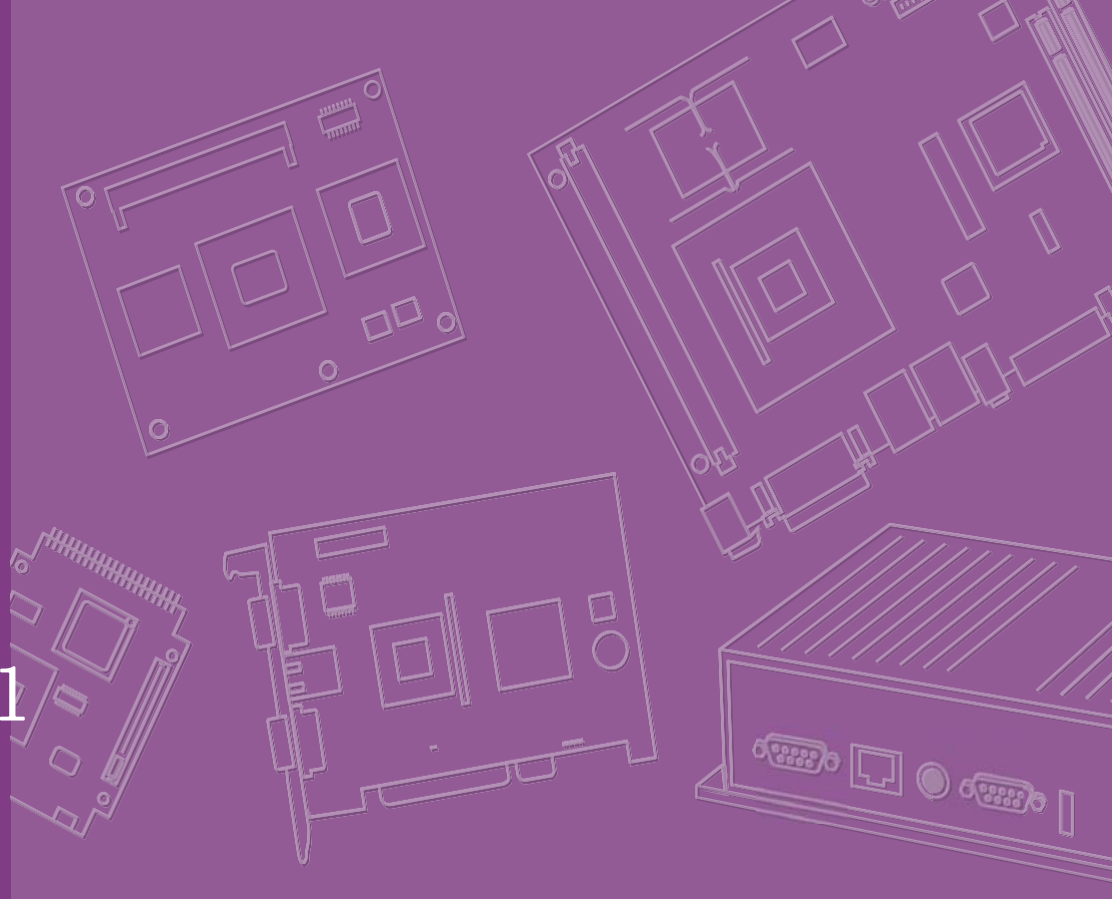


User Manual
用戶手冊



EPC-U3233

電腦

ADVANTECH

Enabling an Intelligent Planet

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Product Warranty (2 years) 產品品質保證 (兩年)

Advantech warrants to you, the original purchaser, that each 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 which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which 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 of our customers never need to use our repair service.

If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details. If you think you have a defective product, follow these steps:

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 you get when the problem occurs.

2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.

3. If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

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如果您認為您購買的產品出現了故障，請遵循以下步驟：

1. 收集您所遇到的問題資訊（例如，CPU 主頻、使用的研華產品及其它軟體、硬體等）。請注意螢幕上出現的任何不正常資訊顯示。
2. 打電話給您的供應商，描述故障問題。請借助手冊，產品和任何有說明的資訊。
3. 如果您的產品被診斷發生故障，請從您的供應商那裡獲得 RMA (Return Material Authorization) 序號。這可以讓我們儘快地進行故障產品的回收。
4. 請仔細地包裝故障產品，並在包裝中附上完整的售後服務卡片和購買日期證明（如銷售發票）。我們對無法提供購買日期證明的產品不提供品質保證服務。
5. 把相關的 RMA 序號寫在外包裝上，並將其運送給銷售人員。

Declaration of the Presence Condition of the Restricted Substances Markings 用物質含有情況標示聲明書

PLM: TBD

設備名稱： 電腦		型號（型式）： EPC-U3233(系列型號請參照次頁)				
Equipment name		Type designation (Type)				
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 ⁺⁶)	多溴聯苯 Polybrominate d biphenyls (PBB)	多溴二苯醚 Polybrominate d diphenyl ethers (PBDE)
電路板	—	○	○	○	○	○
電源供應器	—	○	○	○	○	○
記憶卡	—	○	○	○	○	○
內外殼 (外殼、內部框 架…等)	○	○	○	○	○	○
配件 (排線、傳輸 線…等)	—	○	○	○	○	○
其它固定組件 (螺絲)	—	○	○	○	○	○
分離式電源線 組	○	○	○	○	○	○
<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。</p> <p>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。</p> <p>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。</p> <p>Note 3: The “—” indicates that the restricted substance corresponds to the exemption.</p>						

Declaration of Conformity 符合性聲明

FCC Class B (FCC B 級)

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

根據 FCC 規則第 15 條，本設備已經過檢測並被判定符合 B 級數位設備標準。這些限制旨在為居住環境下的系統操作提供合理保護，使其免受有害干擾。本設備會產生、使用和發射無線電頻率能量。如果沒有按照手冊說明正確安裝和使用，可能對無線電通訊造成有害干擾。但即使按照手冊說明進行安裝和使用，也並不能保證不會產生干擾。若本設備會對無線電或電視信號接收產生有害干擾，用戶可通過開、關設備進行確認。當本設備產生有害干擾時，用戶可採取下面的措施來解決干擾問題：

- 調整接收天線的方向或位置
- 增大本設備與接收器之間的距離
- 將本設備的電源接頭插在與接收器使用不同電路的電源插座
- 若需技術支援，請諮詢經銷商或經驗豐富的無線電 / 電視技術人員



Warning! Any changes or modifications made to the equipment which are not expressly approved by the relevant standards authority could void your authority to operate the equipment.

警告！ 若未經相關權威機構明確批准而擅自更改或修理設備，則使用者操作本設備的權利可能會被取消。

Caution! This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.



注意！ 如果電池放置不正確，將有爆炸的危險。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。

Technical Support and Assistance 技術支援與服務

1. Visit the Advantech web site at www.advantech.com/support where you can find the latest information about the product.
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 complete description of the problem
1. 有關該產品的最新資訊，請訪問研華公司的網站：<https://www.advantech.com/support>
2. 用戶若需技術支援，請與當地分銷商、銷售代表或研華客服中心聯繫。進行技術諮詢前，使用者須將下面各項產品資訊收集完整：
 - 產品名稱及序號
 - 週邊附加設備的描述
 - 使用者軟體的描述（作業系統、版本、應用軟體等）
 - 產品所出現問題的完整描述
 - 每條錯誤資訊的完整內容

Safety Instructions 安全指示

1. Please read these safety instructions carefully.
2. Please keep this User's Manual for later reference.
3. Please disconnect this equipment from AC outlet before cleaning. Use a damp cloth. Don't use liquid or sprayed detergent for cleaning. Use moisture sheet or clothe for cleaning.
4. For pluggable equipment, the socket-outlet shall near the equipment and shall be easily accessible.
5. Please keep this equipment from humidity.
6. Lay this equipment on a reliable surface when install. A drop or fall could cause injury.
7. The openings on the enclosure are for air convection hence protecting the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source when connecting the equipment to the power outlet.
9. Ensure to connect the power cord to a socket-outlet with earthling connection
10. Place the power cord such a way that people cannot step on it. Do not place anything over the power cord.
11. All cautions and warnings on the equipment should be noted.
12. If the equipment is not used for long time, disconnect the equipment from mains to avoid being damaged by transient over-voltage.
13. Never pour any liquid into ventilation openings; this could cause fire or electrical shock.
14. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
15. Before any internal installation procedures are carried out on the system, make sure the system is turned off and cooled down for 15 minutes. Failing to run off the system before opening it can cause permanent damage to the system and serious or fatal injury to the user.

16. 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 to work according to the user's manual.
 - The equipment has been dropped and damaged.
 - The equipment has obvious signs of breakage.
17. Do not leave this equipment in an environment where the storage temperature may go below -40°C (-40°F) or above 85°C (185°F). This could damage the equipment. The equipment should be used under below temperature.

CPU Type	工作溫度
Intel Gen 8th Core i series	$0\sim 50^{\circ}\text{C}$

18. Caution: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer, discard used batteries according to the manufacturer's instructions.
- Risk of explosion if the battery is replaced by an incorrect type
 - Replacement of a BATTERY with an incorrect type that can defeat a SAFEGUARD
(For example, in the case of some lithium BATTERY types);
 - 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.
20. RESTRICTED ACCESS AREA: The equipment should only be installed in a Restricted Access Area.

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，請從插座拔下電源線。請不要使用液體或去汙噴霧劑清洗設備。
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. 請不要在潮濕環境中使用設備。
6. 請在安裝前確保設備放置在可靠的平面上，意外跌落可能會導致設備損壞。
7. 設備外殼的開口是用於空氣對流，從而防止設備過熱。請不要覆蓋這些開口。
8. 當您連接設備到電源插座上，請確認電源插座的電壓是否符合要求。
9. 請將電源線佈置在人們不易絆到的位置，並不要在電源線上覆蓋任何雜物。
10. 請注意設備上的所有警告標識。
11. 如果長時間不使用設備，請將其同電源插座斷開，避免設備被超標的電壓波動損壞。
12. 請不要讓任何液體流入通風口，以免引起火災或者短路。
13. 請不要自行打開設備。為了確保您的安全，請由經過認證的工程師來打開設備。
14. 如遇下列情況，請由專業人員來維修：
 - 電源線或者插頭損壞；
 - 設備內部有液體流入；
 - 設備曾暴露在過於潮濕的環境中使用；
 - 設備無法正常工作，或您無法通過用戶手冊來使其正常工作；
 - 設備跌落或者損壞；

- 設備有明顯的外觀破損。

15. 設備工作溫度

CPU Type	工作溫度
Intel Gen 8th Core i series	0~50°C

16. 如果系統時間丟失或 BIOS 配置恢復預設值，則表示電池電量已盡。

注意！ 1. 請勿自行更換電源適配器，請聯繫資深技術人員或您的銷售代表。



2. 電腦配置了由電池供電的即時時鐘電路，如果電池更換不正確，將有爆炸的危險。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. 分類

- 提供 I 類適配器
- 無可應用介面
- 連續運行
- 非 AP 或 APG 類別

18. 請按照當地法規處理廢舊設備。

19. 維護：為了正確地維護和清潔設備表面，請使用通過認證的產品或使用幹抹布進行清潔。

20. 限制進入區域：本設備應安裝在限制進入區域。

Order Information 訂購資訊

PART NUMBER 型號	CPU 中央處理器	DRAM 記憶體	SSD 固態硬碟	OS 作業系統	WiFi module WiFi 模組	COM Port	Adapter 變壓器
EPC-U3233-WR074S0	i7-8665UE	16GB	NVMe 128GB	None	Yes (EWM-W192K2)	2	60W
EPC-U3233-WR054S0	i5-8365UE	8GB	NVMe 128GB	Win10 IoT	Yes (EWM-W192K2)	2	60W
EPC-U3233-WF054S0	i5-8365UE	8GB	NVMe 128GB	Ubuntu 20.04	None	4	60W
EPC-U3233-WC033S0	i3-8145UE	8GB	SATA 64G	None	None	4	60W

Accessory List 配件列表

Power core - adap to the adapter 96PSA-A60W12W7-3

電源線 - 適用電源適配器 96PSA-A60W12W7-3

PART NUMBER 型號	DESCRIPTION 描述
1702002600	Power cable 3-pin 183 cm, USA type
1702002605	Power cable 3-pin 183 cm, Europe type
1700018704	Power cable 3-pin 183 cm, UK type
1700000237	Power cable 3-pin 183 cm, PSE type
1700000596	Power cable 3-pin 183 cm, CCC type
1700001714	Power cable 3-pin 183 cm, BSMI type

1.1 Overview 產品簡介

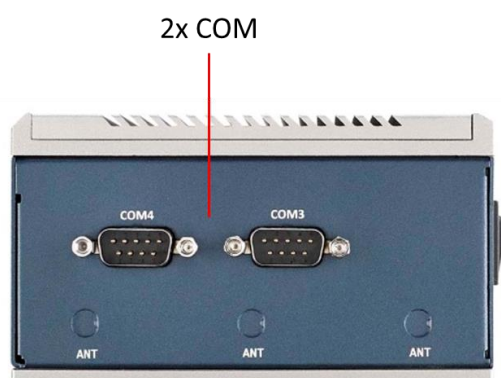
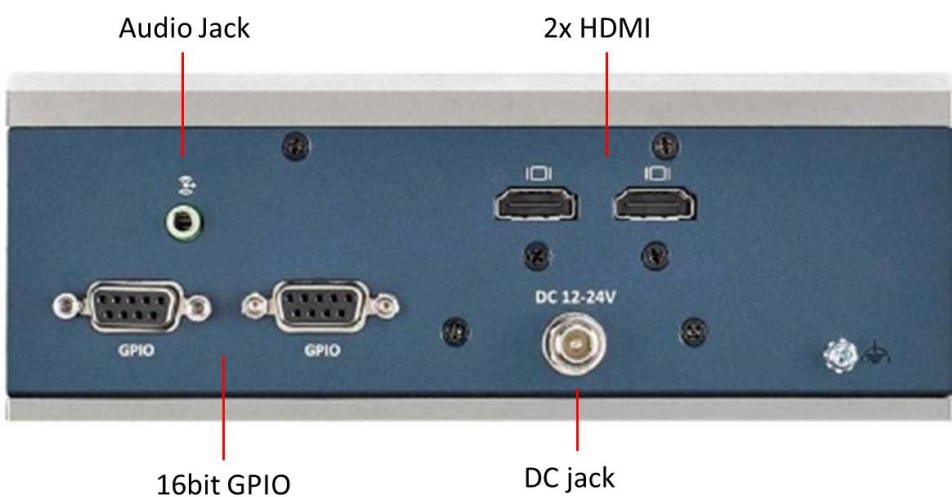
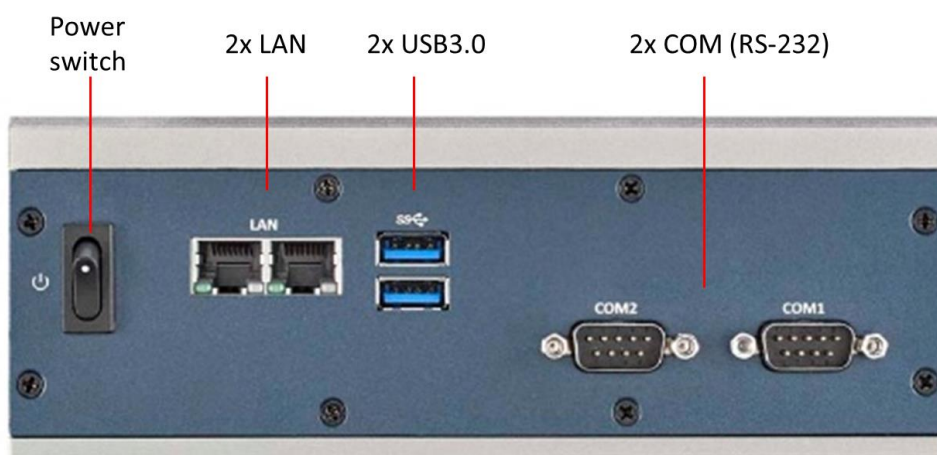
EPC-U3233 is fanless palm-sized embedded PC powered by the 8th-gen Intel® Core™ i series processor aimed at edge AI computing in industrial environment. EPC-U3233 optimized the chassis design to achieve easy and rapid configuration. EPC-U3233 combines diverse I/O ports and plenty M.2 expansion slot to fulfill multi-functional edge computing ability. EPC-U3233 is compatible with Win10 IoT and Linux Ubuntu and certified EMC class A, class B standard, Safety (CB, UL, CCC, BSMI), RF (RED) to adapt to Edig computing and industrial automation.

EPC-U3233 小型化嵌入式無風扇工業電腦系統，採用Intel®第八代Core™平台，提供高效能邊緣運算及影像處理能力。產品設計支援0~50°C工作溫度、12~24V DC寬壓輸入，產品尺寸僅180 x 117 x 66mm約手掌大小，適合各種嚴苛及空間狹小的使用環境。產品設計有2個USB 3.0、2個USB 2.0、RS-232、RS-422、RS-485專業應用接口，另外也支援2個HDMI雙重影像輸出。EPC-U3233支援具備3個M.2接口，需求效能、及儲存資料量選擇適合的系統配置。EPC-U3233可同時支援兩種無線模組：可同時支援WiFi & LTE無線聯網方式，搭配研華WISE-PaaS DeviceOn 遠端管理平台，可遠端監控、管理、及更新設備資料。適合目前市場上最熱門的AI邊緣運算、工業自動化等相關應用。

Benefits 優勢

- Fanless palm-sized embedded PC.
手掌大小無風扇嵌入式系統
- Certified CE/ FCC/ CB/ UL/ BSMI
已通過 CE/ FCC/ CB/ UL/ BSMI 認證
- Size: : 180 x 117 x 66mm
尺寸：180 x 117 x 66mm
- Optimized top and bottom cover for rapid M.2 modules' installation.
最佳化上下蓋機構設計，快速安裝M.2裝置
- Support 12~24V DC input
支援直流電輸入範圍12V~24V
- Three M.2 expansion slots:
 - M.2 M-Key 2280 (with PCIe x4, SATA co-lay)
 - M.2 B-Key 2242/3042 (with PCIe x2, USB 3.1, USB 2.0, SATA co-lay)
 - M.2 E-Key 2230 (with PCIe x2, USB 2.0 co-lay)
- 三個M.2接口:
 - M.2 M-Key 2280 (具備PCIe x4, SATA訊號)
 - M.2 B-Key 2242/3042 (具備PCIe x2, USB 3.1, USB 2.0, SATA訊號)
 - M.2 E-Key 2230 (具備 PCIe x2, USB 2.0訊號)
- Supported OS: Win10 IoT, Linux Ubuntu 20.04
- 支援作業系統：Win10 IoT、Linux Ubuntu 20.04

1.2 I/O Placement 系統組態



1.3 General Specifications 一般規格

1.3.1 Function Spec 功能規格

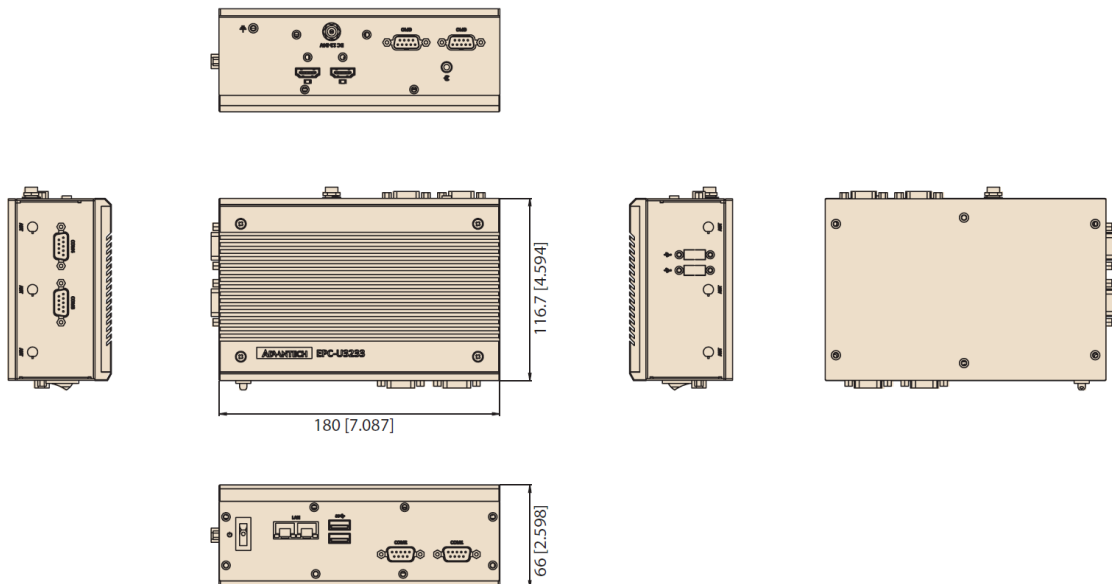
- CPU 中央處理器：Intel® Gen-8th Core™i系列
- BIOS 基本輸入輸出系統：AMI EFI 16bit
 - Memory 記憶體：DDR4 SODIMM 2666 MHz，高達 16GB
 - Audio 音訊：HD 音訊解碼器 ALC892
 - LAN 有線網路：PCI-E gIGABIT 乙太網控制器 x2
 - USB 介面：2x USB3.0, 2x USB2.0
- M.2 匯流排擴充槽：
 - 1x M.2M-Key 2280(具備PCIe x4, SATA訊號)
 - 1x M.2B-Key 2242/3042(具備PCIe x2, USB 3.1, USB 2.0, SATA訊號)
 - 1x M.2E-Key 2230(具備PCIe x2, USB 2.0訊號)
- Storage 存儲裝備：支援M.2 PCIe NVMe, SATA SSD
- Audio output:音訊輸出：Combo 音訊插孔
- Video output: 視頻輸出：2x HDMI

1.3.2 Power Source Spec 電源規格

- Power adaptor: AC/DC 電源適配器：
 - In-Put Voltage (輸入電壓)：100 Vac ~ 240 Vac @ 50 - 60 Hz, 1.5 A
 - Out Put Voltage: 輸出電壓：12 Vdc @ 5A, 60W

1.4 Mechanical Specifications (機械規格)

- System dimension(系統尺寸)：170 X 116.7 X 66 mm (7.09" X 4.59" X 2.60")



- Carton Size (外箱尺寸)：300 (L) X 228 (W) X 220 (H) mm
- Gross Weight (毛重)：2.5 kg
- Net weight (淨重)：1.9 kg

1.5 Environment Specifications (環境規格)

- Operating Temperature (工作溫度) : 0 ~ 50° C
- Storage Temperature (儲存溫度) : -40 ~ 85° C
- Relative Humidity (相對濕度) : 40 ~ 95% RH non-condensing (非凝結)

Safety (安規)

CE/CCC/BSMI

EMC (電磁相容性)

CE/FCC Class B, (CE/FCC B級)

Vibration (振動)

With SSD : 3Grms , 60068-2-64 , random , 5 ~ 500 Hz , 1 hr/axis

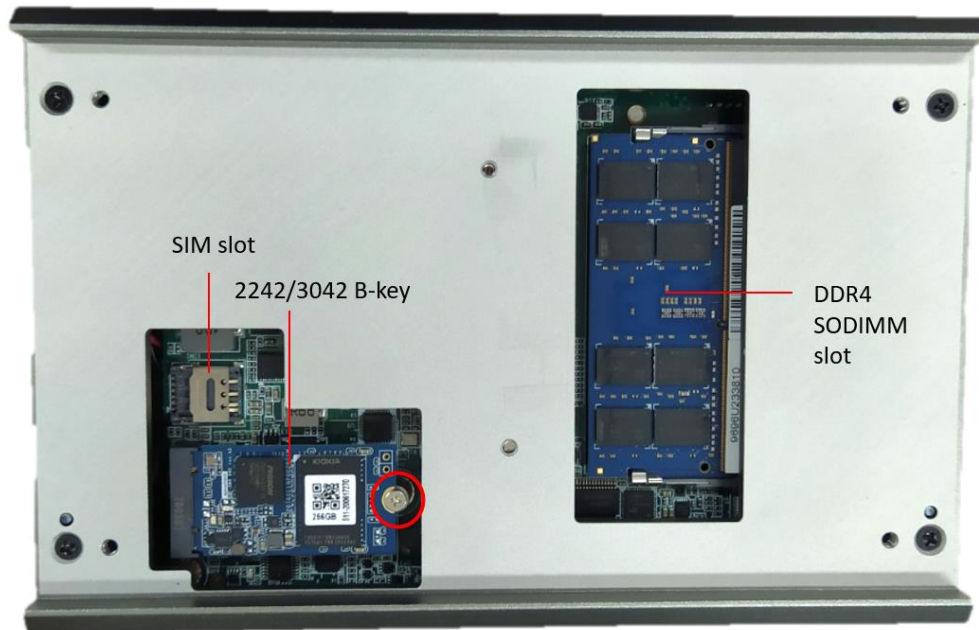
2.1 Module Installation in Top Cover Side 安裝上蓋側模組

1. Release the screws of the top cover.
擰開螺絲後卸下上蓋。



2. Install the SIM, 2242/3042 M.2 module with the screws which in accessory box, SODIMM by demand. Paste the relative the thermal pad to the module(s).

依所需安裝SIM卡、2242/3042 M.2，使用配件盒中螺絲鎖固、SODIMM模組，貼附



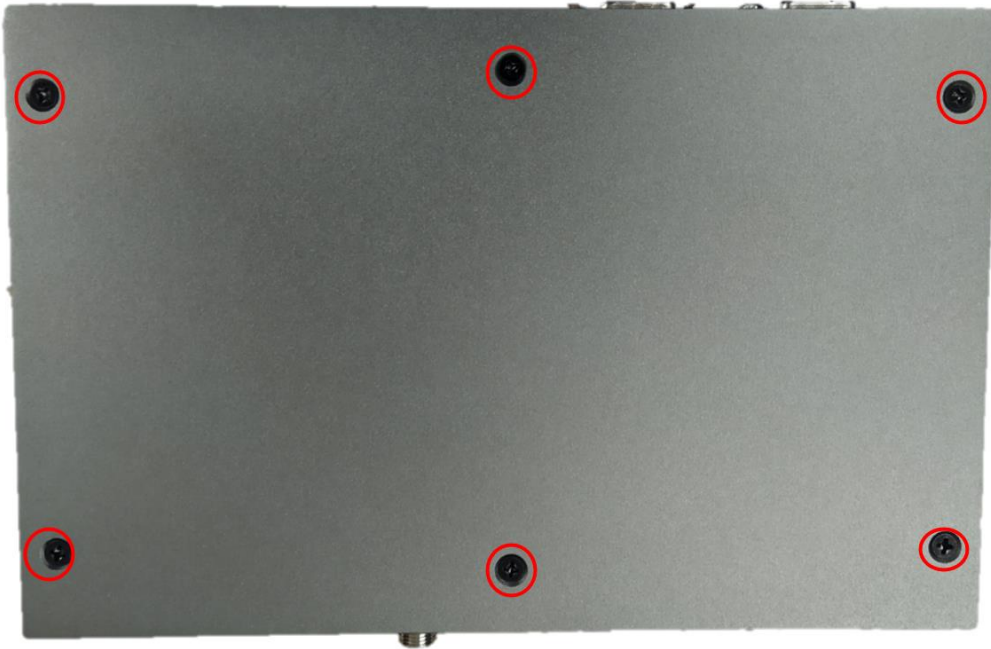
配件盒中模組相對應之散熱片。

3. Recover the top cover and secure the screws.
安裝上蓋，並鎖回上蓋螺絲。

2.2 Module Installation in Bottom Cover Side 安裝底蓋側模組

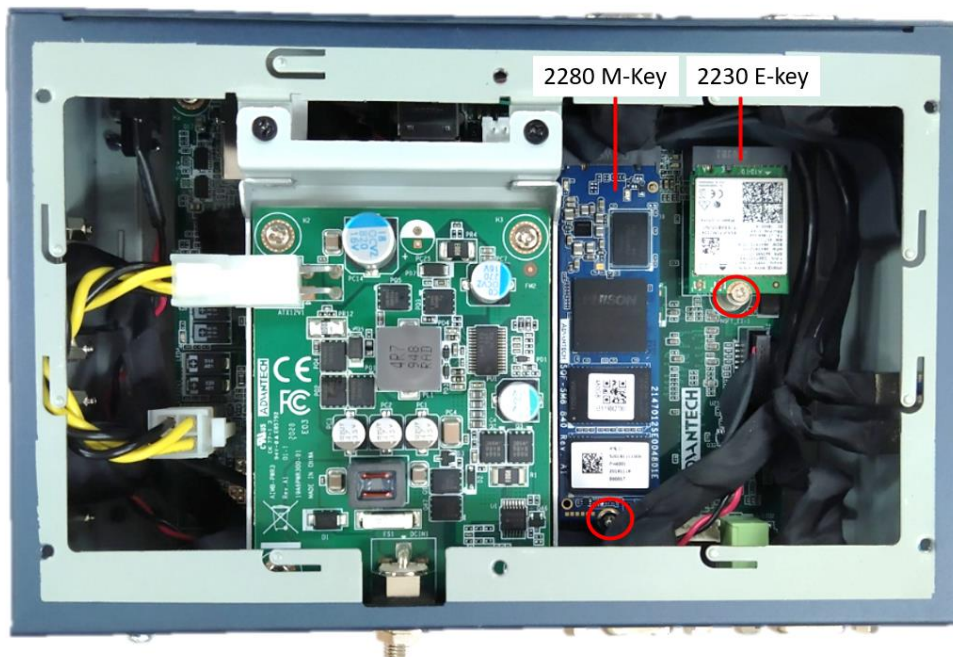
1. Release the screws of the bottom cover.

擰開螺絲後卸下底蓋



2. Install the M.2 module(s) by demand with the screws in the accessory box, and paste the relative thermal pad.

安裝所需M.2模組，使用配件盒中螺絲鎖固，貼附配件盒中模組相對應之散熱片。



3. Recover the bottom cover and secure the screws.

裝回底蓋，並鎖回底蓋螺絲。

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使用前請檢查核實產品的規格。本手冊僅作為參考。

產品規格如有變更，恕不另行通知。

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