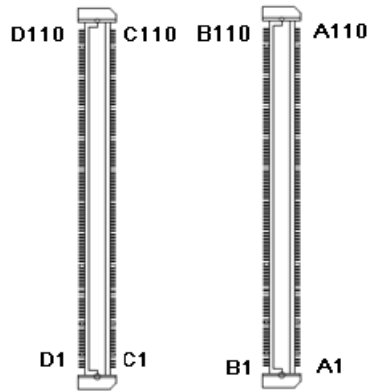
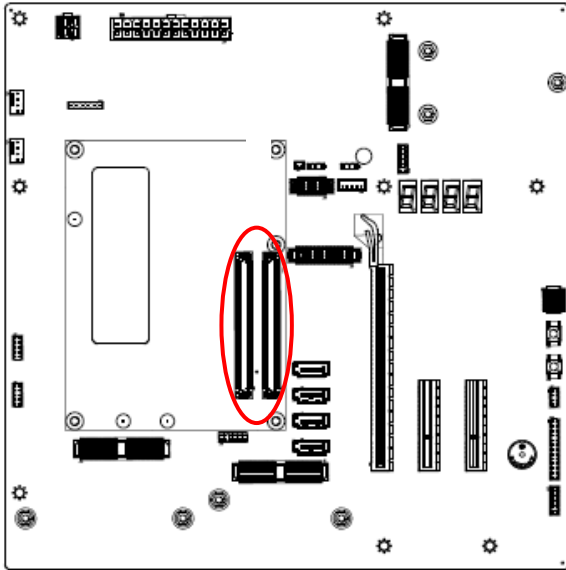
Signal	PIN	PIN	Signal
SATA1_RX-	B20	A20	SATA0_RX-
SATA1_RX+	B19	A19	SATA0_RX+
SUS_STAT#/ESPI_RESET#	B18	A18	SUS_S4#
SATA1_TX-	B17	A17	SATA0_TX-
SATA1_TX+	B16	A16	SATA0_TX+
SMB_ALERT#	B15	A15	SUS_S3#
SMB_DAT	B14	A14	GBE0_CTREF
SMB_CK	B13	A13	GBE0_MDI0+
PWRBTN#	B12	A12	GBE0_MDI0-
GND	B11	A11	GND
LPC_CLK/ESPI_CK	B10	A10	GBE0_MDI1+
LPC_DRQ1#/ESPI_ALERT1#	B9	A9	GBE0_MDI1-
LPC_DRQ0#/ESPI_ALERT0#	B8	A8	GBE0_LINK#
LPC_AD3/ESPI_IO_3	B7	A7	GBE0_MDI2+
LPC_AD2/ESPI_IO_2	B6	A6	GBE0_MDI2-
LPC_AD1/ESPI_IO_1	B5	A5	GBE0_LINK2500#
LPC_AD0/ESPI_IO_0	B4	A4	GBE0_LINK1000#
LPC_FRAME#/ESPI_CS0#	B3	A3	GBE0_MDI3+
GBE0_ACT#	B2	A2	GBE0_MDI3-
GND	B1	A1	GND



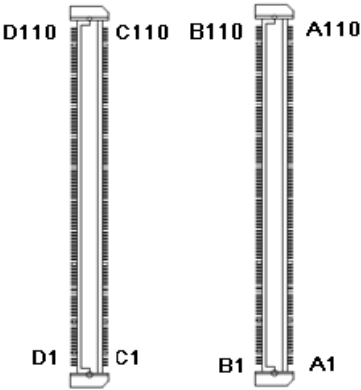
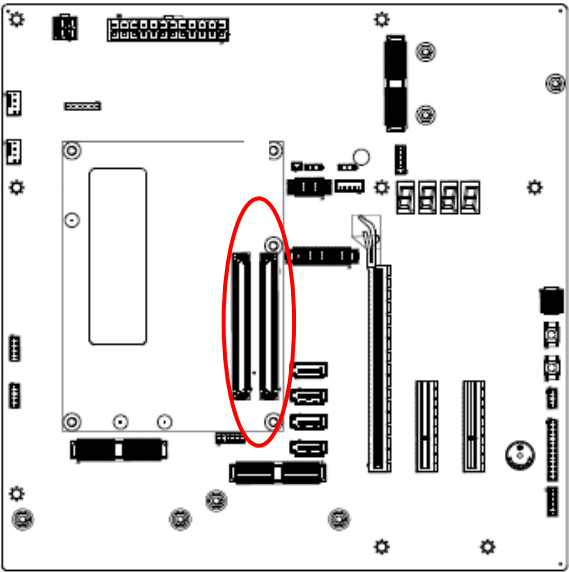
Signal	PIN	PIN	Signal
GND	D110	C110	GND
+VIN	D109	C109	+VIN
+VIN	D108	C108	+VIN
+VIN	D107	C107	+VIN
+VIN	D106	C106	+VIN
+VIN	D105	C105	+VIN
+VIN	D104	C104	+VIN
GND	D103	C103	GND
PEG_TX15-	D102	C102	PEG_RX15-
PEG_TX15+	D101	C101	PEG_RX15+
GND	D100	C100	GND
PEG_TX14-	D99	C99	PEG_RX14-
PEG_TX14+	D98	C98	PEG_RX14+
GND	D97	C97	GND
GND	D96	C96	GND
PEG_TX13-	D95	C95	PEG_RX13-
PEG_TX13+	D94	C94	PEG_RX13+
GND	D93	C93	GND
PEG_TX12-	D92	C92	PEG_RX12-
PEG_TX12+	D91	C91	PEG_RX12+
GND	D90	C90	GND
PEG_TX11-	D89	C89	PEG_RX11-
PEG_TX11+	D88	C88	PEG_RX11+
GND	D87	C87	GND
PEG_TX10-	D86	C86	PEG_RX10-
PEG_TX10+	D85	C85	PEG_RX10+
GND	D84	C84	GND
GND	D83	C83	GND
PEG_TX9-	D82	C82	PEG_RX9-
PEG_TX9+	D81	C81	PEG_RX9+



Signal	PIN	PIN	Signal
GND	D80	C80	GND
PEG_TX8-	D79	C79	PEG_RX8-
PEG_TX8+	D78	C78	PEG_RX8+
NC	D77	C77	NC
GND	D76	C76	GND
PEG_TX7-	D75	C75	PEG_RX7-
PEG_TX7+	D74	C74	PEG_RX7+
GND	D73	C73	GND
PEG_TX6-	D72	C72	PEG_RX6-
PEG_TX6+	D71	C71	PEG_RX6+
GND	D70	C70	GND
PEG_TX5-	D69	C69	PEG_RX5-
PEG_TX5+	D68	C68	PEG_RX5+
GND	D67	C67	RAPID_SHUTDOWN
PEG_TX4-	D66	C66	PEG_RX4-
PEG_TX4+	D65	C65	PEG_RX4+
GND	D64	C64	GND
GND	D63	C63	GND
PEG_TX3-	D62	C62	PEG_RX3-
PEG_TX3+	D61	C61	PEG_RX3+
GND	D60	C60	GND
PEG_TX2-	D59	C59	PEG_RX2-
PEG_TX2+	D58	C58	PEG_RX2+
TYPE2#	D57	C57	NC
PEG_TX1-	D56	C56	PEG_RX1-
PEG_TX1+	D55	C55	PEG_RX1+
PEG_LAN_RV#	D54	C54	NC
PEG_TX0-	D53	C53	PEG_RX0-
PEG_TX0+	D52	C52	PEG_RX0+
GND	D51	C51	GND
DDI2_PAIR3-/ USB4_2_SSTX1-	D50	C50	DDI3_PAIR3-



Signal	PIN	PIN	Signal
DDI2_PAIR3+/ USB4_2_SSRX1+	D49	C49	DDI3_PAIR3+
GND	D48	C48	RSVD1
DDI2_PAIR2-/ USB4_2_SSTX1-	D47	C47	DDI3_PAIR2-
DDI2_PAIR2+/ USB4_2_SSTX1+	D46	C46	DDI3_PAIR2+
GND	D45	C45	GP_SPI_CS#
DDI2_HPD	D44	C44	DDI3_HPD
DDI2_PAIR1-/ USB4_2_SSRX0-	D43	C43	DDI3_PAIR1-
DDI2_PAIR1+/ USB4_2_SSRX0+	D42	C42	DDI3_PAIR1+
GND	D41	C41	GND
DDI2_PAIR0-/ USB4_2_SSTX0-	D40	C40	DDI3_PAIR0-
DDI2_PAIR0+/ USB4_2_SSTX0+	D39	C39	DDI3_PAIR0+
GND	D38	C38	DDI3_DDC_AUX_SEL
DDI1_PAIR3-/ USB4_1_SSRX1-	D37	C37	DDI3_CTRLDATA_AUX-
DDI1_PAIR3+/ USB4_1_SSRX1+	D36	C36	DDI3_CTRLCLK_AUX+
USB4_2_LSRX	D35	C35	USB4_2_LSTX
DDI1_DDC_AUX_SEL	D34	C34	DDI2_DDC_AUX_SEL
DDI1_PAIR2-/ USB4_1_SSTX1-	D33	C33	DDI2_CTRLDATA_AUX-/ USB4_2_AUX-
DDI1_PAIR2+/ USB4_1_SSTX1+	D32	C32	DDI2_CTRLCLK_AUX+/ USB4_2_AUX+
GND	D31	C31	GND
DDI1_PAIR1-/ USB4_1_SSRX0-	D30	C30	USB4_PD_I2C_DAT
DDI1_PAIR1+/ USB4_1_SSRX0+	D29	C29	USB4_PD_I2C_CLK
NC	D28	C28	SML1_DAT
DDI1_PAIR0-/ USB4_1_SSTX0-	D27	C27	SML1_CLK
DDI1_PAIR0+/ USB4_1_SSTX0+	D26	C26	SML0_DAT
GND	D25	C25	SML0_CLK
GND	D24	C24	DDI1_HPD
PCIE_TX7-	D23	C23	PCIE_RX7-
PCIE_TX7+	D22	C22	PCIE_RX7+
GND	D21	C21	GND



Signal	PIN	PIN	Signal
PCIE_TX6-	D20	C20	PCIE_RX6-
PCIE_TX6+	D19	C19	PCIE_RX6+
PMCALERT#	D18	C18	GND
USB4_PD_I2C_ALERT#	D17	C17	USB4_RT_ENA
DDI1_CTRLDATA_AUX-/ USB4_1_AUX+	D16	C16	USB4_1_LSRX
DDI1_CTRLCLK_AUX+/ USB4_1_AUX+	D15	C15	USB4_1_LSTX
GND	D14	C14	GND
USB_SSTX3+	D13	C13	USB_SSRX3+
USB_SSTX3-	D12	C12	USB_SSRX3-
GND	D11	C11	GND
USB_SSTX2+	D10	C10	USB_SSRX2+
USB_SSTX2-	D9	C9	USB_SSRX2-
GND	D8	C8	GND
USB_SSTX1+	D7	C7	USB_SSRX1+
USB_SSTX1-	D6	C6	USB_SSRX1-
GND	D5	C5	GND
USB_SSTX0+	D4	C4	USB_SSRX0+
USB_SSTX0-	D3	C3	USB_SSRX0-
GND	D2	C2	GND
GND	D1	C1	GND

2.3.23.1 Signal Description – COM Express connector 1/2 (CN1A/CN1B)

2.3.23.1.1 Audio Signals

Signal	Signal Description
HDA_SYNC	HD Audio Sync
HDA_RST#	HD Audio Reset

2.3.23.1.2 Gigabit Ethernet Signals

Signal	Signal Description			
GBE0_MD[0:3] +/-	Gigabit Ethernet Controller 0: Media Dependent Interface Differential Pairs 0,1,2,3. The MDI can operate in 1000, 100 and 10 Mbit / sec modes. Some pairs are unused in some modes, per the following:			
		1000B-T	100B-T	10B-T
	MDI[0]+/-	B1_DA+/-	TX+/-	TX+/-
	MDI[1]+/-	B1_DB+/-	RX+/-	RX+/-
	MDI[2]+/-	B1_DC+/-	X	X
	MDI[3]+/-	B1_DD+/-	X	X
GBE0_ACT#	Gigabit Ethernet Controller 0 activity indicator, active low.			
GBE0_Link#	Gigabit Ethernet Controller 0 link indicator, active low.			
GBE0_Link100#	Gigabit Ethernet Controller 0 100 Mbit / sec link indicator, active low.			
GBE0_Link1000#	Gigabit Ethernet Controller 0 1000 Mbit / sec link indicator, active low.			

2.3.23.1.3 PCI Express Signals

Signal	Signal Description
PCIE_TX[0:7] +/-	PCI Express Differential Transmit Pair 0-7
PCIE_RX[0:7] +/-	PCI Express Differential Receive Pair 0-7

2.3.23.1.4 Flat Panel LVDS Signals

Signal	Signal Description
LVDS_BKLT_CTRL	Controls panel digital power.
LVDS_I2C_CLK	I2C clock output for LVDS display use.
LVDS_I2C_DAT	I2C data line for LVDS display use.
LVDS_VDD_EN	LVDS panel power enables.

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2.3.23.1.5 LPC Signals

Signal	Signal Description
LPC_FRAME#/ESPI_CS0#	LPC frame indicates the start of an LPC cycle
LPC_AD[0:3]	LPC multiplexed address, command and data bus
LPC_CLKOUT1	LPC clock output - 33MHz nominal
LPC_SERIRQ	LPC serial interrupt

2.3.23.1.6 GPIO Signals

Signal	Signal Description
GPI[0:4]	General purpose input pins.
GPO[0:4]	General purpose output pins.

2.3.23.1.7 Power & System Management Signals

Signal	Signal Description
SUS_S3#	Indicates system is in Suspend to RAM state. Active low output.
BATLOW#	Indicates that external battery is low
PWRBTN#	Power button to bring system out of S5 (soft off), active on rising edge.
SMB_SCL_S5	System Management Bus bidirectional clock line.
SMB_SDA_S5	System Management Bus bidirectional data line.
SMB_ALERT#	System Management Bus Alert - input can be used to generate an SMI# (System Management Interrupt) or to wake the system.
SUS_STAT#/ESPI_RESET#	Indicates imminent suspend operation.
PWR_OK	Power OK from main power supply
SYS_RESET#	Reset button input. Active low input.
WAKE0#	PCI Express wake up signal.
WAKE1#	General purpose wake up signal.

2.3.23.1.8 SATA Signals

Signal	Signal Description
SATA[0:2]_TX +/-	Serial ATA Channel 0-2 transmit differential pair.
SATA[0:2]_RX +/-	Serial ATA Channel 0-2 receive differential pair.
ATA_ACT#	ATA (parallel and serial) activity indicator, active low.

2.3.23.1.9 USB Signals

Signal	Signal Description
USB[0:7] +/-	USB differential pairs, channels 0 through 7
USB_0_1_OC#	USB over-current sense, USB channels 0 and 1
USB_2_3_OC#	USB over-current sense, USB channels 2 and 3
USB_4_5_OC#	USB over-current sense, USB channels 4 and 5
USB_6_7_OC#	USB over-current sense, USB channels 6 and 7

2.3.23.1.10 I2C Signals

Signal	Signal Description
I2C_CLK	General purpose I2C port clock output.
I2C_DATA	General purpose I2C port data I/O line.

2.3.23.1.11 USB3.0 Signals

Signal	Signal Description
USB_SSTX[0:1]+ USB_SSTX[0:1]-	Additional transmit signal differential pairs for the SuperSpeed USB data path.
USB_SSRX[0:1]+ USB_SSRX[0:1]-	Additional receive signal differential pairs for the SuperSpeed USB data path.

2.3.23.1.12 DDI Signals

Signal	Signal Description
DDIO_PAIR[0:2]+ DDIO_PAIR[0:2]-	Digital Display Interface0 Pair[0:2] differential pairs
DDIO_DDC_AUX_SEL	Selects the function of DDIO_CTRLCLK_AUX+ and DDIO_CTRLDATA_AUX-. If this input is floating the AUX pair is used for the DP AUX+/- signals. If pulled-high the AUX pair contains the CTRLCLK and CTRLDATA signals.
DDIO_CTRLCLK_AUX+	DP AUX+function if DDIO_DDC_AUX_SEL is no connect HDMI/DVI 12C CTRLCLK if DDIO_DDC_AUX_SEL is pulled high
DDIO_CTRLDATA_AUX-	DP AUX-function if DDIO_DDC_AUX_SEL is no connect HDMI/DVI 12C CTRLDATA if DDIO_DDC_AUX_SEL is pulled high
DDIO_HPD	Digital Display Interface Hot-Plug Detect

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2.3.23.1.13 USB3.0 Signals

Signal	Signal Description
USB_SSTX[0:3]+ USB_SSTX[0:3]-	Additional transmit signal differential pairs for the SuperSpeed USB data path.
USB_SSRX[0:3]+ USB_SSRX[0:3]-	Additional receive signal differential pairs for the SuperSpeed USB data path.

2.3.23.1.14 DDI Signals

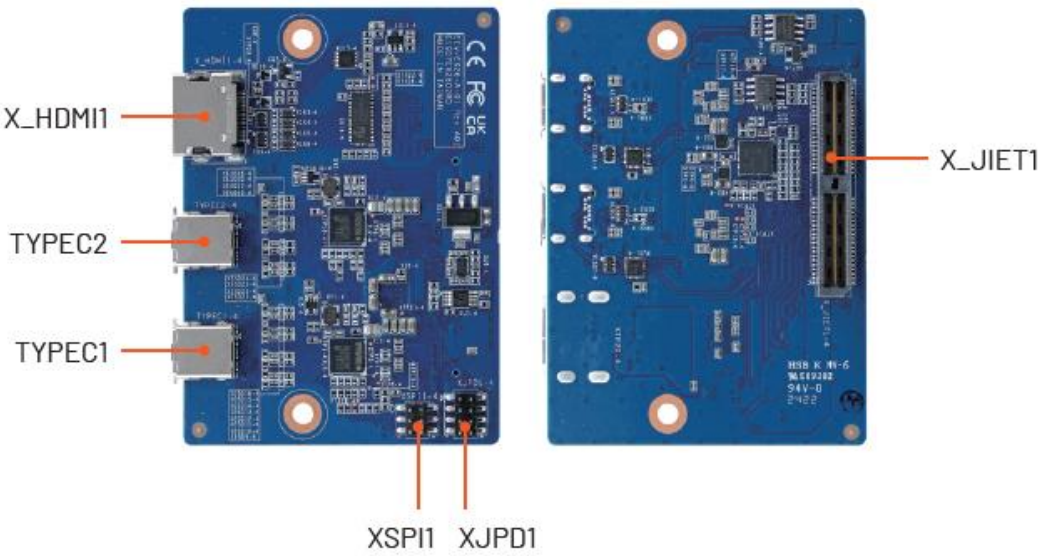
Signal	Signal Description
DDI[1:3]_PAIR[0:3]+ DDI[1:3]_PAIR[0:3]-	Digital Display Interface 1 to 3Pair[0:3] differential pairs
DDI[1:3]_DDC_AUX_SEL	Selects the function of DDI[1:3]_CTRLCLK_AUX+ and DDI[1:3]_CTRLDATA_AUX-. If this input is floating the AUX pair is used for the DP AUX+/- signals. If pulled-high the AUX pair contains the CTRLCLK and CTRLDATA signals.
DDI[1:3]_CTRLCLK_AUX+	DP AUX+function if DDI[1:3]_DDC_AUX_SEL is no connect HDMI/DVI 12C CTRLCLK if DDI[1:3]_DDC_AUX_SEL is pulled high
DDI[1:3]_CTRLDATA_AUX-	DP AUX-function if DDI[1:3]_DDC_AUX_SEL is no connect HDMI/DVI 12C CTRLDATA if DDI[1:3]_DDC_AUX_SEL is pulled high
DDI[1:3]_HPD	Digital Display Interface Hot-Plug Detect

2.3.23.1.15 PEG PCI Express Lanes Signals

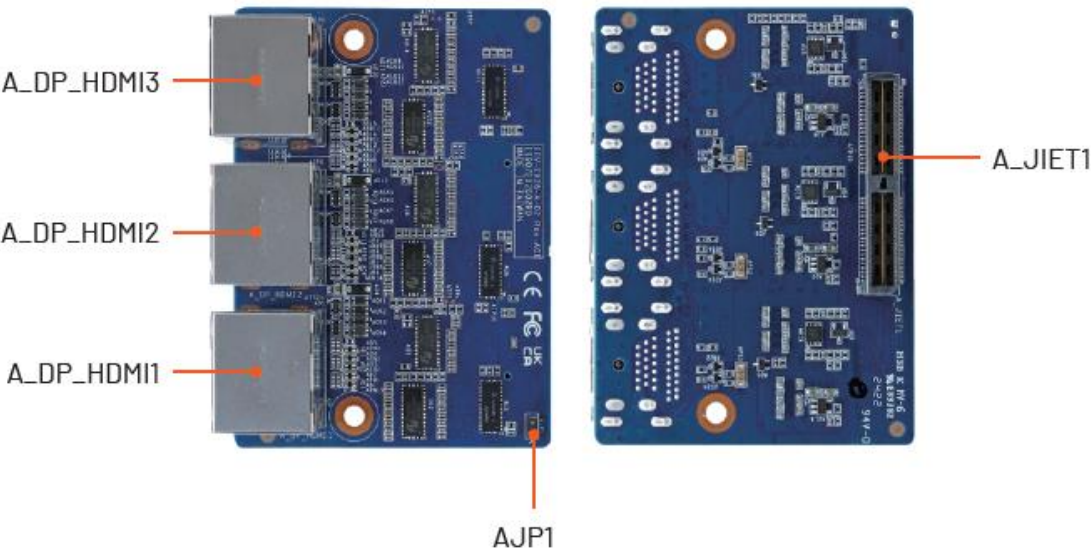
Signal	Signal Description
PEG_TX[0:15]+ PEG_TX[0:15]-	PCI Express Graphics transmit differential paris.
PEG_RX[0:15]+ PEG_RX[0:15]-	PCI Express Graphics recevie differential paris.

2.4 AUX-A01/AUX-A02/AUX-B01/AUX-C01 Overviews

2.4.1 AUX-A01

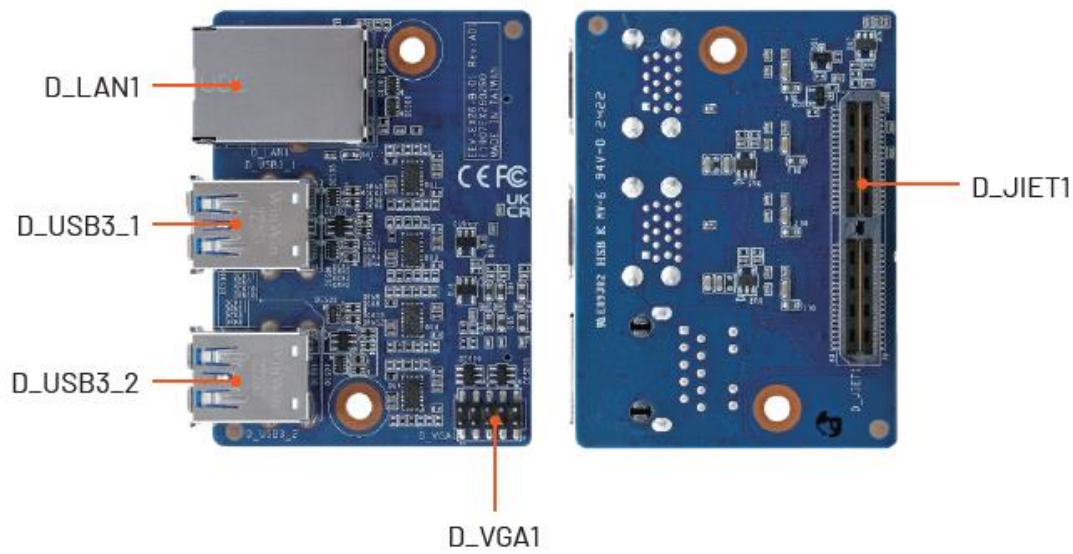


2.4.2 AUX-A02



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2.4.3 AUX-B01



2.4.4 AUX-C01



2.5 AUX-A01/AUX-A02/AUX-B01/AUX-C01 Connector list

2.5.1 AUX-A01

Connectors

Label	Function	Note
X_HDMI1	HDMI connector	
TYPEC1/2	USB Type C connector 1/2	
XSPI1	SPI connector	3 x 2 header, pitch 2.00mm
XJPD1	Power Delivery connector	3 x 2 header, pitch 2.00mm
X_JIET1	IET connector	40 x 2 wafer, pitch 0.80mm (only used in production testing)

2.5.2 AUX-A02

Connectors

Label	Function	Note
A_DP_HDMI1/2/3	3 x DP connector 3 x HDMI connector	
AJP1	USB selector	2 x 1 header, pitch 2.00mm
A_JIET1	IET connector	40 x 2 wafer, pitch 0.80mm (only used in production testing)

2.5.3 AUX-B01

Connectors

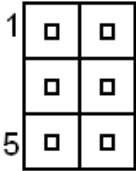
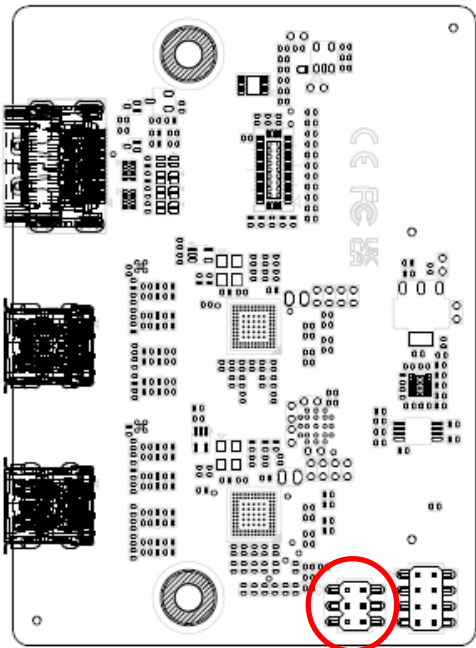
Label	Function	Note
D_LAN1	RJ-45 Ethernet	
D_USB3_1/3_2	USB 3.2 connector 1/2	
D_VGA1	VGA connector	5 x 2 header, pitch 2.00mm
D_JIET1	IET connector	40 x 2 wafer, pitch 0.80mm (only used in production testing)

2.5.4 AUX-C01

Connectors

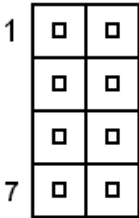
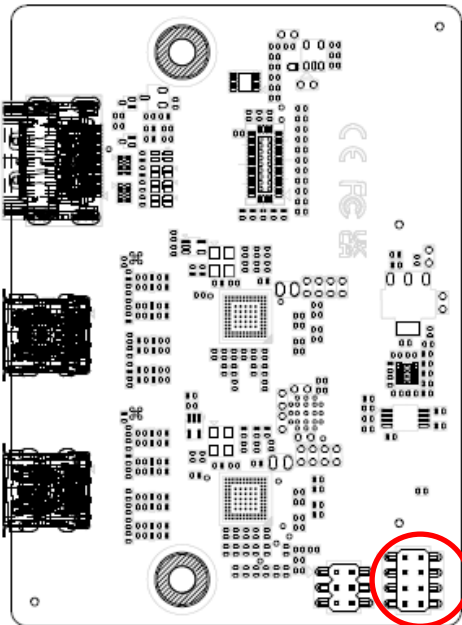
Label	Function	Note
E_SDCARD1	SD card slot	
E_SPI_BIOS1	SPI ROM connector	
EDIO1	General purpose I/O connector	6 x 2 header, pitch 2.00mm
E_JIET1	IET connector	40 x 2 wafer, pitch 0.80mm (only used in production testing)

2.6.1 SPI connector (XSPI1)



Signal	PIN	PIN	Signal
+X_V1.8S_SPI	1	2	GND
X_EE_CS#	3	4	X_EE_CLK
X_EE_DO	5	6	X_EE_DT

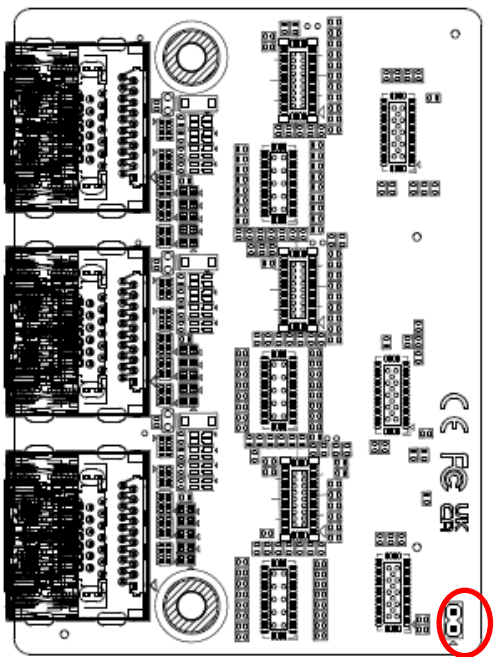
2.6.2 Power Delivery connector (XJPD1)



Signal	PIN	PIN	Signal
X_LDO_3V3	1	2	X_SML1_CLK_R
X_EEPROM_I2C_SCL	3	4	X_SML1_DAT_R
X_EEPROM_I2C_SDA	5	6	X_PMCALERT#_R
GND	7	8	GND

2.7 AUX-A02 Connectors settings

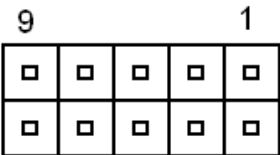
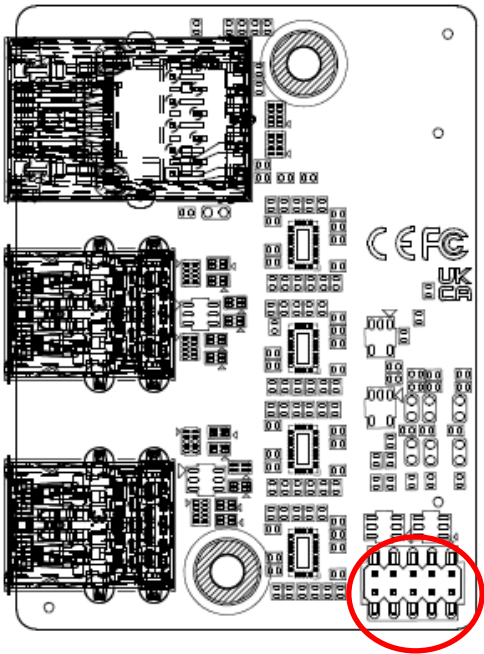
2.7.1 USB selector (AJP1)



Signal	PIN
A_TYPEC_SMB_SEL#	2
GND	1

2.8 AUX-B01 Connectors settings

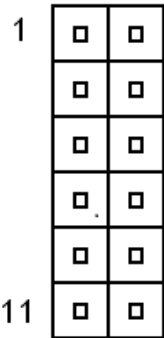
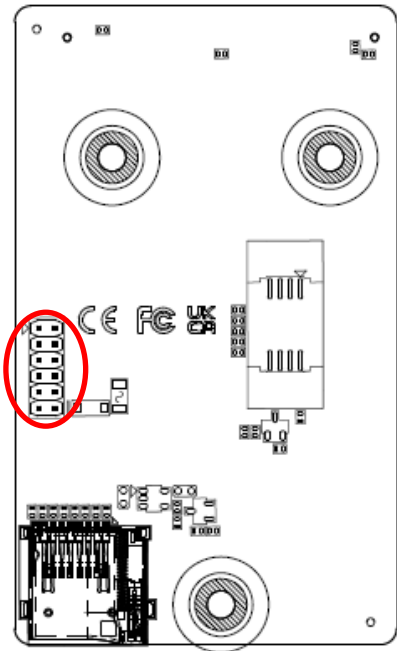
2.8.1 VGA connector (D_VGA1)



Signal	PIN	PIN	Signal
D_VGA_Z_RED	1	2	+5V
D_VGA_Z_GREEN	3	4	GND
D_VGA_Z_BLUE	5	6	D_VGA_Z_CLK
GND	7	8	D_VGA_Z_DATA
D_VGA_Z_VSYNC	9	10	D_VGA_Z_HSYNC

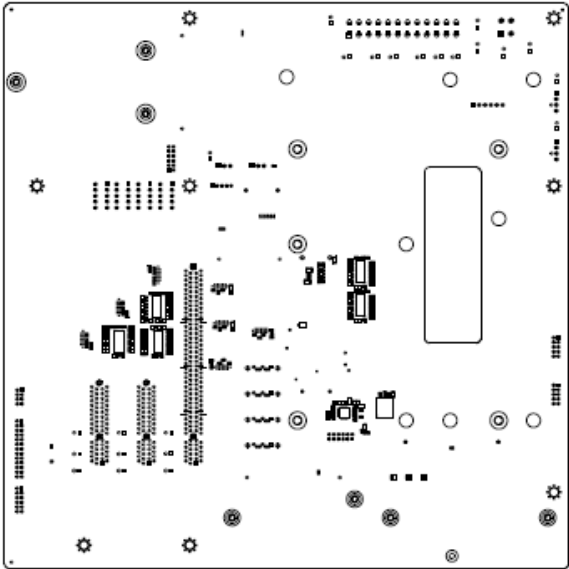
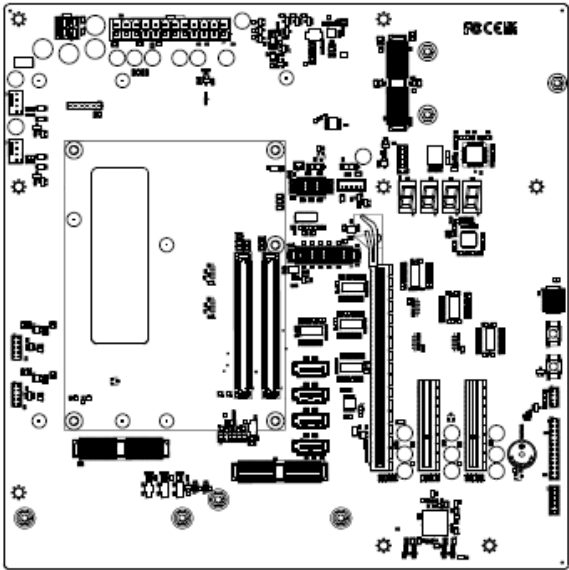
2.9 AUX-C01 Connectors settings

2.9.1 General purpose I/O connector (EDIO1)



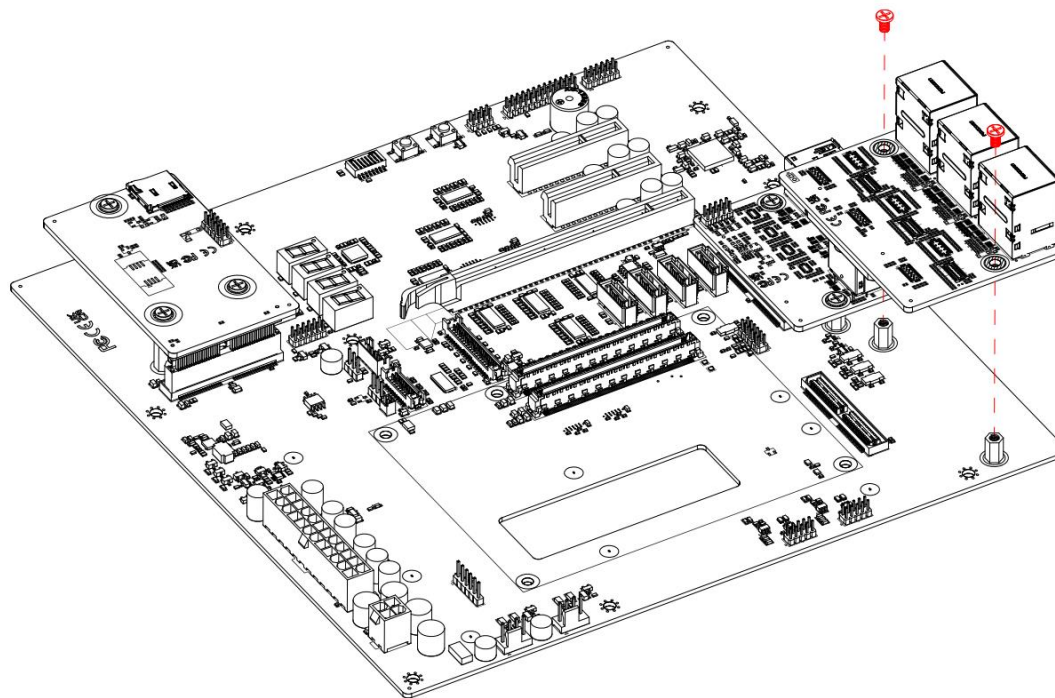
Signal	PIN	PIN	Signal
E_SIO_OUT0_SD_CLK	1	2	E_SIO_IN0_SD_DATA0
E_SIO_OUT1_SD_CMD	3	4	E_SIO_IN1_SD_DATA1
E_SIO_OUT2_SD_WP	5	6	E_SIO_IN2_SD_DATA2
E_SIO_OUT3_SD_CD#	7	8	E_SIO_IN3_SD_DATA3
E_SMB_CLK	9	10	E_SMB_DAT
GND	11	12	+5V

2.10 Assembly Remindeer-EEV-EX26



- **Exploded-view drawing**

Exploded-view drawing of A Series IET Module and EEV-EX26



A Series IET Module of EEV-EX26:

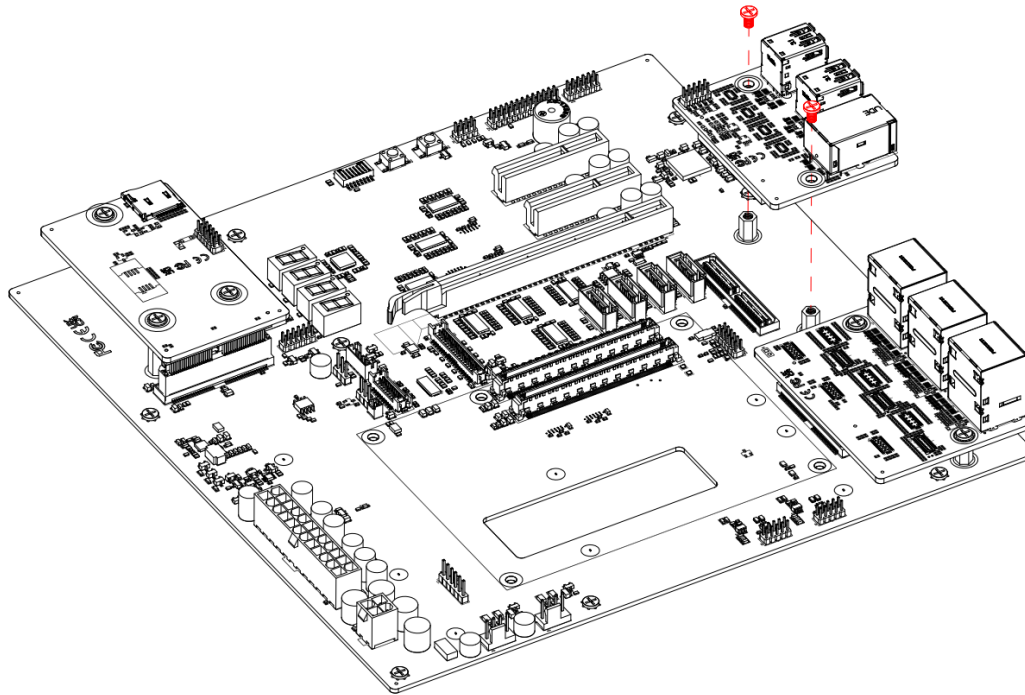
AUX-A01: HDMI + Type C + Type C (Option)

AUX-A02: Double Layer DP/HDMI+DP/HDMI+DP/HDMI

Screws:

E1932030504R x 2pcs

Exploded-view drawing of B Series IET Module and EEV-EX26



B Series IET Module of EEV-EX26:

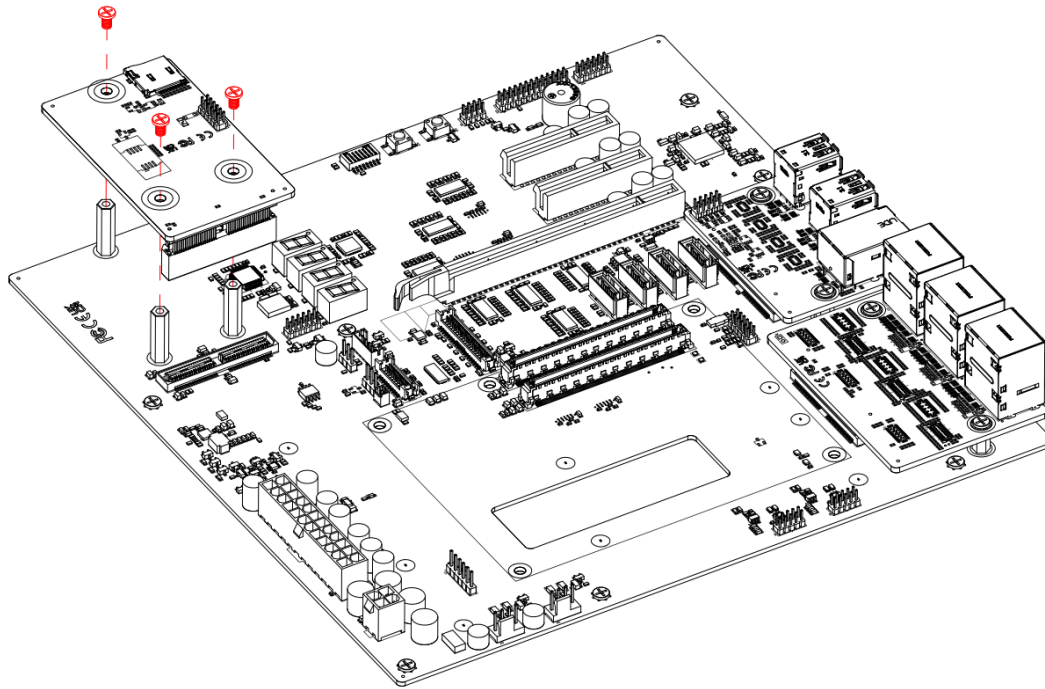
AUX-B01: VGA+2.5G LAN+4 USB3.2

Screws:

E1932030504R x 2pcs

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Exploded-view drawing of C Series IET Module and EEV-EX26



C Series IET Module of EEV-EX26:

AUX-C01: SD/DIO+SPI ROM

Screws:

E1932030504R x 3pcs

- **Assembly reminder**

The Carrier Board's screw hole pattern complies with Standard 4U Chassis specifications.
To install the Carrier Board:

1. Remove the A Series IET module from the Carrier Board.
2. Mount the Carrier Board in the 4U Chassis using the appropriate screws.
3. Reattach the A Series IET module to the mounted Carrier Board and secure it in place.

Note: Ensure all connections are properly seated and fasteners are tightened.

1. Remove the A Series IET module from the carrier board.

Refer to Figure A below for the exact locations of the screws and the A Series IET module.

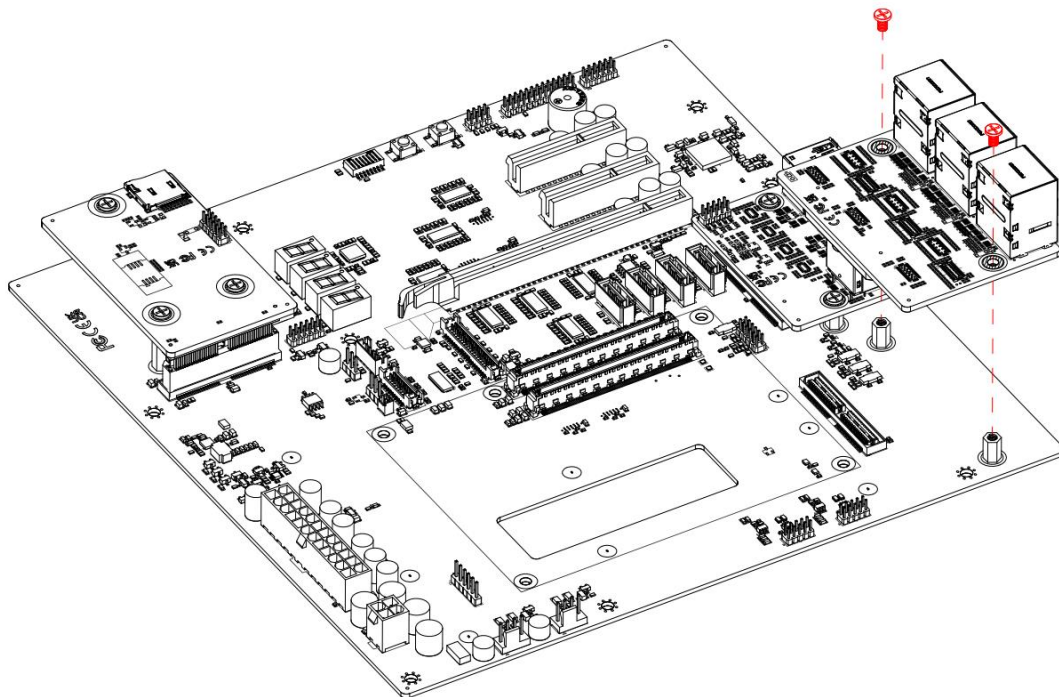


Figure A

A Series IET Module of EEV-EX26:

AUX-A01: HDMI + Type C + Type C (Option)

AUX-A02: Double Layer DP/HDMI+DP/HDMI+DP/HDMI

Screws:

E1932030504R x 2pcs

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2. Mount the Carrier Board in the 4U Chassis using the appropriate screws.

Refer to Figure B below for the exact locations of the mounting holes on the Carrier Board.

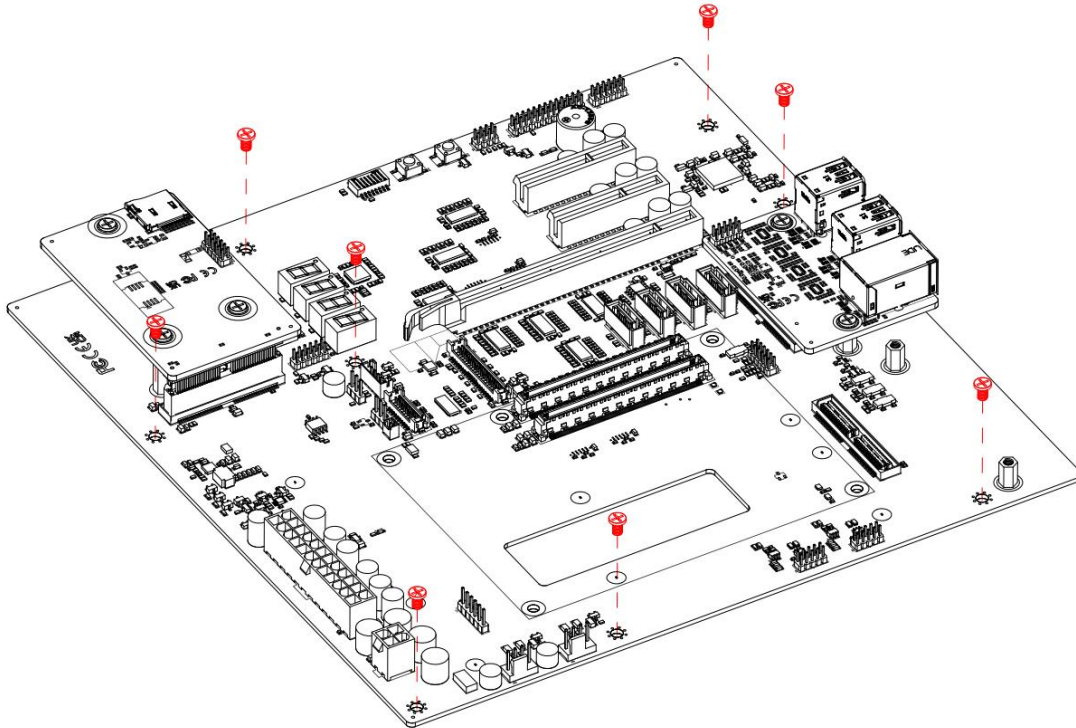


Figure B

Carrier Board:

EEV-EX26

Screws:

E1932030504R x 8 pcs

3. Reattach the A Series IET module to the mounted Carrier Board and secure it in place.

Refer to Figure C below for the exact locations of the screws and the A Series IET module.

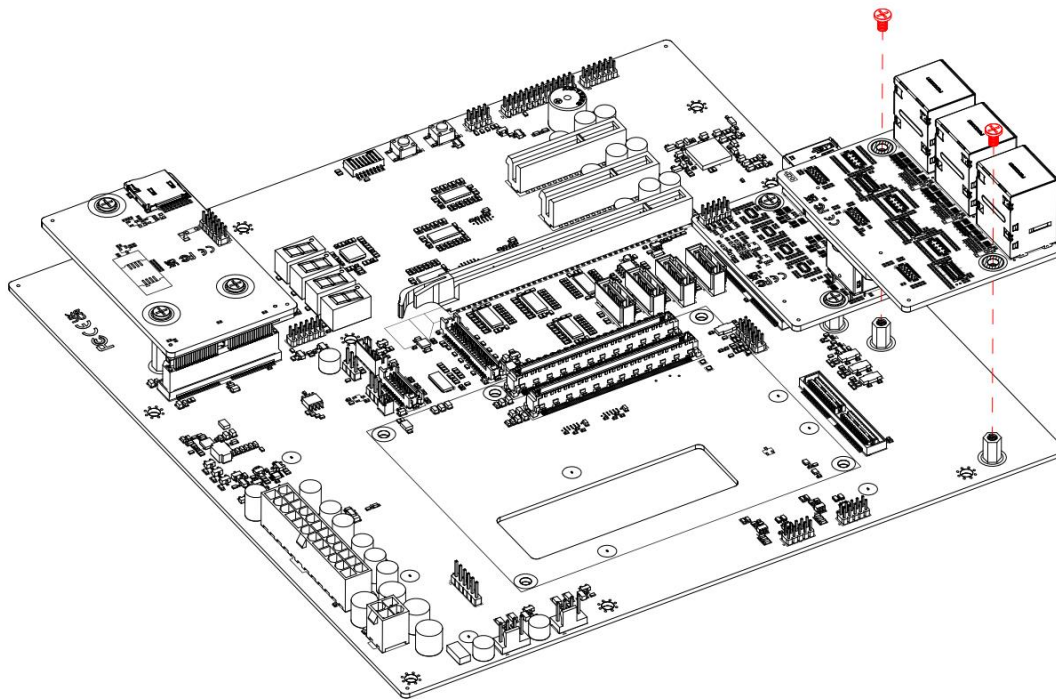


Figure C

A Series IET Module of EEV-EX26:

AUX-A01: HDMI + Type C + Type C

AUX-A02: Double Layer DP/HDMI+DP/HDMI+DP/HDMI

Screws:

E1932030504R x 2pcs

3. Mechanical Drawing

