

User Manual

# UNO-2484G

## 電腦

Intel® Core™ i Standard-Size  
Automation Computer with 4 x  
GbE, 1 x mPCIe, 1 x HDMI, 1 x  
DP, 4 x USB 3.0, and 4 x COM

**ADVANTECH**

*Enabling an Intelligent Planet*

## 限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱： Equipment name		電腦		型號（型式）： Type designation		UNO-2484G (系列型號請參見次頁說明書)	
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols						
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr <sup>+6</sup> )	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)	
電路板	—	○	○	○	○	○	
內外殼 (外殼、內 部框架… 等)	○	○	○	○	○	○	
其它固定 組件 (螺絲)	—	○	○	○	○	○	
記憶卡	—	○	○	○	○	○	
<p>備考1. “超出0.1 wt %”及“超出0.01 wt %”係指限用物質之百分比含量超出百分比含量基準值。 Note 1: “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.</p> <p>備考2. “○”係指該項限用物質之百分比含量未超出百分比含量基準值。 Note 2: “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.</p> <p>備考3. “—”係指該項限用物質為排除項目。 Note 3: The “—” indicates that the restricted substance corresponds to the exemption.</p>							

## 限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱： Equipment name		電腦		型號（型式）： Type designation		UNO2484G (系列型號請參見次頁說明書)	
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols						
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr <sup>+6</sup> )	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)	
電路板	—	○	○	○	○	○	
內外殼 (外殼、內 部框架… 等)	○	○	○	○	○	○	
其它固定 組件 (螺絲)	—	○	○	○	○	○	
記憶卡	—	○	○	○	○	○	
<p>備考1. “超出0.1 wt %”及“超出0.01 wt %”係指限用物質之百分比含量超出百分比含量基準值。 Note 1: “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.</p> <p>備考2. “○”係指該項限用物質之百分比含量未超出百分比含量基準值。 Note 2: “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.</p> <p>備考3. “—”係指該項限用物質為排除項目。 Note 3: The “—” indicates that the restricted substance corresponds to the exemption.</p>							

## Copyright

The documentation and the software included with this product are copyrighted 2017 by Advantech Co., Ltd. All rights are reserved. Advantech Co., Ltd. reserves the right to improve the products described in this manual at any time without notice. No part of this manual may be reproduced, copied, translated or transmitted in any form or by any means without the prior written permission of Advantech Co., Ltd. The information provided in this manual is intended to be accurate and reliable. However, Advantech Co., Ltd. assumes no responsibility for its use, nor for any infringements of the rights of third parties, which may result from its use.

## Acknowledgements

IBM, PC/AT, PS/2 and VGA are trademarks of International Business Machines Corporation.

Intel®, Core™ and Atom™ are the trademarks of Intel Corporation

Microsoft Windows and MS-DOS are registered trademarks of Microsoft Corp.

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

## Support

For more information on this and other Advantech products, please visit our websites at: <http://www.advantech.com>

For technical support and service, please visit our support website at:  
<http://support.advantech.com/>

This manual is applicable to the following models:

UNO-2484G, UNO2484G  
UNO-2484G-6731AE, UNO-2484G-6731AE,  
UNO-2484G-6531AE, UNO-2484G-6532AE,  
UNO-2484G-6331AE, UNO-2484G-6332AE,  
UNO2484G6731701E-T, UNO2484G6731702E-T, UNO2484G6731703E-T,  
UNO2484G6731704E-T, UNO2484G6731705E-T, UNO2484G6731706E-T,  
UNO2484G6731707E-T, UNO2484G6731708E-T, UNO2484G6731709E-T,  
UNO2484G6731801E-T, UNO2484G6731802E-T, UNO2484G6731803E-T,  
UNO2484G6731804E-T, UNO2484G6731805E-T, UNO2484G6731806E-T,  
UNO2484G6731807E-T, UNO2484G6731808E-T, UNO2484G6731809E-T,  
UNO2484G6731901E-T, UNO2484G6731902E-T, UNO2484G6731903E-T,  
UNO2484G6731904E-T, UNO2484G6731905E-T, UNO2484G6731906E-T,  
UNO2484G6731907E-T, UNO2484G6731908E-T, UNO2484G6731909E-T,  
UNO2484G6732001E-T, UNO2484G6732002E-T, UNO2484G6732003E-T,  
UNO2484G6732004E-T, UNO2484G6732005E-T, UNO2484G6732006E-T,  
UNO2484G6732007E-T, UNO2484G6732008E-T, UNO2484G6732009E-T,  
UNO2484G6732101E-T, UNO2484G6732102E-T, UNO2484G6732103E-T,  
UNO2484G6732104E-T, UNO2484G6732105E-T, UNO2484G6732106E-T,  
UNO2484G6732107E-T, UNO2484G6732108E-T, UNO2484G6732109E-T,  
UNO2484G6732201E-T, UNO2484G6732202E-T, UNO2484G6732203E-T,  
UNO2484G6732204E-T, UNO2484G6732205E-T, UNO2484G6732206E-T,  
UNO2484G6732207E-T, UNO2484G6732208E-T, UNO2484G6732209E-T,  
UNO2484G6531701E-T, UNO2484G6531702E-T, UNO2484G6531703E-T,  
UNO2484G6531704E-T, UNO2484G6531705E-T, UNO2484G6531706E-T,  
UNO2484G6531707E-T, UNO2484G6531708E-T, UNO2484G6531709E-T,  
UNO2484G6531801E-T, UNO2484G6531802E-T, UNO2484G6531803E-T,  
UNO2484G6531804E-T, UNO2484G6531805E-T, UNO2484G6531806E-T,  
UNO2484G6531807E-T, UNO2484G6531808E-T, UNO2484G6531809E-T,  
UNO2484G6531901E-T, UNO2484G6531902E-T, UNO2484G6531903E-T,  
UNO2484G6531904E-T, UNO2484G6531905E-T, UNO2484G6531906E-T,  
UNO2484G6531907E-T, UNO2484G6531908E-T, UNO2484G6531909E-T,  
UNO2484G6532001E-T, UNO2484G6532002E-T, UNO2484G6532003E-T,  
UNO2484G6532004E-T, UNO2484G6532005E-T, UNO2484G6532006E-T,  
UNO2484G6532007E-T, UNO2484G6532008E-T, UNO2484G6532009E-T,  
UNO2484G6532101E-T, UNO2484G6532102E-T, UNO2484G6532103E-T,  
UNO2484G6532104E-T, UNO2484G6532105E-T, UNO2484G6532106E-T,  
UNO2484G6532107E-T, UNO2484G6532108E-T, UNO2484G6532109E-T,  
UNO2484G6532201E-T, UNO2484G6532202E-T, UNO2484G6532203E-T,  
UNO2484G6532204E-T, UNO2484G6532205E-T, UNO2484G6532206E-T,  
UNO2484G6532207E-T, UNO2484G6532208E-T, UNO2484G6532209E-T,  
UNO2484G6331701E-T, UNO2484G6331702E-T, UNO2484G6331703E-T,  
UNO2484G6331704E-T, UNO2484G6331705E-T, UNO2484G6331706E-T,

UNO2484G6331707E-T, UNO2484G6331708E-T, UNO2484G6331709E-T,  
UNO2484G6331801E-T, UNO2484G6331802E-T, UNO2484G6331803E-T,  
UNO2484G6331804E-T, UNO2484G6331805E-T, UNO2484G6331806E-T,  
UNO2484G6331807E-T, UNO2484G6331808E-T, UNO2484G6331809E-T,  
UNO2484G6331901E-T, UNO2484G6331902E-T, UNO2484G6331903E-T,  
UNO2484G6331904E-T, UNO2484G6331905E-T, UNO2484G6331906E-T,  
UNO2484G6331907E-T, UNO2484G6331908E-T, UNO2484G6331909E-T,  
UNO2484G6332001E-T, UNO2484G6332002E-T, UNO2484G6332003E-T,  
UNO2484G6332004E-T, UNO2484G6332005E-T, UNO2484G6332006E-T,  
UNO2484G6332007E-T, UNO2484G6332008E-T, UNO2484G6332009E-T,  
UNO2484G6332101E-T, UNO2484G6332102E-T, UNO2484G6332103E-T,  
UNO2484G6332104E-T, UNO2484G6332105E-T, UNO2484G6332106E-T,  
UNO2484G6332107E-T, UNO2484G6332108E-T, UNO2484G6332109E-T,  
UNO2484G6332201E-T, UNO2484G6332202E-T, UNO2484G6332203E-T,  
UNO2484G6332204E-T, UNO2484G6332205E-T, UNO2484G6332206E-T,  
UNO2484G6332207E-T, UNO2484G6332208E-T, UNO2484G6332209E-T,  
UNO-2484G-7731AE, UNO-2484G-7531AE, UNO-2484G-7331AE  
UNO-2484G-7732AE, UNO-2484G-7532AE, UNO-2484G-7332AE  
UNO2484G7731801E-T, UNO2484G7731802E-T, UNO2484G7731803E-T  
UNO2484G7731804E-T, UNO2484G7731805E-T  
UNO2484G7731806E-T, UNO2484G7731807E-T, UNO2484G7731808E-T  
UNO2484G7731809E-T, UNO2484G7731810E-T  
UNO2484G7731901E-T, UNO2484G7731902E-T, UNO2484G7731903E-T  
UNO2484G7731904E-T, UNO2484G7731905E-T  
UNO2484G7731906E-T, UNO2484G7731907E-T, UNO2484G7731908E-T  
UNO2484G7731909E-T, UNO2484G7731910E-T  
UNO2484G7732001E-T, UNO2484G7732002E-T, UNO2484G7732003E-T  
UNO2484G7732004E-T, UNO2484G7732005E-T  
UNO2484G7732006E-T, UNO2484G7732007E-T, UNO2484G7732008E-T  
UNO2484G7732009E-T, UNO2484G7732010E-T  
UNO2484G7732101E-T, UNO2484G7732102E-T, UNO2484G7732103E-T  
UNO2484G7732104E-T, UNO2484G7732105E-T  
UNO2484G7732106E-T, UNO2484G7732107E-T, UNO2484G7732108E-T  
UNO2484G7732109E-T, UNO2484G7732110E-T  
UNO2484G7732201E-T, UNO2484G7732202E-T, UNO2484G7732203E-T  
UNO2484G7732204E-T, UNO2484G7732205E-T  
UNO2484G7732206E-T, UNO2484G7732207E-T, UNO2484G7732208E-T  
UNO2484G7732209E-T, UNO2484G7732210E-T  
UNO2484G7531801E-T, UNO2484G7531802E-T, UNO2484G7531803E-T  
UNO2484G7531804E-T, UNO2484G7531805E-T  
UNO2484G7531806E-T, UNO2484G7531807E-T, UNO2484G7531808E-T  
UNO2484G7531809E-T, UNO2484G7531810E-T  
UNO2484G7531901E-T, UNO2484G7531902E-T, UNO2484G7531903E-T  
UNO2484G7531904E-T, UNO2484G7531905E-T  
UNO2484G7531906E-T, UNO2484G7531907E-T, UNO2484G7531908E-T  
UNO2484G7531909E-T, UNO2484G7531910E-T  
UNO2484G7532001E-T, UNO2484G7532002E-T, UNO2484G7532003E-T  
UNO2484G7532004E-T, UNO2484G7532005E-T

---

UNO2484G7532006E-T, UNO2484G7532007E-T, UNO2484G7532008E-T  
UNO2484G7532009E-T, UNO2484G7532010E-T  
UNO2484G7532101E-T, UNO2484G7532102E-T, UNO2484G7532103E-T  
UNO2484G7532104E-T, UNO2484G7532105E-T  
UNO2484G7532106E-T, UNO2484G7532107E-T, UNO2484G7532108E-T  
UNO2484G7532109E-T, UNO2484G7532110E-T  
UNO2484G7532201E-T, UNO2484G7532202E-T, UNO2484G7532203E-T  
UNO2484G7532204E-T, UNO2484G7532205E-T  
UNO2484G7532206E-T, UNO2484G7532207E-T, UNO2484G7532208E-T  
UNO2484G7532209E-T, UNO2484G7532210E-T  
UNO2484G7331801E-T, UNO2484G7331802E-T, UNO2484G7331803E-T  
UNO2484G7331804E-T, UNO2484G7331805E-T  
UNO2484G7331806E-T, UNO2484G7331807E-T, UNO2484G7331808E-T  
UNO2484G7331809E-T, UNO2484G7331810E-T  
UNO2484G7331901E-T, UNO2484G7331902E-T, UNO2484G7331903E-T  
UNO2484G7331904E-T, UNO2484G7331905E-T  
UNO2484G7331906E-T, UNO2484G7331907E-T, UNO2484G7331908E-T  
UNO2484G7331909E-T, UNO2484G7331910E-T  
UNO2484G7332001E-T, UNO2484G7332002E-T, UNO2484G7332003E-T  
UNO2484G7332004E-T, UNO2484G7332005E-T  
UNO2484G7332006E-T, UNO2484G7332007E-T, UNO2484G7332008E-T  
UNO2484G7332009E-T, UNO2484G7332010E-T  
UNO2484G7332101E-T, UNO2484G7332102E-T, UNO2484G7332103E-T  
UNO2484G7332104E-T, UNO2484G7332105E-T  
UNO2484G7332106E-T, UNO2484G7332107E-T, UNO2484G7332108E-T  
UNO2484G7332109E-T, UNO2484G7332110E-T  
UNO2484G7332201E-T, UNO2484G7332202E-T, UNO2484G7332203E-T  
UNO2484G7332204E-T, UNO2484G7332205E-T  
UNO2484G7332206E-T, UNO2484G7332207E-T, UNO2484G7332208E-T  
UNO2484G7332209E-T, UNO2484G7332210E-T

## Product Warranty (2 years)

Advantech warrants the original purchaser that all of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products that have been repaired or altered by persons other than repair personnel authorized by Advantech, or that have been subject to misuse, abuse, accident, or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality control standards and rigorous testing, most customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced free of charge during the warranty period. For out-of-warranty repairs, customers will be billed according to the cost of replacement materials, service time, and freight. Please consult your dealer for more details.

If you believe your product is defective, follow the steps outlined below.

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages displayed when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any relevant information readily available.
3. If your product is diagnosed as defective, obtain a return merchandise authorization (RMA) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a completed Repair and Replacement Order Card, and a proof of purchase date (such as a photocopy of your sales receipt) into a shippable container. Product returned without a proof of purchase date are not eligible for warranty service.
5. Write the RMA number clearly on the outside of the package and ship the package prepaid to your dealer.

## Declaration of Conformity

### CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This type of cable is available from Advantech. Please contact your local supplier for ordering information.

### FCC Class A

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 such cases, users are required to correct the interference at their own expense.

### 警告使用者

這是甲類測試產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

## Technical Support and Assistance

1. Visit the Advantech website at [www.advantech.com/support](http://www.advantech.com/support) to obtain the latest product information.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the 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 comprehensive description of the problem
  - The exact wording of any error messages

## Safety Precaution - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage.

- To avoid electrical shock, always disconnect the power from your PC chassis before manual handling. Do not touch any components on the CPU card or other cards while the PC is powered on.
- Disconnect the power before making any configuration changes. The sudden rush of power after connecting a jumper or installing a card may damage sensitive electronic components.



# Safety Instructions

1. Read these safety instructions carefully.
2. Retain this user manual for future reference.
3. Disconnect the equipment from all AC outlets before cleaning. Use only a damp cloth for cleaning. Do not use liquid or spray detergents.
4. For pluggable equipment, the power outlet socket must be located near the equipment and easily accessible.
5. Protect the equipment from humidity.
6. Place the equipment on a reliable surface during installation. Dropping or letting the equipment fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. Do not cover the openings.
8. Ensure that the power source voltage is correct before connecting the equipment to a power outlet.
9. Position the power cord away from high-traffic areas. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage from transient overvoltage.
12. Never pour 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.
14. If one of the following situations occurs, have 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 is malfunctioning, or does not operate according to the user manual.
  - The equipment has been dropped and damaged.
  - The equipment shows obvious signs of breakage.
15. Do not leave this equipment in an environment where the storage temperature may fluctuate below  $-20\text{ }^{\circ}\text{C}$  ( $-4\text{ }^{\circ}\text{F}$ ) or above  $\sim 60\text{ }^{\circ}\text{C}$  ( $140\text{ }^{\circ}\text{F}$ ).
16. Batteries are at risk of exploding if incorrectly replaced. Replace only with the same or equivalent type as recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
17. Danger d'explosion si la batterie est mal remplacée. Remplacer uniquement par le même type ou équivalent recommandé par le fabricant. Jeter les piles usagées selon les instructions du fabricant.
18. In accordance with the IEC 704-1:1982 specifications, the sound pressure level at the operator position does not exceed 70 dB (A).

DISCLAIMER: These instructions are provided according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

## 安全指示

1. 請仔細閱讀此安全操作說明。
2. 請妥善保存此用戶手冊供日後參考。
3. 用濕抹布清洗設備前，請確認拔除電源線。請勿使用液體或去污噴霧劑清洗設備。
4. 對於使用電源線的設備，設備周圍必須有容易接觸到的電源插座。
5. 請勿在潮濕環境中試用設備。
6. 請在安裝前確保設備放置在可靠的平面上，意外摔落可能會導致設備損壞。
7. 設備機殼的開孔適用於空氣對流，從而防止設備過熱。請勿覆蓋開孔。
8. 當您連接設備到電源插座前，請確認電源插座的電壓符合要求。
9. 請將電源線佈置在人們不易絆倒的位置，請勿在電源線上覆蓋任何雜物。
10. 請注意設備上所有的警告標示。
11. 如果長時間不使用設備，請拔除與電源插座的連結，避免設備被超標的電壓波動損壞。
12. 請勿讓任何液體流入通風口，以免引起火災或短路。
13. 請勿自行打開設備。為了確保您的安全，請透過經認證的工程師來打開設備。
14. 如遇下列情況，請由專業人員維修：
  - 電源線或插頭損壞；
  - 設備內部有液體流入；
  - 設備曾暴露在過度潮濕環境中使用；
  - 設備無法正常工作，或您無法透過用戶手冊來正常工作；
  - 設備摔落或損壞；
  - 設備有明顯外觀損；
15. 請勿將設備放置在超出建議溫度範圍的環境，即不要低於  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) 或高於  $60^{\circ}\text{C}$  ( $140^{\circ}\text{F}$ )，否則可能會造成設備損壞。
16. 注意：若電池更換不正確，將有爆炸危險。因此，只可以使用製造商推薦的同一種或者同等型號的電池進行替換。請按照製造商的指示處理舊電池。
17. 根據 IEC 704-1:1982 規定，操作員所在位置音量不可高於 70 分貝。
18. 限制區域：請勿將設備安裝於限制區域使用。
19. 免責聲明：請安全訓示符合 IEC 704-1 要求。研華公司對其內容之準確性不承擔任何法律責任。

# Contents

<b>Chapter 1</b>	<b>Overview .....</b>	<b>1</b>
1.1	Introduction .....	2
1.2	Safety Precautions .....	2
1.3	Accessories .....	3
<b>Chapter 2</b>	<b>Hardware Functionality .....</b>	<b>5</b>
2.1	Introduction .....	6
	Figure 2.1 Front panel of the UNO-2484G single-stack model....	6
	Figure 2.2 Front panel of the UNO2484G dual-stack model .....	6
2.2	UNO-2484G Interface .....	6
2.2.1	COM Port Interface (COM1, COM2, COM3, COM4) .....	6
2.3	LAN: Ethernet Connector .....	6
2.4	Power Connector .....	6
2.5	USB Connector .....	7
2.6	RTC Battery .....	7
2.7	Power Button/Power Management .....	7
2.8	Reset Button .....	7
2.9	PCI Express Mini Card Socket.....	7
	Figure 2.3 First stack motherboard.....	8
	Figure 2.4 Second stack extension board .....	8
<b>Chapter 3</b>	<b>Initial Setup .....</b>	<b>9</b>
3.1	Chassis Grounding.....	10
	Figure 3.1 Chassis grounding connection .....	10
3.2	Connect the Power Supply.....	10
3.3	Open/Close the Rear Cover.....	11
3.4	Hard Disk Installation .....	13
3.4.1	HDD/SSD Installation for Single-Stack UNO-2484G .....	13
3.4.2	HDD/SSD Installation for Double-Stack UNO-2484G.....	15
3.4.3	HDD/SSD Installation with UNO-2484G-S2AE Extension Module .	19
3.5	Extension Kit (UNO-2484G-EKAE) Installation.....	23
<b>Appendix A</b>	<b>System Settings/Pin Assignments ..</b>	<b>25</b>
A.1	CN10 Internal GPIO Pin Header .....	26
	Table A.1: CN10 Internal GPIO Pin Header .....	26
A.2	Board Connectors and Jumpers .....	26
	Figure A.1 Connector and jumper locations (front view) .....	27
	Table A.2: Connectors and Jumpers .....	27
A.3	Power Connector (PWR).....	28
	Table A.3: Power Connector Pin Assignments .....	28
A.4	DP Connector.....	28
	Table A.4: DisplayPort Adaptor Cable Pin Assignments .....	28
	Table A.5: USB 3.0 Connector Pin Assignments .....	29
A.5	HDMI Display Connector.....	29
	Table A.6: HDMI Display Connector .....	29
A.6	COM1/COM2/COM3/COM4 RS232/422/485 Connector .....	30
A.7	Mini PCIE Slot (MINIPCIE).....	31
A.8	LAN RJ45 Connector .....	32

---

A.9	CN15/CN53 Internal USB 2.0 Pin Header .....	33
	Table A.7: CN15/CN53 Internal USB 2.0 Pin Header.....	33
A.10	Screw Type and Quantity for Mounting Module.....	33
A.11	Modifying the Serial Port Mode.....	34
A.12	BIOS Setting of TPM 2.0.....	36

# Chapter 1

## Overview

This chapter provides an overview of UNO-2484G specifications.

- Introduction
- Safety Precautions
- Accessories

## 1.1 Introduction

The UNO-2484G is an embedded hardware-ready platform capable of shortening development time. The system offers a wide range of networking interfaces to satisfy the various needs of different applications. Equipped with the latest Intel® Core™ i processor, 8 GB of DDR4 RAM, four GbE LAN, and four USB 3.0 ports, the UNO-2484G supports one DP and one HDMI display as well as Advantech's iDoor modules.

The UNO-2484G can tolerate a wide operating temperature range (-20 ~ 60 °C) and features one mini PCIe (or three additional mPCIe ports via a mini-card extender) for convenient expansion. This allows the UNO-2484G to be integrated with Wi-Fi, 3G, and I/O expansion modules and industrial protocols via iDoor technology.

With support for multiple drivers and operating systems, including Windows 7, Windows 10, and Linux, users can easily integrate applications on application-ready platforms in order to offer versatile functions for diverse requirements.

## 1.2 Safety Precautions

The following sections provide instructions for setting up each connection. In most cases, users will simply need to connect a standard cable.

**Warning!** *Always disconnect the power cord from the chassis before manual handling. Do not make any configuration changes when the power is on. The sudden rush of power can damage sensitive electronic components. Only experienced electronics personnel should open the chassis.*



**Warning!** *Toujours à la terre pour éliminer toute charge d'électricité statique avant toucher UNO-2484G. Appareils électroniques modernes sont très sensibles à charges d'électricité statique. Utilisez un bracelet antistatique à tout moment. Placez tous composants électroniques sur une surface antistatique ou dans un statique-sac blindé.*



**Caution!** *Always ground yourself to remove any static electric charge before touching UNO-2484G. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag.*



**Caution!** *Toujours débrancher le cordon d'alimentation de votre boîtier lorsque vous êtes travailler. Ne branchez pas lorsque l'appareil est allumé. Un afflux soudain de puissance peut endommager les composants électroniques sensibles. Seulement connu personnel de l'électronique devraient ouvrir le châssis.*



## 1.3 Accessories

The following accessories should be included with the product:

- Pin connector for power wiring (Advantech P/N: 1652002209)
- Warranty card

If any of the above items are missing or damaged, contact your distributor or sales representative immediately.

- Operating Temperature: -20 ~ 60 °C (-4 ~ 140 °F)
- Power Requirements: 10 - 36 V<sub>DC</sub>
- Power Consumption: 55 W (typical), 92.5 W (max.)
- System Hardware Specifications
  - CPU:
    - Intel® Core™ i7-7600U(2.8 GHz)/i7-7300U(2.6 GHz)/i7-7100U(2.4 GHz)
    - Intel® Core™ i7-6600U (2.6 GHz)/i5-6300U (2.4 GHz)/i3-6100U (2.3 GHz)
  - Memory: 8 GB DDR4 2133 MHz
  - Graphics Engine: Intel® HD Graphics
  - Ethernet: Intel® i210 GbE, 802.10av, IEEE1588/802.1AS, 803.3az
  - Storage:
    - Supports 2 x SSD or HDD (RAID support)
    - 1 x full-size mSATA (supports mPCIe)
  - Expansion: 1 x full-size mPCIe slot (can support an additional 3 x full-size mPCIe with the integration of a secondary extension mini card)
  - Display: 1 x HDMI, supports 1920 x 1080 @60Hz 24bpp and 1 x DP

Because UNO-2484G features a modularized design, Advantech offers both single and double-stack models.

- Single-stack models:
  - UNO-2484G-6731AE/UNO-2484G-6531AE/UNO-2484G-6331AE
- Double-stack models:
  - UNO-2484G-6732AE/UNO-2484G-6532AE/UNO-2484G-6332AE

The double-stack model combines a single-stack model with an extension kit (UNO-2484G-EKAE) for integrating iDoor technology.





# Chapter 2

## Hardware Functionality

This chapter explains how to setup the UNO-2484G's hardware functions, including connecting peripherals and setting switches and indicators.

- Introduction
- UNO-2484G Interface
- LAN/Ethernet Connector
- Power Connector
- USB Connector
- RTC Battery
- Power Button/Power Management
- Reset Button
- PCI Express Mini Card Socket

## 2.1 Introduction

The following figures show the connectors on UNO-2484G. Information regarding each peripheral is provided in the following sections.

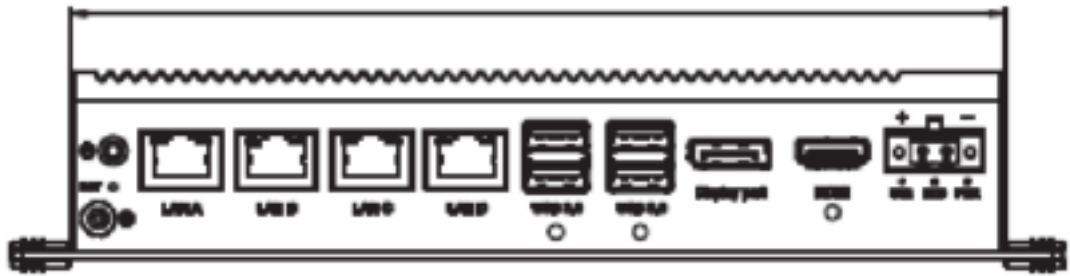


Figure 2.1 Front panel of the UNO-2484G single-stack model

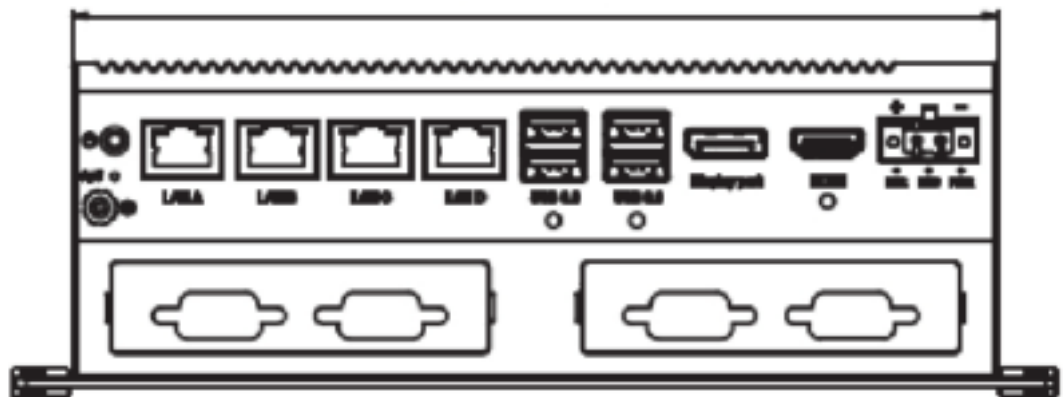


Figure 2.2 Front panel of the UNO2484G dual-stack model

## 2.2 UNO-2484G Interface

The UNO-2484G is equipped with four standard COM serial communication ports – COM1, COM2, COM3, and COM4. The port settings can be adjusted from the BIOS menu. Drivers are installed automatically during OS installation.

### 2.2.1 COM Port Interface (COM1, COM2, COM3, COM4)

The UNO-2484G features four RS-232/422/485, DB9, 50 ~ 115.2 kbps.

## 2.3 LAN: Ethernet Connector

UNO-2484G is equipped with a four Gigabit LAN controller. The controller chip used is an Intel i210 Ethernet controller that is fully compliant with IEEE 802.3u 10/100/1000 Base-T. The Ethernet port is a standard RJ-45 jack, and LED indicators are on the front to show its Link (Green LED) and Active (Green LED) status.

## 2.4 Power Connector

The UNO-2484G is equipped with a phoenix power connector that is compatible with 10 ~ 36 V<sub>DC</sub> external power and features reversed wiring protection. This protects the system from damage caused by reversed wiring of ground and power lines. (For more information, refer to Appendix A.4.)

## 2.5 USB Connector

The USB interface supports plug-and-play functionality, which enables users to connect or disconnect a device at any time without powering off the system. Equipped with four USB connectors, the UNO-2484G provides complete plug-and-play and hot-swapping capabilities for up to 127 external devices. The USB interface can be disabled in the system BIOS. Additionally, the provision of four USB ports complies with USB EHCI, Rev. 3.0. (Refer to Appendix A.5 for pin assignments.)

## 2.6 RTC Battery

The UNO-2484G has an RTC battery to ensure that the BIOS and system clock settings are retained even after brief power disconnections.

- **Type:** Panasonic BR2032
- **Output Voltage:** 3 V<sub>DC</sub>

## 2.7 Power Button/Power Management

Press the “PWR” button to power on or power off the UNO-2484G(ATX type). The UNO-2484G supports the ACPI (Advanced Configuration and Power Interface). Besides power on/off, it supports multiple suspend modes, such as Power on Suspend (S1), Suspend to RAM (S3), Suspend to Disk (S4). In S3 and S4 suspend mode, the power consumption can be less than 2W, which meets Energy Star requirements.

## 2.8 Reset Button

Press the “Reset” button to activate the hardware reset function.

## 2.9 PCI Express Mini Card Socket

The UNO-2484G single-stack model supports one full-size socket for PCI Express mini cards. The (MINI1) interface supports USB, PCIe, and mSATA signals and can automatically detect the device type to provide the required support. This function can be accessed via Wi-Fi, 3G communication module, or mSATA SSD.

The UNO-2484G double-stack model combines a single-stack model with an UNO-2484G-EKAE extension kit. In addition to the mini PCIe slot on the first stack, the double-stack model also supports three additional full-size PCI Express mini card sockets on the second stack. The MINI1 interface on the second stack supports USB and PCIe signals. The MINI2 and MINI3 interfaces only support PCIe signals.

**Note!** *In addition to the mini PCIe (MINI1) socket, the system features a SIM card slot for supporting 3G/LTE functionality. However, users are required to install a 3G/LTE mini PCIe module to enable this function.*



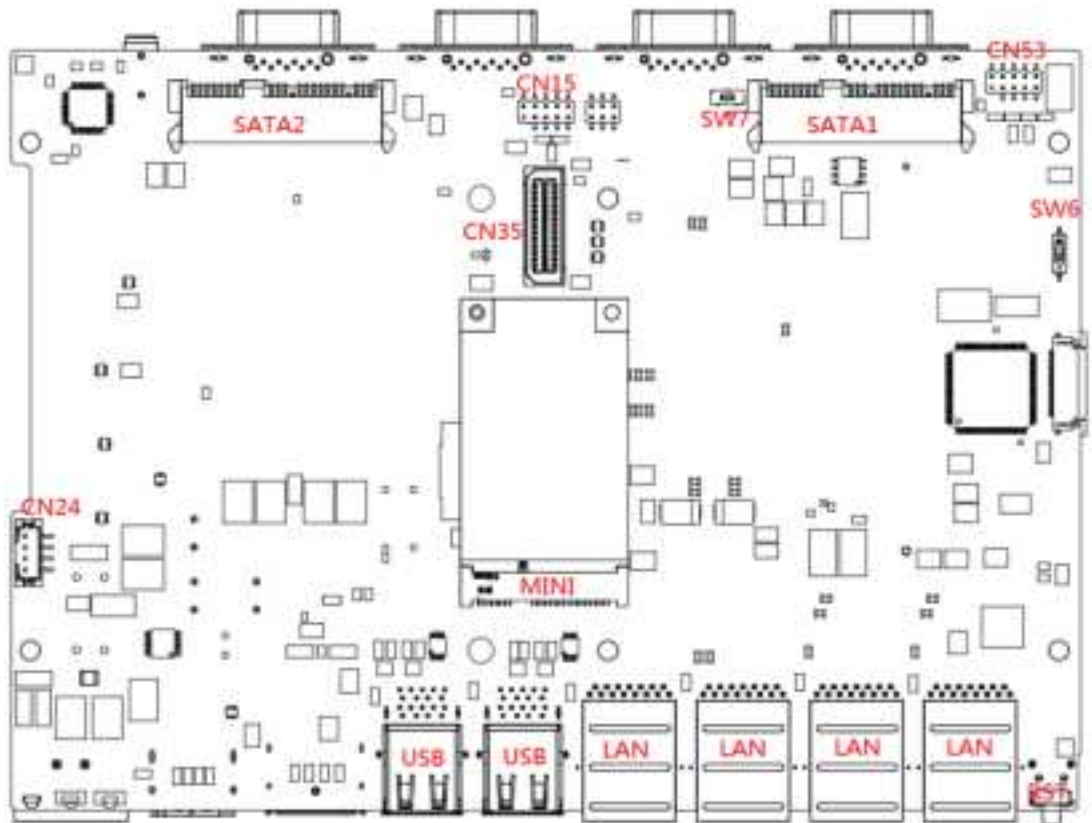


Figure 2.3 First stack motherboard

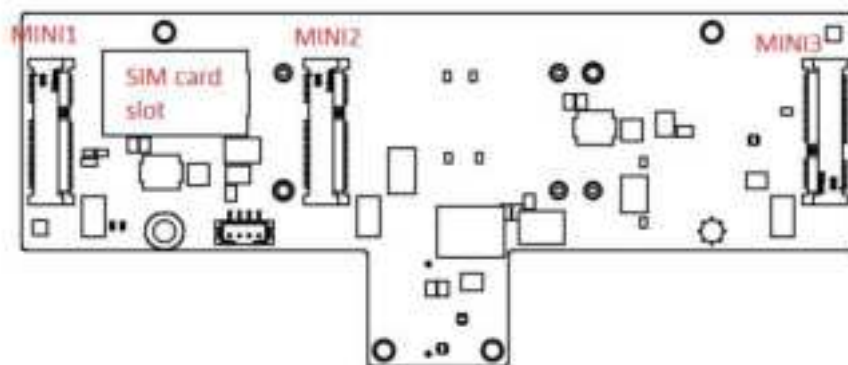


Figure 2.4 Second stack extension board

# Chapter 3

## Initial Setup

This chapter explains the process for initializing the UNO-2484G.

- Chassis Grounding
- Connect the Power Supply
- Open/Close the Rear Cover
- Hard Disk Installation
- Extension Kit Installation

## 3.1 Chassis Grounding

The UNO-2484G provides adequate EMI protection and a stable grounding base. Moreover, an easy-to-connect chassis grounding point is also provided.

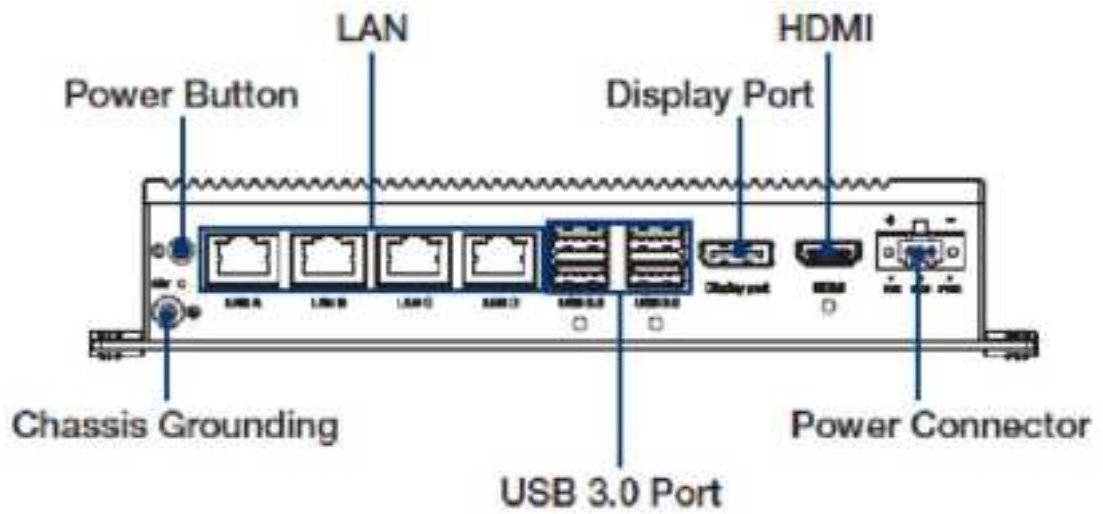


Figure 3.1 Chassis grounding connection

## 3.2 Connect the Power Supply

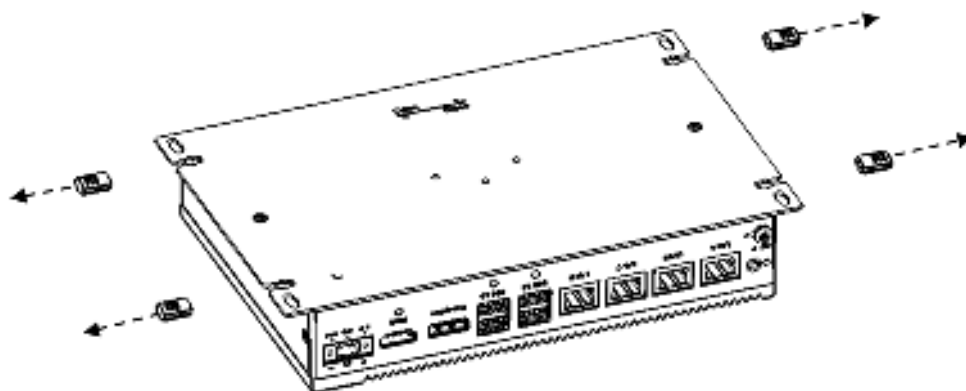
The UNO-2484G is intended to be supplied by a listed power adapter or DC power source rated 10 ~ 36V<sub>DC</sub>, 8A, and TMA 60 °C. Should you require further assistance, please contact Advantech for additional information.

### 3.3 Open/Close the Rear Cover

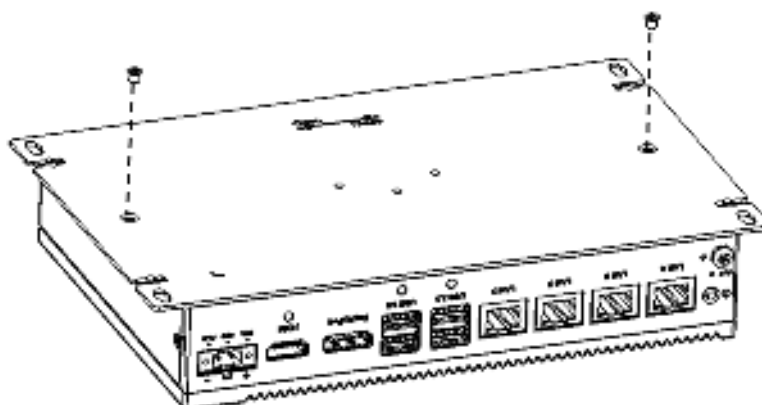
The rear cover can be opened in order to install a mPCIe module, mSATA SSD, or HDD, or to adjust the switch settings.

#### Open the Rear Cover

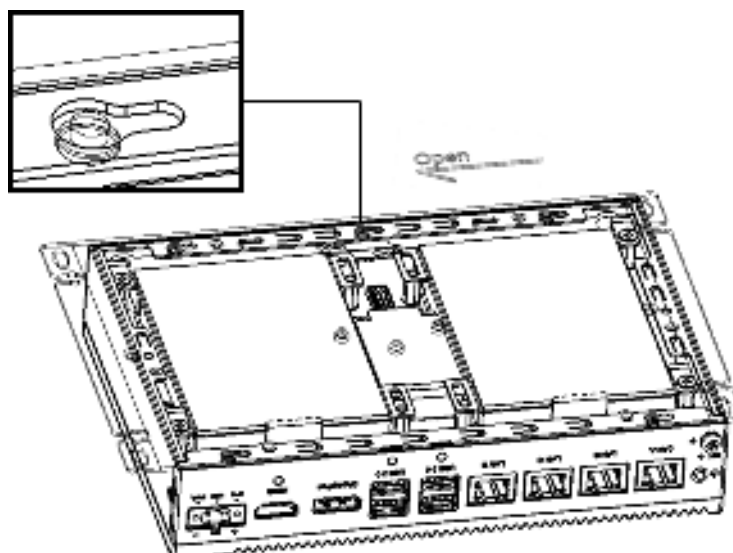
1. Remove the four rubber feet.



2. Remove the two affixing screws of the rear cover.

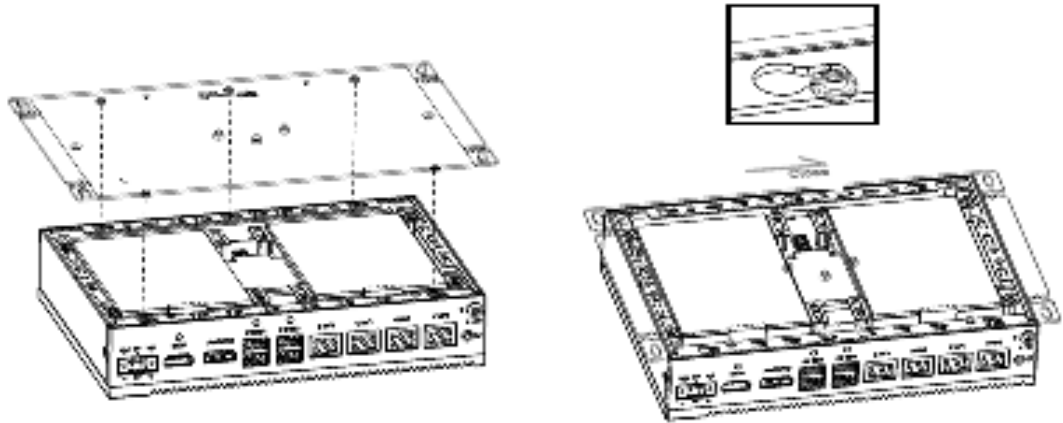


3. Slide to open the rear cover.

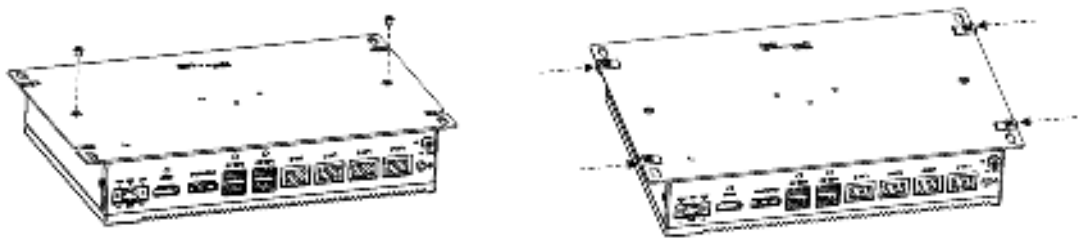


### Close the Rear Cover:

1. Align the guide pillars between the rear cover and bracket then slide the rear cover in place and fix in position.



2. Secure the rear cover in place using two screws. Then attach the four rubber feet.

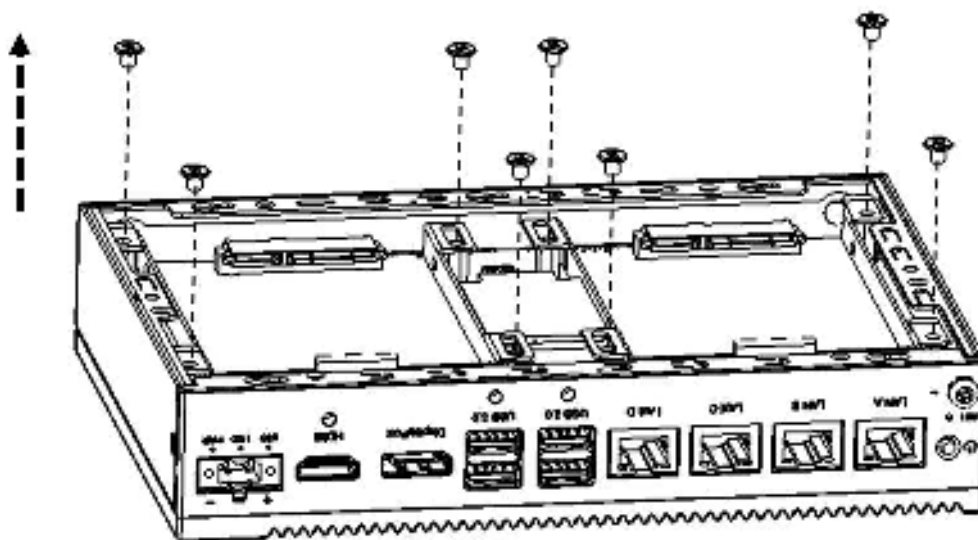




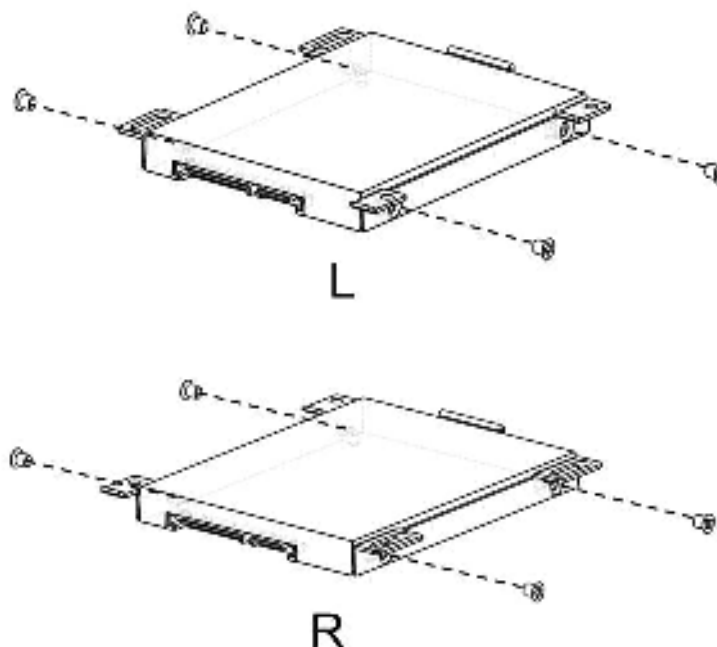
## 3.4 Hard Disk Installation

### 3.4.1 HDD/SSD Installation for Single-Stack UNO-2484G

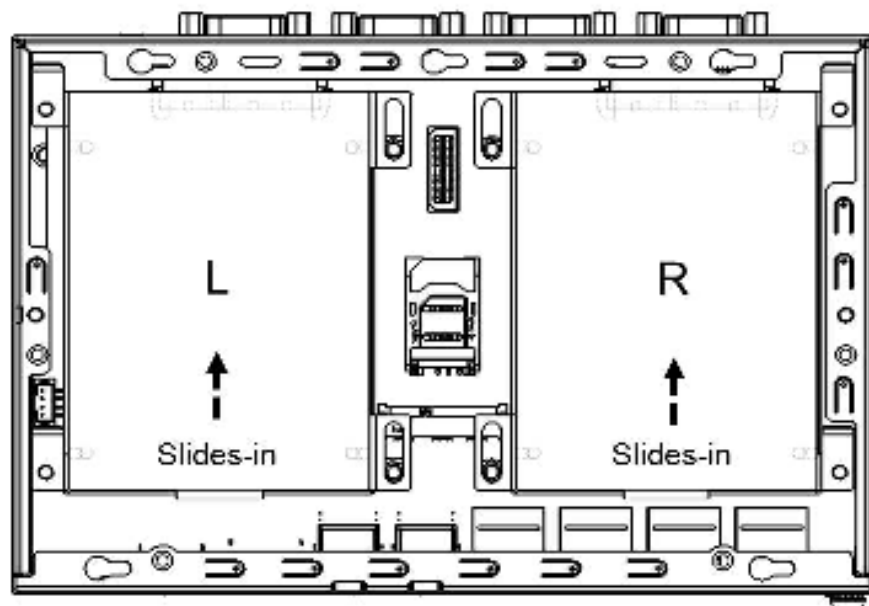
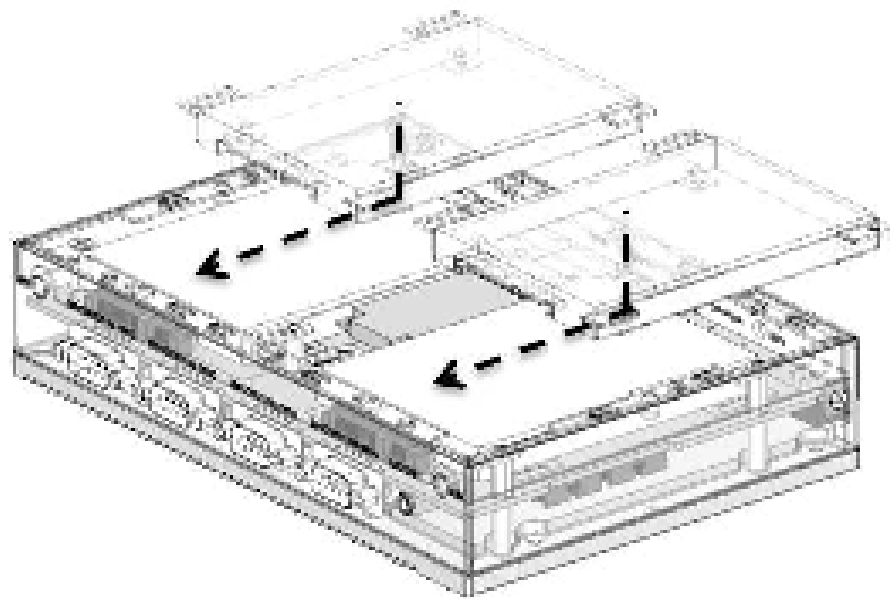
1. Remove the rear cover
2. Remove the HDD bracket by unscrewing the four affixing screws on the HDD bracket



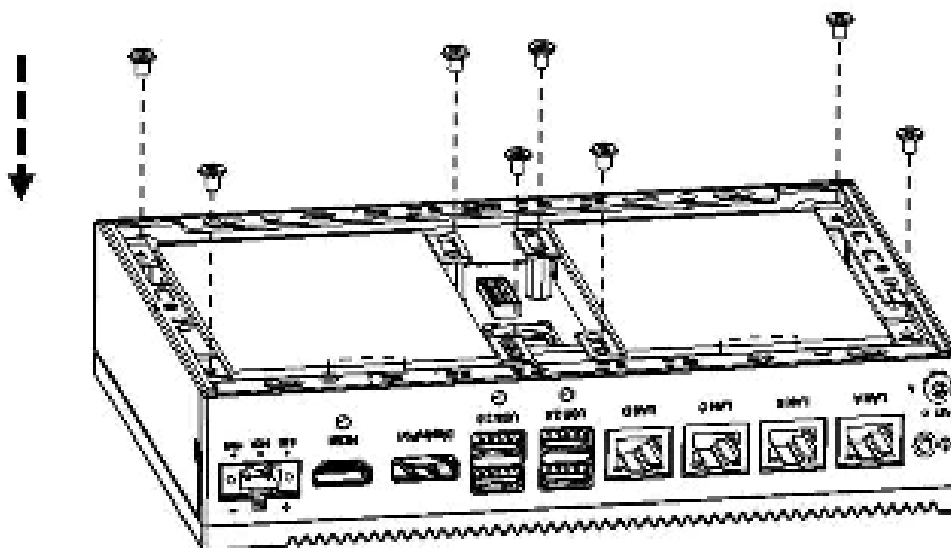
3. Attach the HDD/SSD to the HDD bracket using screws



- Slide the HDD/SDD attached to the bracket into the chassis



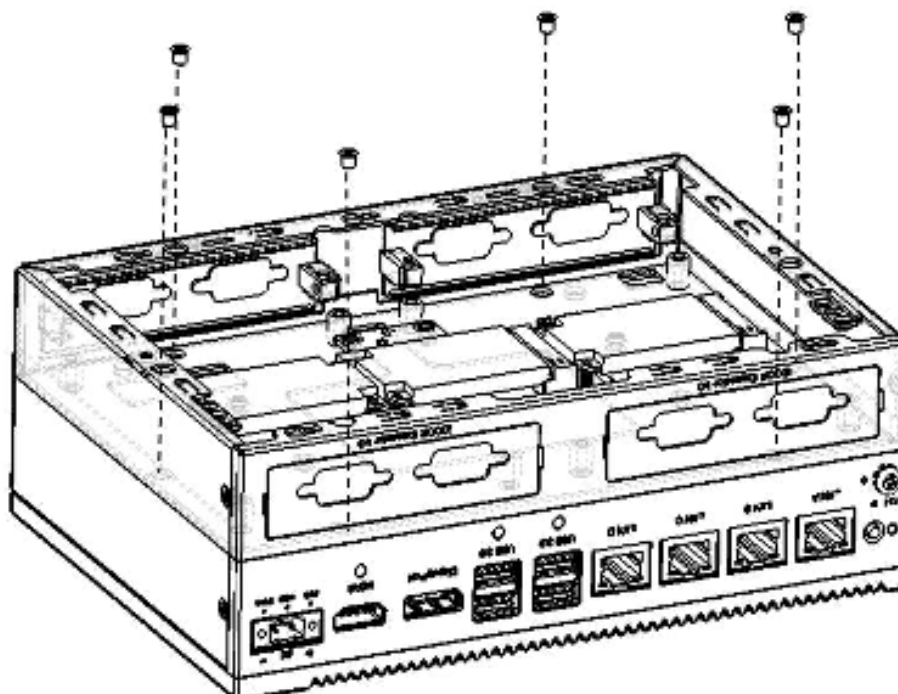
- Secure the HDD bracket in place using four screws



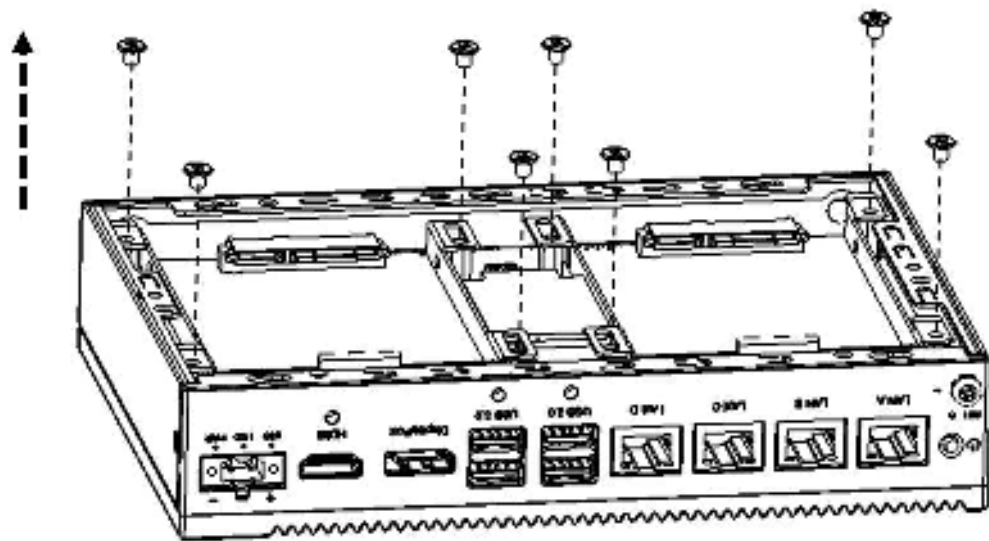
- Replace the rear cover.

### 3.4.2 HDD/SSD Installation for Double-Stack UNO-2484G

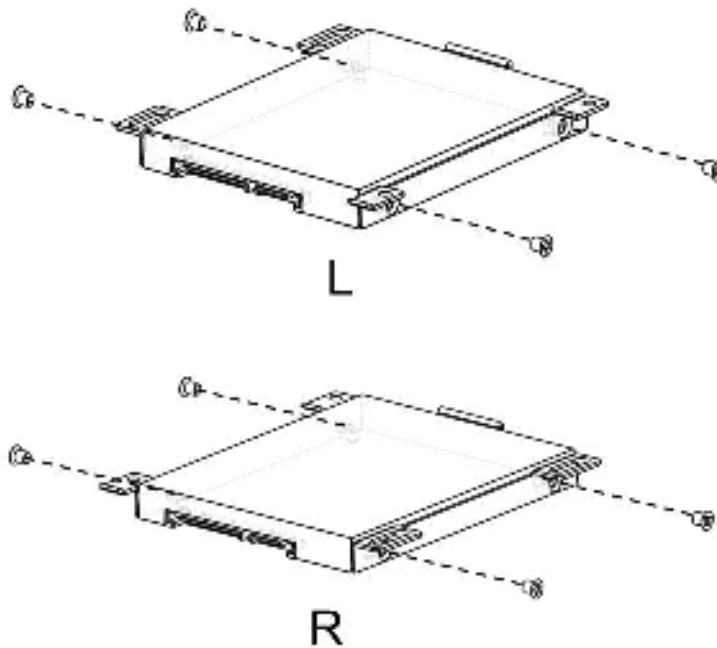
- Remove the rear cover.
- Unscrew the five affixing screws to remove the second stack extension kit



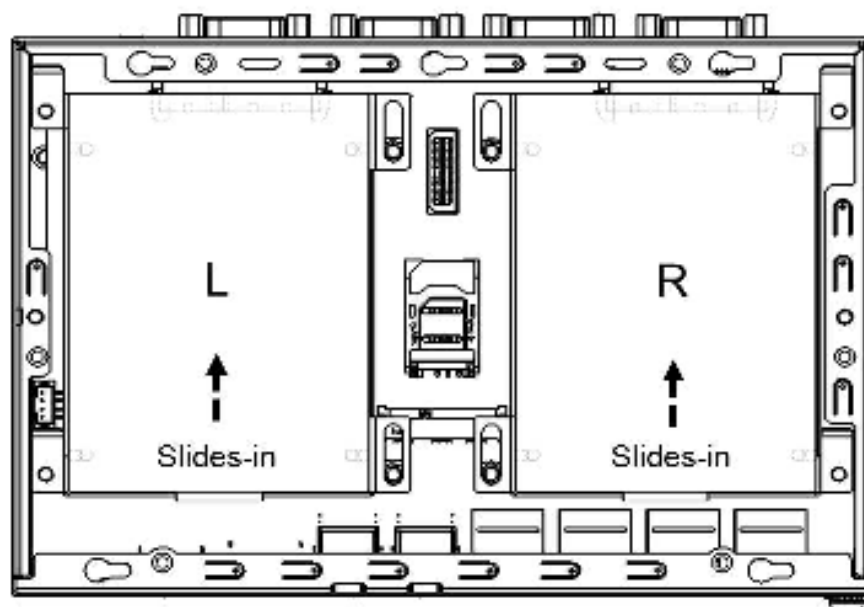
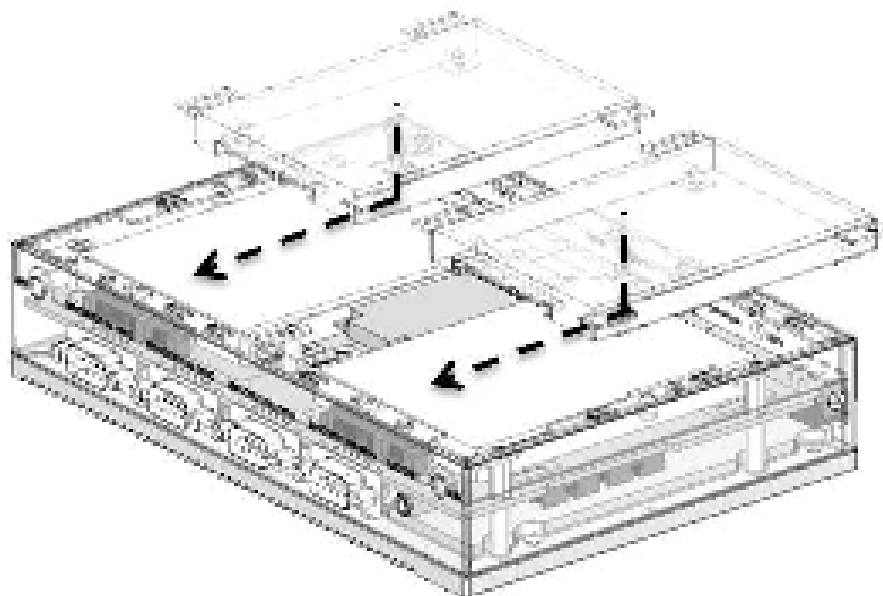
3. Remove the HDD bracket by unscrewing the four screws on the HDD bracket



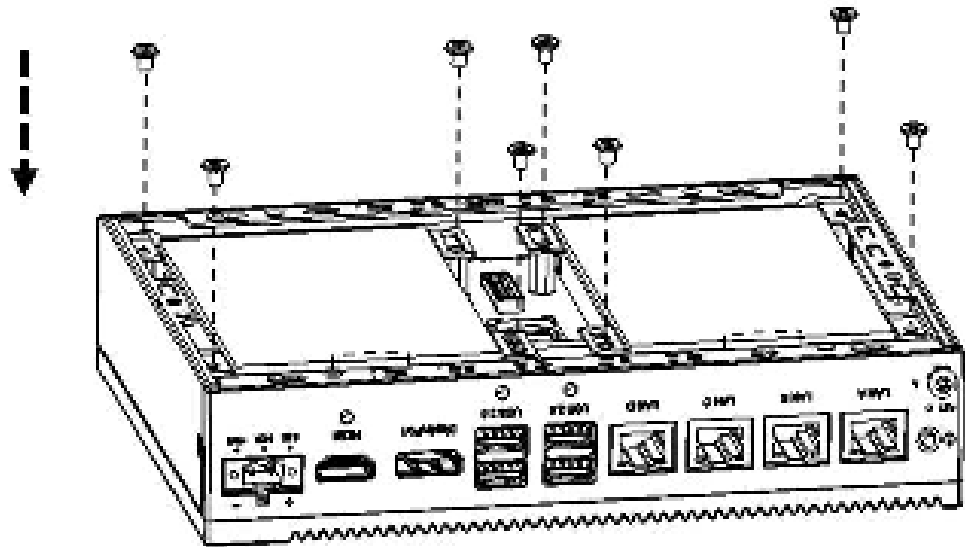
4. Attach the HDD/SSD to the HDD bracket using screws



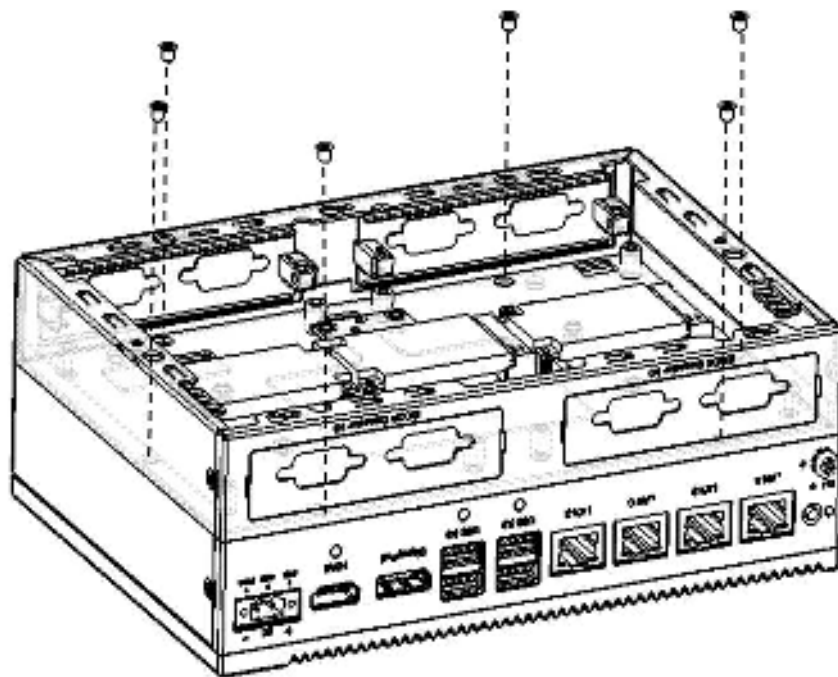
5. Slide the HDD/SDD attached to the bracket into the chassis



- Affix the HDD bracket in place using four screws



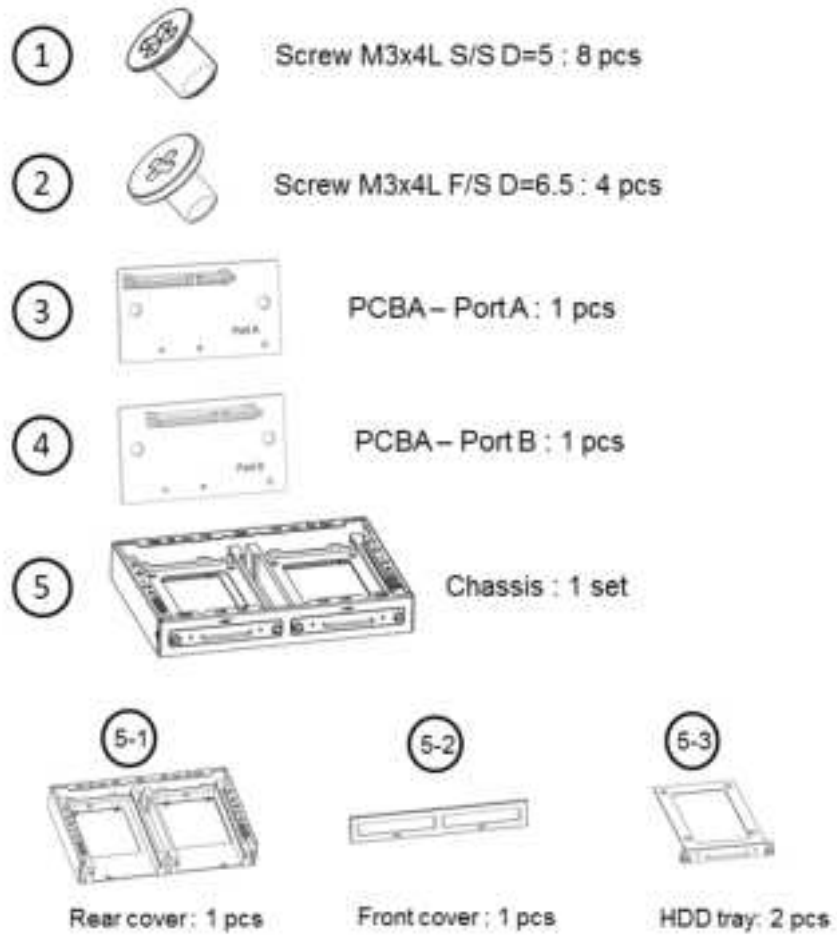
- Reattach the second stack extension kit using five screws.



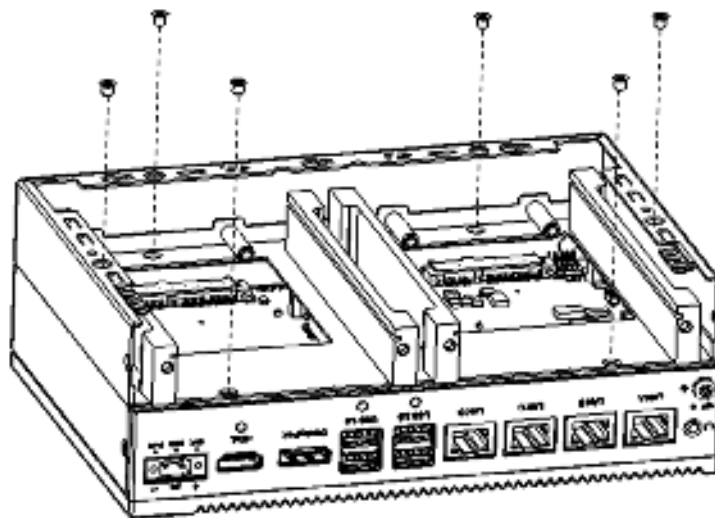
- Replace the rear cover.

### 3.4.3 HDD/SSD Installation with UNO-2484G-S2AE Extension Module

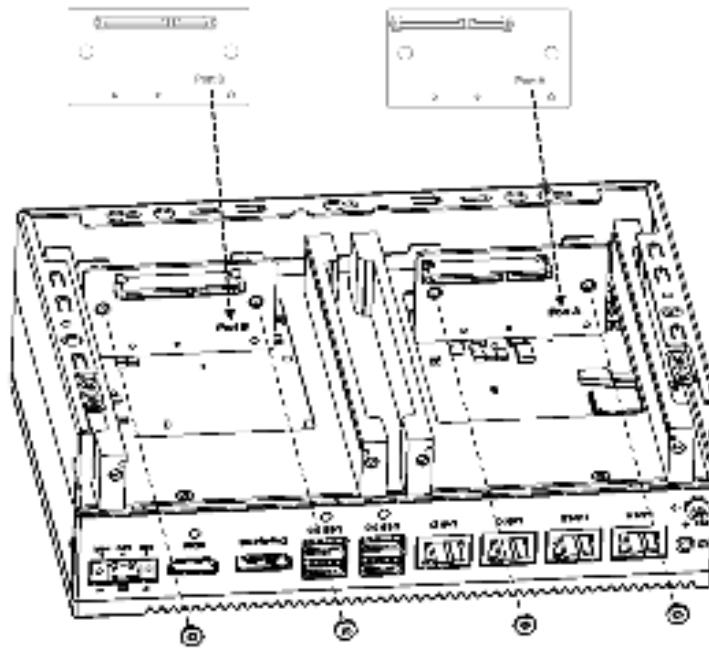
Below is the list of components provided with the UNO-2484G-S2AE extension module.



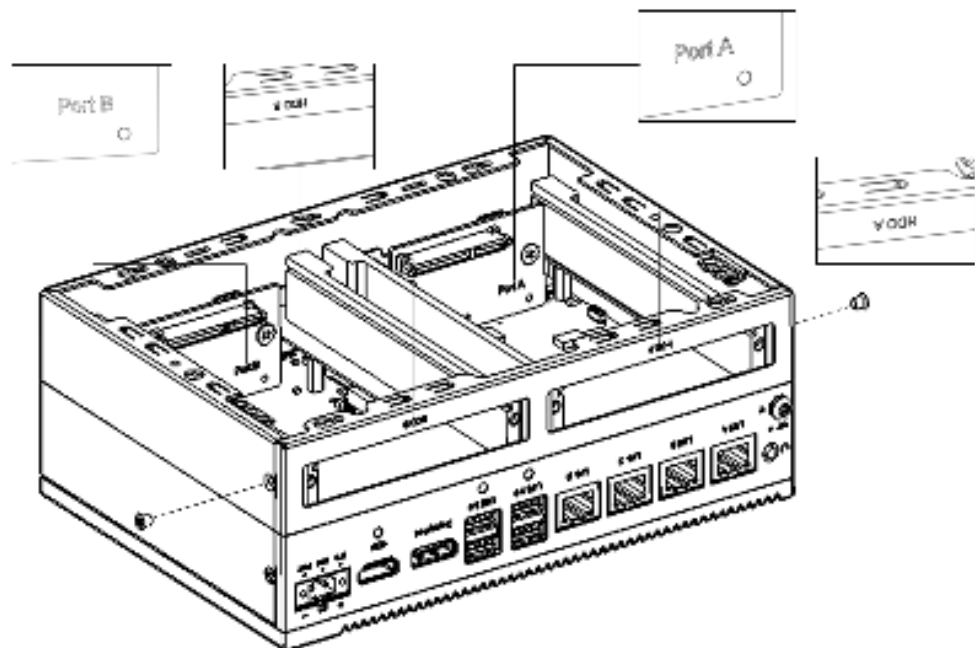
1. Secure the second stack extension kit rear cover (5-1) in place using the screws provided (1).



2. Lock PCBA Port A (3) and Port B (3) with screws (2).

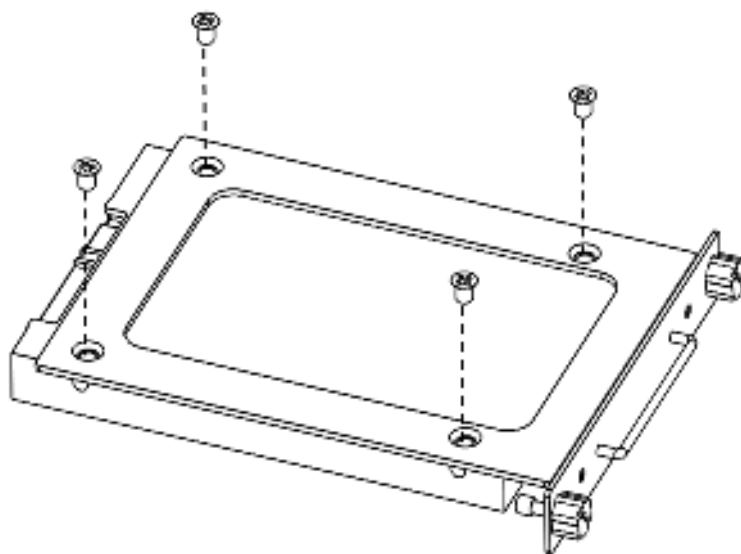


3. Secure the front cover (5-2) in place using the screws provided (1). Ensure that the HDD A port of the front cover and Port A on the PCBA are located on the same side.

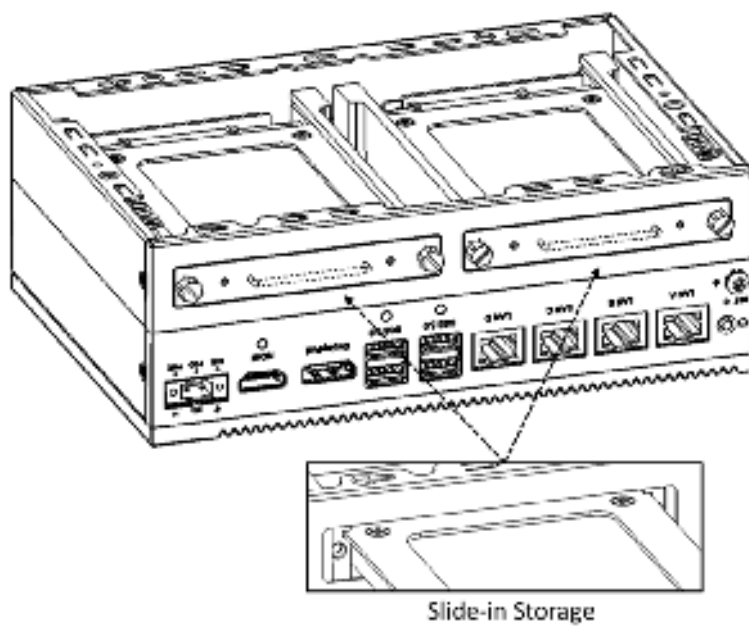




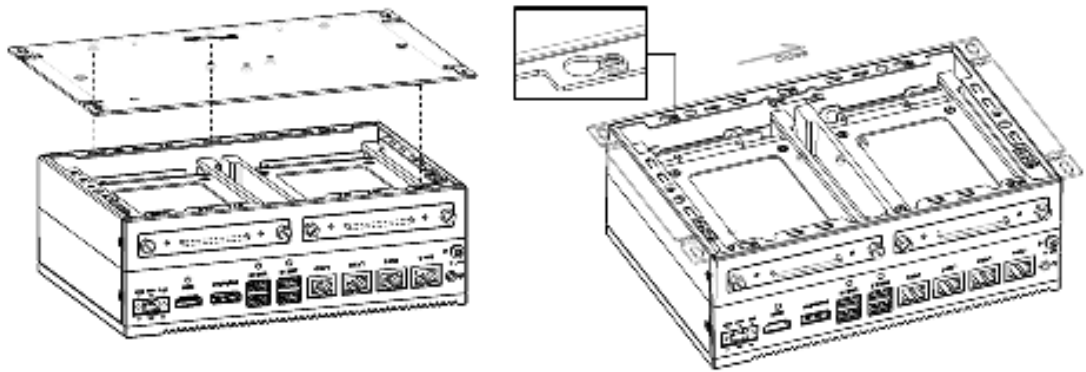
- Secure the HDD to the HDD tray (5-3) using the screws located at the internal side of the first stack layer.



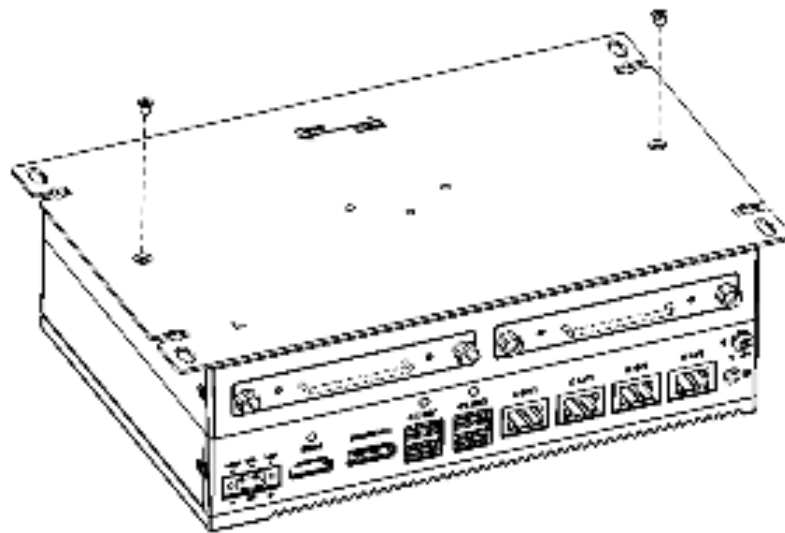
- Insert the HDD with tray into the slot and tighten the thumb screws.



6. Align the guide pillars between the rear cover and bracket, and then slide the rear cover in place to fix in position.

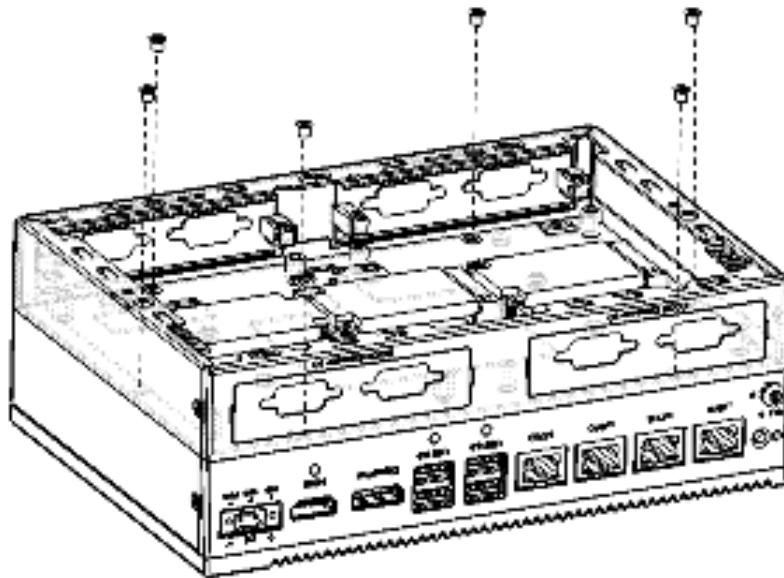


7. Secure the rear cover in place using the screws provided. Then attach the rubber feet.

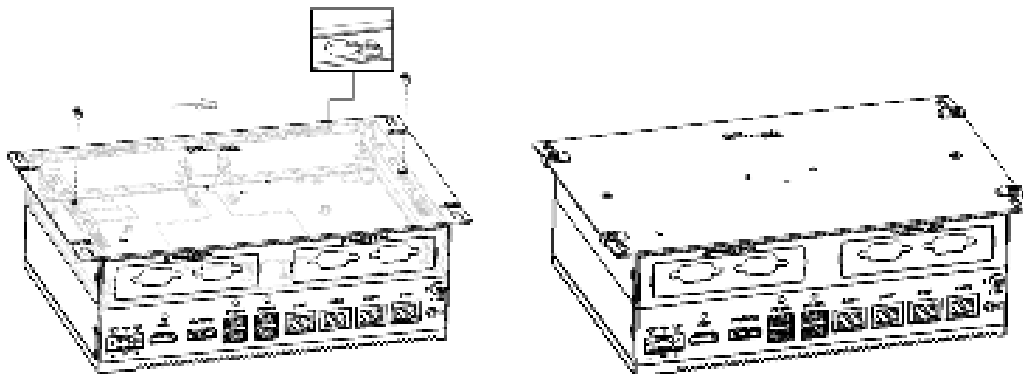


## 3.5 Extension Kit (UNO-2484G-EKAE) Installation

1. Remove the rear cover
2. Attach the second extension kit stack to the first stack.



3. Secure the rear cover in place using the two screws provided. Then attach the four rubber feet.

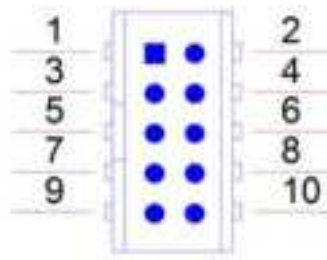




# Appendix **A**

System Settings/Pin  
Assignments

## A.1 CN10 Internal GPIO Pin Header

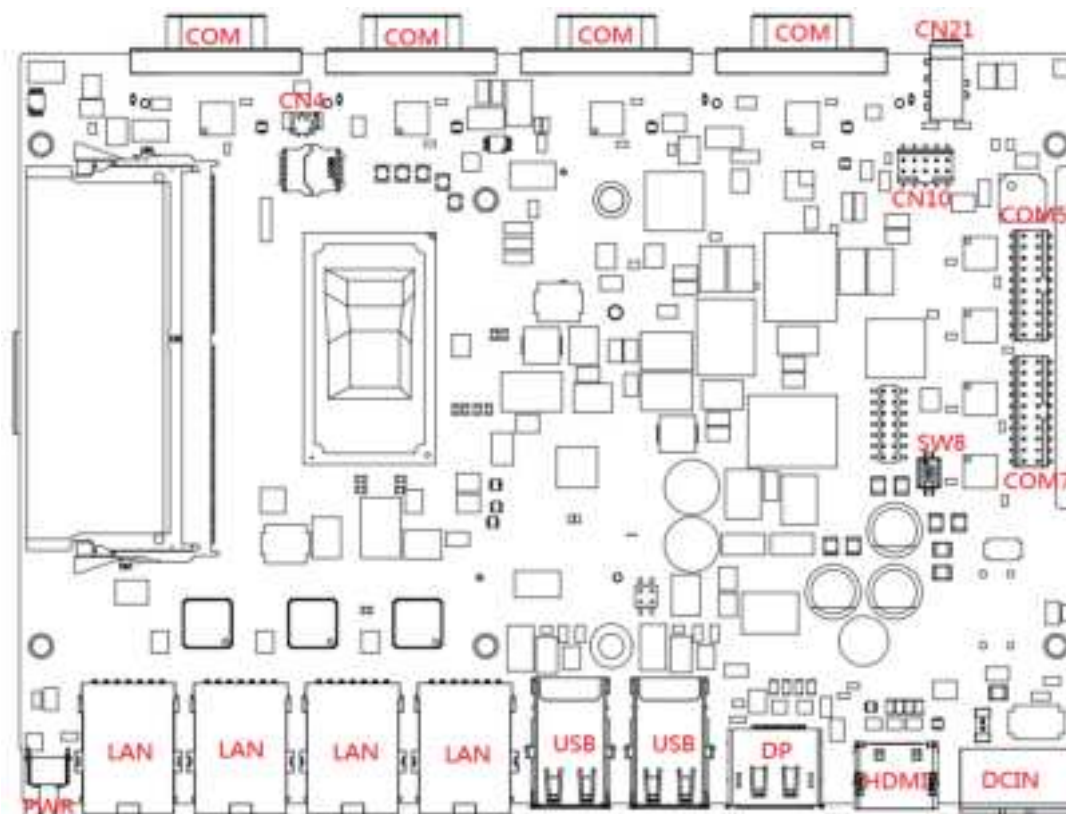


**Table A.1: CN10 Internal GPIO Pin Header**

Pin	Signal
1	+5V
2	GPIO0
3	GPIO1
4	GPIO2
5	GPIO3
6	GPIO4
7	GPIO5
8	GPIO6
9	GPIO7
10	GND

## A.2 Board Connectors and Jumpers

The UNO-2484G board features several connectors and jumpers. The following sections explain how to configure the UNO-2484G hardware settings.

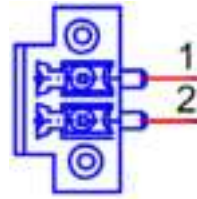


**Figure A.1 Connector and jumper locations (front view)**

**Table A.2: Connectors and Jumpers**

Label	Function
DCIN	Power-in connector
HDMI	HDMI connector
DP	DisplayPort connector
USB	USB 3.0 connector
LAN	RJ45 connector
PWR	Power button
RST	Reset button
COM	COM port connector
COM5/COM7	Internal COM port pin header
MINI	PCI Express mini card socket/mSATA
SATA1/SATA2	SATA connector
CN4	RTC battery connector
CN10	Internal GPIO pin header
CN15/CN53	Internal USB 2.0 pin header
CN21	Audio line-out
CN24	Internal power connector; the voltage is the same as that for DCIN
CN35	Board-to-board connector
SW6	AT/ATX mode switch. ON -> ATX mode, OFF -> AT mode.
SW7	Clear COMS switch. Pin 1 -> normal, Pin 3 -> Clear
SW8	Disable internal COM5~8, Pin (1-2) -> enable, Pin (3-4) -> disable

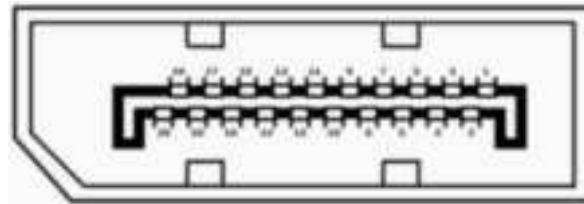
## A.3 Power Connector (PWR)



**Table A.3: Power Connector Pin Assignments**

Pin	Signal	Description
1	Power-In V+	10 ~ 36V <sub>DC</sub>
2	Power-In V- (GND)	

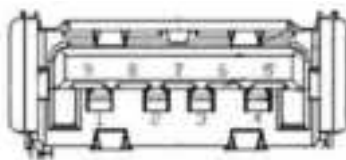
## A.4 DP Connector



**Table A.4: DisplayPort Adaptor Cable Pin Assignments**

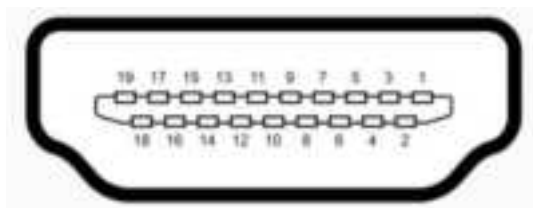
Pin	Signal Name
1	ML_Lane 0 (p)
2	GND
3	ML_Lane 0 (n)
4	ML_Lane 1 (p)
5	GND
6	ML_Lane 1 (n)
7	ML_Lane 2 (p)
8	GND
9	ML_Lane2 (2)
10	ML_Lane 3 (p)
11	GND
12	ML_Lane 3 (n)
13	CONFIG1
14	CONFIG2
15	AUX CH (p)
16	GND
17	AUX CH (n)
18	Hot Plug
19	Return
20	DP_PWR




**Table A.5: USB 3.0 Connector Pin Assignments**

Pin	Signal Name	Description
1	VBUS	Power
2	D-	USB2.0 differential pair
3	D+	
4	GND	Ground for power return
5	StdA_SSRX-	SuperSpeed receiver differential pair
6	StdA_SSRX+	
7	GND_DRIAN	Ground for signal return
8	StdA_SSTX-	SuperSpeed transmitter differential pair
9	StdA_SSTX+	

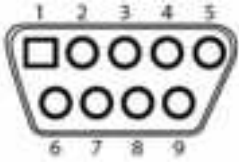
## A.5 HDMI Display Connector


**Table A.6: HDMI Display Connector**

Pin	Signal	Pin	Signal
1	TMDS Data2+	2	TMDS Data2 Shield
3	TMDS Data2-	4	TMDS Data1+
5	TMDS Data1 Shield	6	TMDS Data1-
7	TMDS Data0+	8	TMDS Data0 Shield
9	TMDS Data0-	10	TMDS Clock+
11	TMDS Clock Shield	12	TMDS Clock-
13	CEC	14	Reserved
15	SCL	16	SDA
17	DDC/CEC/HEC Ground	18	+5 V Power (max. 50 mA)
19	Hot Plug Detect		

## A.6 COM1/COM2/COM3/COM4 RS232/422/485 Connector

Pin	RS232	RS422	RS485
1	DCD	TX-	D-
2	RX	TX+	D+
3	TX	RX+	
4	DTR	RX-	
5	GND	GND	GND
6	DSR		
7	RTS		
8	CTS		
9	RI		



The diagram shows a 9-pin D-sub connector. The pins are arranged in two rows: the top row contains pins 1, 2, 3, 4, and 5; the bottom row contains pins 6, 7, 8, and 9. Pin 1 is a square notch, while pins 2 through 9 are circular. The numbers 1 through 9 are printed above and below the respective pins.

## A.7 Mini PCIE Slot (MINIPCIE)

Supports PCI1.1, PCI1.2 power definition.

Pin	Signal	Description	Pin	Signal	Description
52	+3.3Vaux / +3.3V	PCI1.1 was +3.3V, PCI1.2 was +3.3Vaux	51	Reserved	NC
50	GND		49	Reserved	NC
48	+1.5V		47	Reserved	NC
46	NC	NC	45	Reserved	NC
44	NC	NC	43	PIN43_MPCIE_PWRSEL	The pin to select the Pin 2, 52 power output for +3.3Vaux or +3.3V (PCI1.1 was Reserved and PIC1.2 was GND)
42	NC	NC	41	+3.3Vaux	
40	GND		39	+3.3Vaux	
38	USB_D+	USB serial data interface compliant to the USB 2.0 specification	37	GND	
36	USB_D-		35	GND	
34	GND		33	PETp0	PCI Express differential transmit pair
32	SMB_DATA	SMBus data signal compliant to the SMBus 2.0 specification	31	PETn0	
30	SMB_CLK		29	GND	
28	+1.5V		27	GND	
26	GND		25	PERp0	PCI Express differential receive pair
24	+3.3Vaux		23	PERn0	
22	PERST#	Functional reset to the card	21	GND	
20	W_DISABLE#	Active low signal. This signal is used by the system to disable radio operation on add-in cards that implement radio frequency applications. When implemented, this signal requires a pull-up resistor on the card.	19	Reserved	NC
18	GND		17	Reserved	NC
	Key	Key		Key	Key
16	NC	NC	15	GND	
14	NC	NC	13	REFCLK+	
12	NC	NC	11	REFCLK-	
10	NC	NC	9	GND	
8	NC	NC	7	CLKREQ#	Reference clock request signal
6	1.5V		5	NC	NC
4	GND		3	NC	NC
2	+3.3Vaux / +3.3V	PCI1.1 was +3.3V , PCI1.2 was +3.3Vaux	1	WAKE#	Open drain active low signal. This signal is used to request that the system return from a sleep/suspended state to service a function initiated wake event.

Note 1: +3.3V aux is suspend power; power out to device +3.3V/1.1A

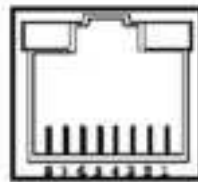
Note 2: +3.3V is core power

Note 3: +1.5V is core power; power out to device +1.5V/0.5A

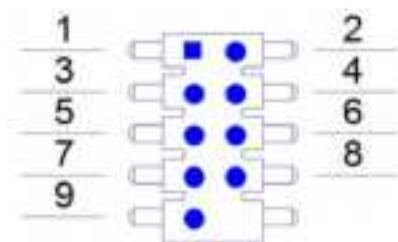
## A.8 LAN RJ45 Connector

RJ45 Pin	Signal	Description
1	MDI0+	<ul style="list-style-type: none"> <li>In BASE-T: Media-dependent interface[0]:</li> <li>1000BASE-T: In MDI configuration, MDI[0]+/- corresponds to BI_DA+/- and in MDI-X configuration MDI[0]+/- corresponds to BI_DB+/-.</li> </ul>
2	MDI0-	<ul style="list-style-type: none"> <li>10BASE-T and 100BASE-TX: In MDI configuration, MDI[0]+/- is used for the transmit pair and in MDIX configuration MDI[0]+/- is used for the receive pair.</li> </ul>
3	MDI1+	<ul style="list-style-type: none"> <li>In BASE-T: Media-dependent interface[1]:</li> <li>1000BASE-T: In MDI configuration, MDI[1]+/- corresponds to BI_DB+ and in MDI-X configuration MDI[1]+/- corresponds to BI_DA+/-.</li> </ul>
6	MDI1-	<ul style="list-style-type: none"> <li>10BASE-T and 100BASE-TX: In MDI configuration, MDI[1]+/- is used for the receive pair and in MDI-X configuration MDI[1]+/- is used for the transmit pair.</li> </ul>
4	MDI2+	<ul style="list-style-type: none"> <li>In BASE-T: Media-dependent interface[3:2]:</li> <li>1000BASE-T: In MDI and in MDI-X configuration, MDI[2]+/- corresponds to BI_DC+/- and MDI[3]+/- corresponds to BI_DD+/-.</li> <li>100BASE-TX: Unused.</li> <li>10BASE-T: Unused.</li> </ul>
5	MDI2-	
7	MDI3+	
8	MDI3-	

Left LED		Right LED	
10Link	100Link	1000 Link	Active
Off	Orange	Green	Green



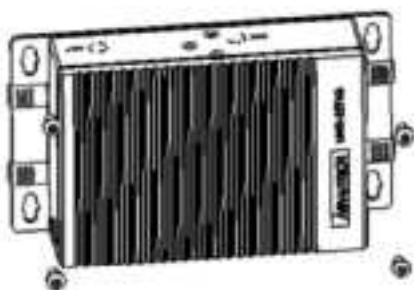
## A.9 CN15/CN53 Internal USB 2.0 Pin Header



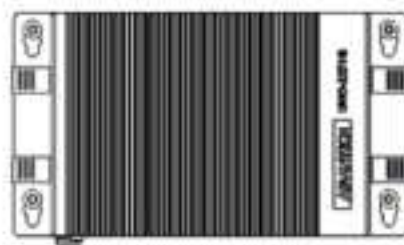
**Table A.7: CN15/CN53 Internal USB 2.0 Pin Header**

Pin	Signal
1	+5V
2	+5V
3	USB1-
4	USB2-
5	USB1+
6	USB2+
7	GND
8	GND
9	NC

## A.10 Screw Type and Quantity for Mounting Module



Screw: M3\*P0.5\*6L  
Quantity: 4 pcs

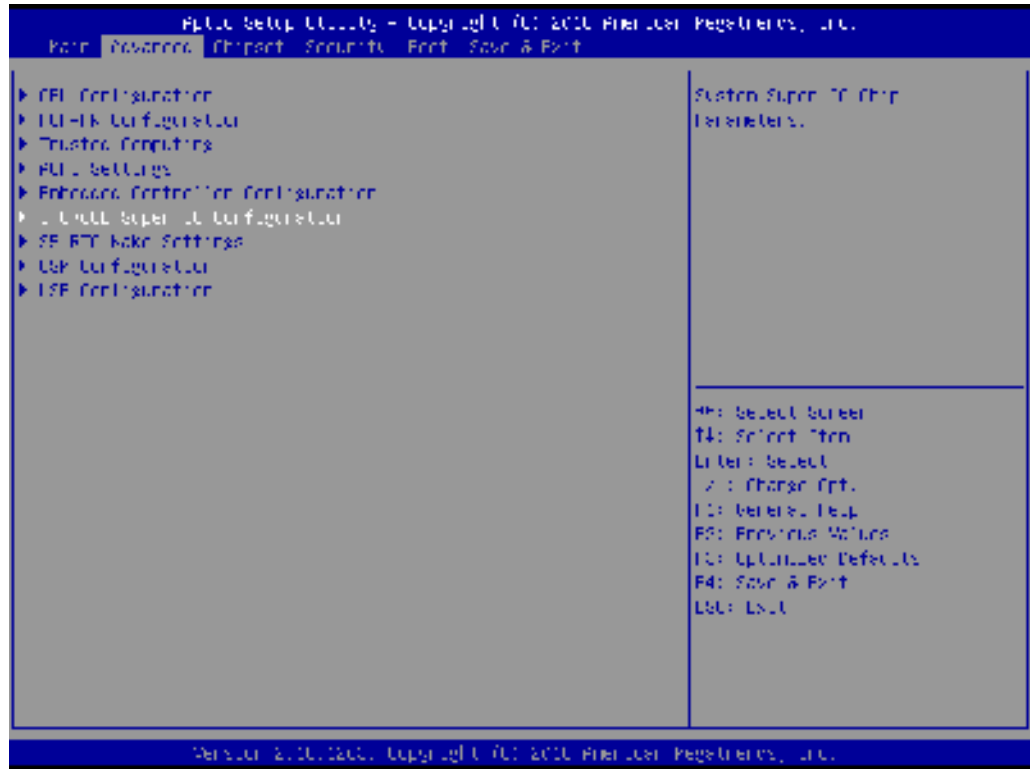


Head diameter: 5 - 5.3 mm

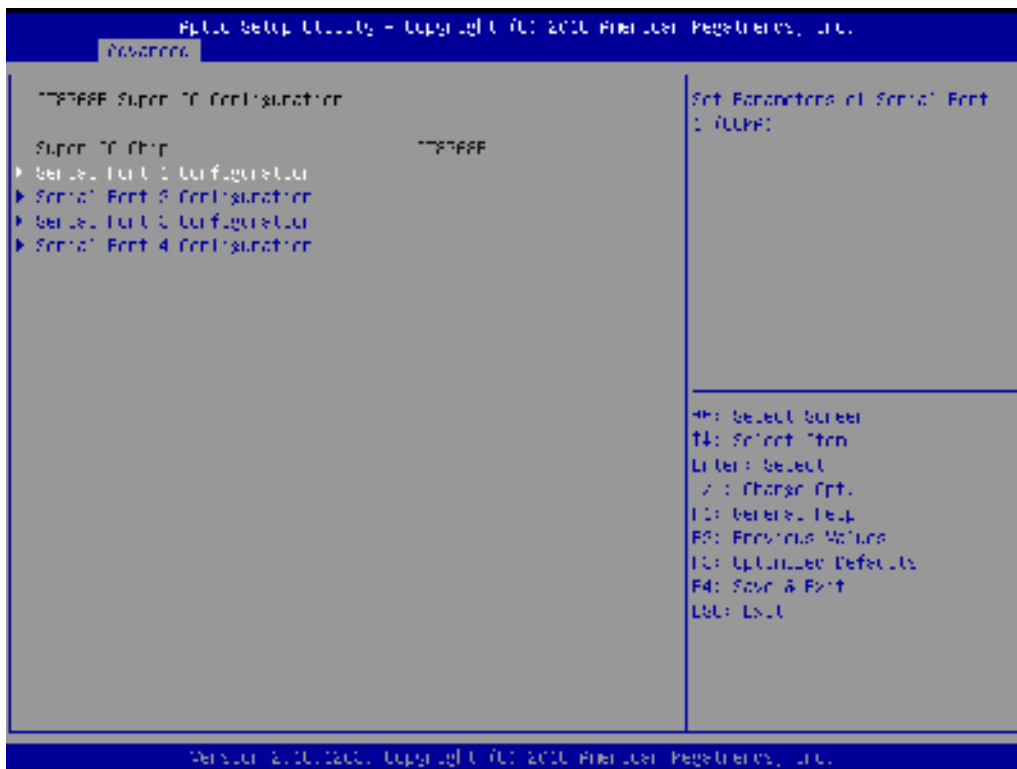
## A.11 Modifying the Serial Port Mode

The default setting for the serial ports is RS-232 mode. The setting can be configured to RS-422 or RS-485 modes by following the instructions below.

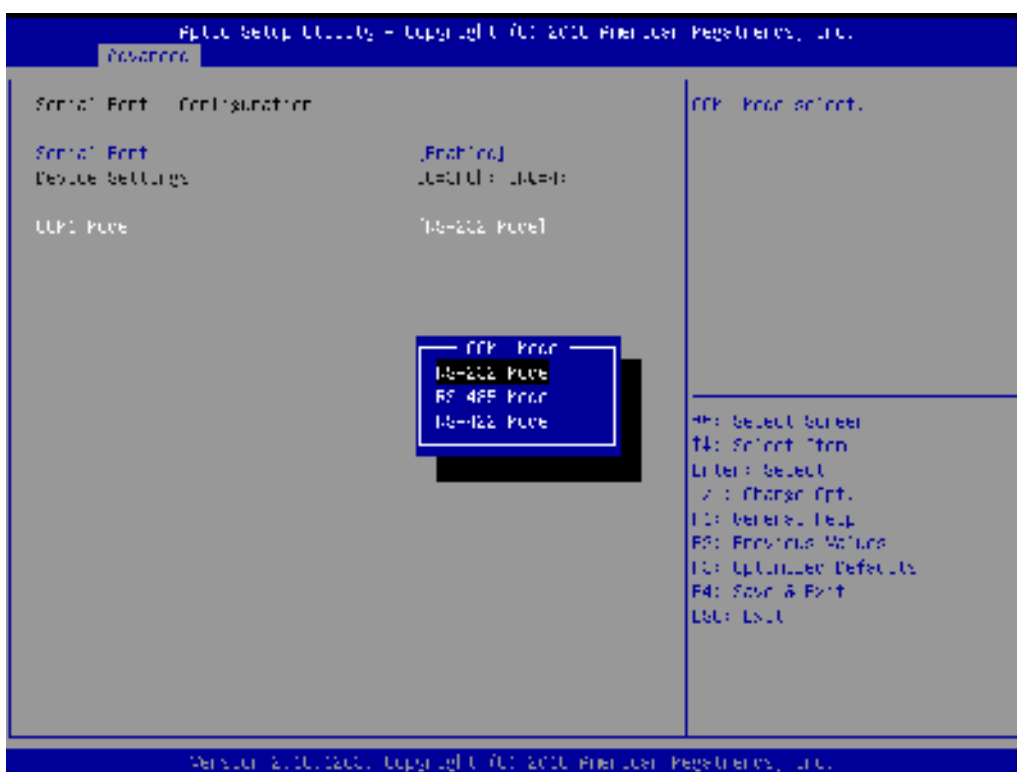
1. Power on the UNO-2484G device and press "Delete" to enter the BIOS configuration menu.
2. Select "Advanced"=>"IT8768E Super IO Configuration".



3. Select the serial port (e.g., select "Serial Port 1 Configuration").



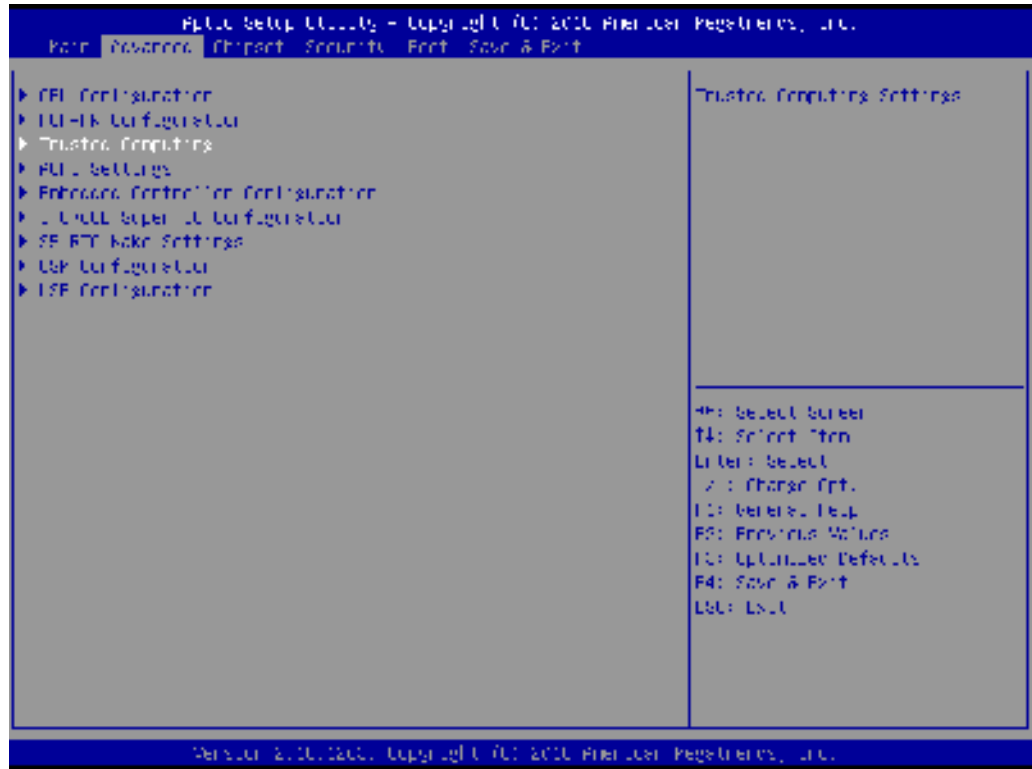
4. Select “COM1 mode” and choose from “RS232 mode”, “RS422 mode”, or “RS485 mode”.



## A.12 BIOS Setting of TPM 2.0

The UNO-2484G series supports TPM2.0 function. This function can be enabled or disabled in the BIOS configuration menu by following the instructions below.

1. Power on the UNO-2484G device and press “Delete” to enter the BIOS configuration menu.
2. Select “Advanced”=> “Trusted Computing”.



3. Select “Security Device Support”.



- Choose “Enabled” or “Disabled” to enable/disable TPM2.0 function in the BIOS menu.







## [www.advantech.com](http://www.advantech.com)

Please verify specifications before quoting. This guide is intended for reference purposes only.

All product specifications are subject to change without notice.

No part of this publication may be reproduced in any form or by any means, such as electronically, by photocopying, recording, or otherwise, without prior written permission from the publisher.

All brand and product names are trademarks or registered trademarks of their respective companies.

© Advantech Co., Ltd. 2017