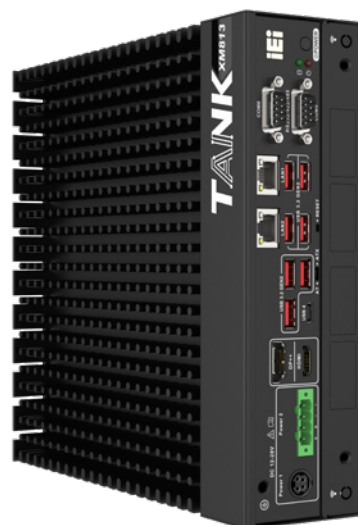
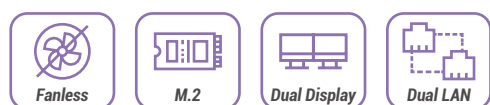


# TANK-XM813

- High-Performance Intel® Core™ Ultra Processors (Series 2)
- Fanless Embedded Computer

## Features

- Supported CPUs:
  - Intel® Core™ Ultra 9 285T 1.4 GHz (up to 5.4 GHz, 24-core, 35W TDP)
  - Intel® Core™ Ultra 9 285 2.5 GHz (up to 5.6 GHz, 24-core, 65W TDP)
  - Intel® Core™ Ultra 7 265T 1.5 GHz (up to 5.3 GHz, 20-core, 35W TDP)
  - Intel® Core™ Ultra 7 265 2.4 GHz (up to 5.3 GHz, 20-core, 65W TDP)
  - Intel® Core™ Ultra 5 225T 2.5 GHz (up to 4.9 GHz, 10-core, 35W TDP)
  - Intel® Core™ Ultra 5 225 3.3 GHz (up to 4.9 GHz, 10-core, 65W TDP)
- 2 x 2.5G Ethernet ports
- Multiple USB ports and serial ports
- Multiple internal expansion boards for flexible selection
- Various optional backplanes and chassis
- CE/FCC compliant

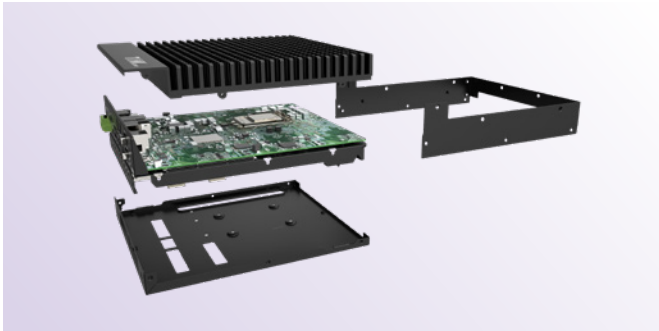


## Specifications

| Model Name          |                         | TANK-XM813                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chassis             | Color                   | Black C                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                     | Dimensions (WxDxH) (mm) | 230.6 x 255 x 68.7                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                     | System Fan              | Fanless                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                     | Chassis Construction    | Extruded aluminum alloys                                                                                                                                                                                                                                                                                                                                                                                                            |
| Motherboard         | CPU                     | Intel® Core™ Ultra 9 285T 1.4 GHz (up to 5.4 GHz, 24-core, 35W TDP)<br>Intel® Core™ Ultra 9 285 2.5 GHz (up to 5.6 GHz, 24-core, 65W TDP)<br>Intel® Core™ Ultra 7 265T 1.5 GHz (up to 5.3 GHz, 20-core, 35W TDP)<br>Intel® Core™ Ultra 7 265 2.4 GHz (up to 5.3 GHz, 20-core, 65W TDP)<br>Intel® Core™ Ultra 5 225T 2.5 GHz (up to 4.9 GHz, 10-core, 35W TDP)<br>Intel® Core™ Ultra 5 225 3.3 GHz (up to 4.9 GHz, 10-core, 65W TDP) |
|                     | Chipset                 | W880                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                     | Memory                  | 2 x SO-DIMM DDR5 5600 (16GB pre-installed) (up to 96GB)                                                                                                                                                                                                                                                                                                                                                                             |
| Storage             | HDD Bay                 | 2 x 2.5" SATA 6Gb/s HDD/SSD bay (RAID 0/1 supported)                                                                                                                                                                                                                                                                                                                                                                                |
| I/O Interfaces      | Ethernet                | 1 x 2.5 GbE by Intel® I226LM controller<br>1 x 2.5 GbE by Intel® I226-V controller                                                                                                                                                                                                                                                                                                                                                  |
|                     | USB 3.2 Gen 2 (10Gb/s)  | 7                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                     | COM                     | 2 x RS-232/422/485, 4 x RS-232                                                                                                                                                                                                                                                                                                                                                                                                      |
|                     | Digital I/O             | 12-bit (6-in/6-out) DB15                                                                                                                                                                                                                                                                                                                                                                                                            |
|                     | Display Interface       | 1 x DP++, 1 x HDMI™, 1 x USB4 (Display+USB 3.2 Gen 2x2)                                                                                                                                                                                                                                                                                                                                                                             |
|                     | Audio                   | 1 x Mic, 1 x Line out                                                                                                                                                                                                                                                                                                                                                                                                               |
|                     | TPM                     | 1 x Intel TPM<br>1 x 20pin TPM connector (Optional TPM-IN03 module)                                                                                                                                                                                                                                                                                                                                                                 |
|                     | Others                  | 1 x Power button, 1 x 2-pin terminal block for Remote Power Button, 1 x Reset button, 1 x AT/ATX switch, 1 x Power LED (red), 1 x HDD LED (green), 1 x 4-pin external system fan connector                                                                                                                                                                                                                                          |
|                     | M.2                     | 1 x 2280 M-key (PCIe Gen4 x4)<br>1 x 2230 A-key (USB+PCIe Gen3 x1, supports vPRO)                                                                                                                                                                                                                                                                                                                                                   |
| Internal Expansions | Expansion Backplane     | Optional                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                     | Power Input             | 12 ~ 28V DC                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Power               | Power Consumption       | 12V @ 8.8A (Intel® Core™ Ultra9 285 with 16GB memory)                                                                                                                                                                                                                                                                                                                                                                               |
| Reliability         | Mounting                | Wall mount                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                     | Operating Temperature   | -20°C ~ 60°C (CPU TDP35W & SSD)<br>-20°C ~ 50°C (CPU TDP65W & SSD), 10% ~ 95% non-condensing                                                                                                                                                                                                                                                                                                                                        |
|                     | Storage Temperature     | -40°C ~ 85°C, 10% ~ 95%, non-condensing                                                                                                                                                                                                                                                                                                                                                                                             |
|                     | Operating Shock         | IEC68-2-27 half-sine, 5G, 11ms, 100 shocks with SSD                                                                                                                                                                                                                                                                                                                                                                                 |
|                     | Operating Vibration     | MIL-STD-810H 514.8C-I with SSD                                                                                                                                                                                                                                                                                                                                                                                                      |
|                     | Weight (Net/Gross)      | 3.24 kg / 3.6 kg                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                     | Safety / EMC            | CE, FCC                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                     | Watchdog Timer          | Programmable 1 ~ 255 sec/min                                                                                                                                                                                                                                                                                                                                                                                                        |
| OS                  | Supported OS            | Windows® 10/11 IoT Enterprise/ Linux                                                                                                                                                                                                                                                                                                                                                                                                |

## Modular Design, Easy to Install

The mainboard is secured to the support bracket to prevent PCB from bending or warping. The three-layer structure consisting of heat spreader, mainboard and baseboard makes it easier to install CPU, memory and HDD, compared with the former TANK series.



## Support High-performance Graphics Card

With IEI power board, it can support full-height and full-length 3-slot high-end graphics cards.

Maximum length of graphics card supported: 350mm

\*Specified power adapter is required.

\*Support advanced graphics card



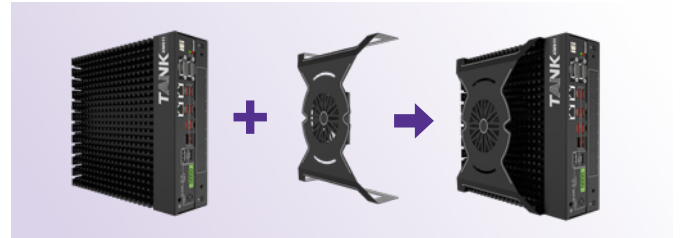
## Flexible Expansion

Different expansion requirements can be met. Dual-slot and four-slot SKUs are provided for selection. Customers can choose the type of expansion slot according to their needs.



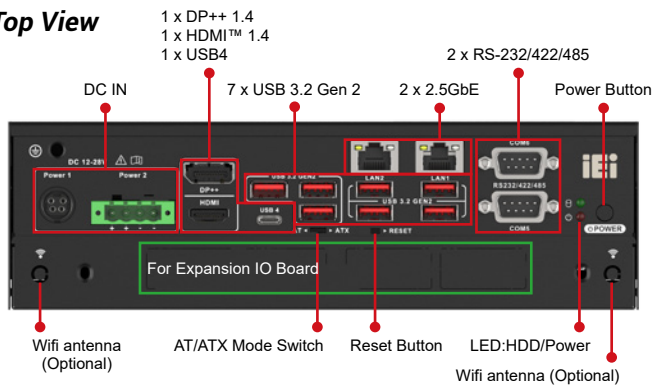
## External Fan

Installing an external fan helps to increase system performance in harsh environment.

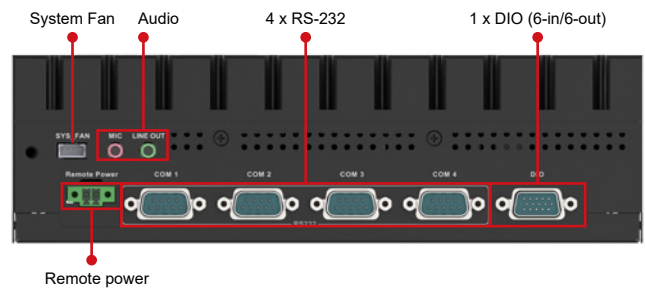


## Fully Integrated I/O

### Top View

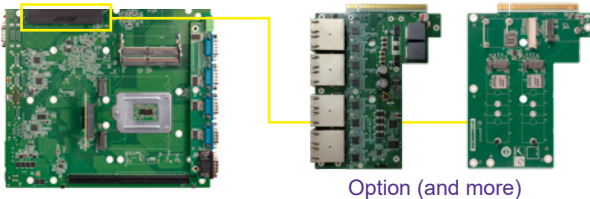


### Front View



## Modular Board Design

It supports various optional modules, such as M.2 expansion card, 8-port PoE expansion card, etc.



Option (and more)

### Expansion IO Board

|              |                                                                                      |
|--------------|--------------------------------------------------------------------------------------|
| GPOE-XM81-8P | I/O expansion module for TANK 81 series, 8 x 2.5G LAN with PoE                       |
| TXIOB-XM81-A | I/O expansion module for TANK 81 series, 2 x M.2 B Key, 1 x M.2 A Key, 1 x PCIe Mini |

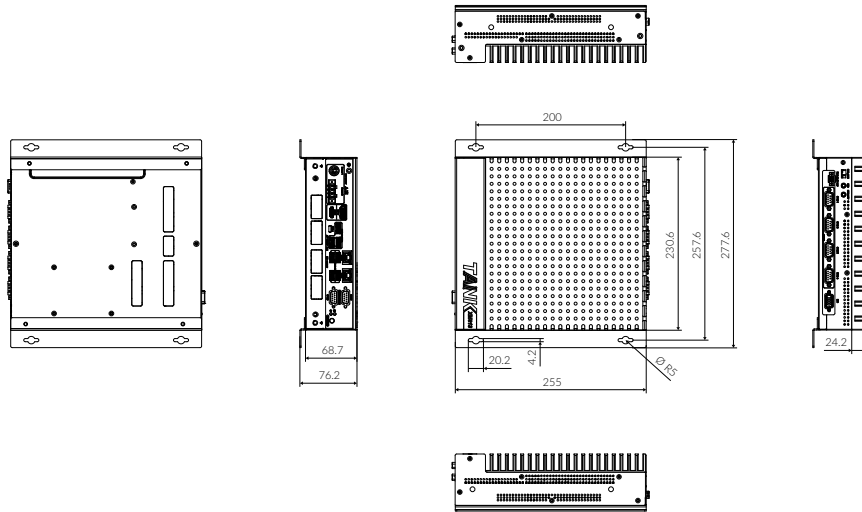
## Support 35W & 65W CPU

### Operating temperature:

With 35w CPU Or 65W CPU setting PL1&PL2 (Power limit at 35W): -20°C ~ 60°C

With 65w CPU: -20°C ~ 50°C

\* Default CPU PL1/PL2 power limit: 35W (adjustable via BIOS)

**Dimensions (Unit: mm)****TANK-XM813****Ordering Information**

| Model               | Description                                                                                                                                               |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| TANK-XM813-U5AD-R10 | Ruggedized Fanless Embedded System With Intel® Ultra 5 225T 2.5GHz (up to 4.9GHz, 10-core, TDP 35W), 16GB RAM, 1xHDMI™, 1xDP++, USB4, 12~28V DC and RoHS  |
| TANK-XM813-U5BD-R10 | Ruggedized Fanless Embedded System With Intel® Ultra 5 225 3.4GHz (up to 4.9GHz, 10-core, TDP 65W), 16GB RAM, 1xHDMI™, 1xDP++, USB4, 12~28V DC and RoHS   |
| TANK-XM813-U7AD-R10 | Ruggedized Fanless Embedded System With Intel® Ultra 7 265T 1.5GHz (up to 5.3 GHz, 20-core, TDP 35W), 16GB RAM, 1xHDMI™, 1xDP++, USB4, 12~28V DC and RoHS |
| TANK-XM813-U7BD-R10 | Ruggedized Fanless Embedded System With Intel® Ultra 7 265 2.4GHz (up to 5.3 GHz, 20-core, TDP 65W), 16GB RAM, 1xHDMI™, 1xDP++, USB4, 12~28V DC and RoHS  |
| TANK-XM813-U9AD-R10 | Ruggedized Fanless Embedded System With Intel® Ultra 9 285T 1.4GHz (up to 5.4 GHz, 24-core, TDP 35W), 16GB RAM, 1xHDMI™, 1xDP++, USB4, 12~28V DC and RoHS |
| TANK-XM813-U9BD-R10 | Ruggedized Fanless Embedded System With Intel® Ultra 9 285 2.5GHz (up to 5.6 GHz, 24-core, TDP 65W), 16GB RAM, 1xHDMI™, 1xDP++, USB4, 12~28V DC and RoHS  |

**Options**

| Part No.             | Description                                                                                                                                                                                  |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMB-WIFI-KIT02I3-R10 | 2T2R M.2 wifi module kit for embedded system, IEEE802.11a/b/g/n/ac/ax, 1 x M.2 AE Key Wireless LAN & Bluetooth 5.2; Intel: AX210.NG.WG Module, 2 x RF cable, 2 x Antenna; RoHS               |
| 63040-010180-200-RS  | Adapter Power; FSP; FSP180-ABAN3; 9NA1804008; Active PFC; Vin: 90~264VAC; 180W; Dim: 75.6*151.3*25.4mm; Plug: 6.5mm; Cable: 1500mm; Erp(NO LOAD 0.5W); Vout: 19VDC; Din 4Pin/lock; CCL; RoHS |
| 32702-000202-100-RS  | POWER CORD; EUROPEAN CODE(VDE); 1000mm; 300V; (A) PLUG: SH-005(16A/250V); (B) CONNECTOR: C13(SH-006, 10A/250V)                                                                               |
| SF-TANK-XM81-R10     | External fan for TANK-XM81 Series                                                                                                                                                            |
| TPM-IN03-R10         | 20-pin Infineon SPI TPM2.0 module, software management tool                                                                                                                                  |

**Optional Expansion Backplane**

| Part No.             | Description                                                                                                                                       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| TXCBP-XM81-2A-R10    | Expansion backplane for TANK 81 Series, 2 slots, 1 x PCIe Gen4 x16 & 1 x PCIe Gen3 x4                                                             |
| TXCBP-XM81-2B-R10    | Expansion backplane for TANK 81 Series, 2 slots, 1 x PCIe Gen4 x16(x8 signal) & 1 x PCIe Gen3 x16(x8 signal)                                      |
| TXCBP-XM81-4A-R11    | Expansion backplane for TANK 81 Series, 4 slots, 1 x PCIe Gen4 x16 & 2 x PCIe Gen3 x4 & 1 x PCIe Gen3 x1 w/ Ext. PWR Conn.                        |
| TXCBP-XM81-4B-R11    | Expansion backplane for TANK 81 Series, 4 slots, 1 x PCIe Gen4 x16(x8 signal) & 1 x PCIe Gen3 x16(x8 signal) & 2 x PCIe Gen3 x4 w/ Ext. PWR Conn. |
| TXCBP-XM81-4C-R10    | Expansion backplane for TANK 81 Series, 4 slots, 1 x PCIe Gen4 x16 & 2 x PCI & 1 x PCIe Gen3 x4                                                   |
| TXCBP-XM81-G2-PW-R11 | Expansion backplane for TANK 81 Series, 6 slots, 1 x PCIe Gen4 x16(x8 signal) & 1 x PCIe Gen3 x16(x8 signal) & 2 x PCIe Gen3 x4 w/ Ext. PWR Conn. |
| IDD-X1228150-R10*    | Extended Power Board for TANK-XM81 Series, 150W@16~28V or 380W@12V DC input 12V output Power Module                                               |

\* For expansion cards (graphics cards, accelerator cards) that require independent power supply to provide independent power supply, it must be equipped with a Backplane with W/external power supply function.

**Optional Expansion Chassis**

| Part No.        | Description                                          |
|-----------------|------------------------------------------------------|
| TXC-XM81-3S-R10 | 3-slot expansion chassis for TANK 81 Series          |
| TXC-XM81-4S-R10 | 4-slot expansion chassis for TANK 81 Series          |
| TXC-XM81-G1-R10 | 4-slot One GPU expansion chassis for TANK 81 Series  |
| TXC-XM81-G2-R10 | 6-slot Dual GPU expansion chassis for TANK 81 Series |

**Optional Internal Expansion Boards**

| Part No.         | Description                                                                          |
|------------------|--------------------------------------------------------------------------------------|
| GPOE-XM81-8P-R11 | I/O expansion module for TANK 81 Series, 8 x 2.5G LAN with PoE                       |
| TXIOB-XM81-A-R10 | I/O expansion module for TANK 81 Series, 2 x M.2 B Key, 1 x M.2 A Key, 1 x PCIe Mini |

**Packing List**

|                |                    |                      |                |
|----------------|--------------------|----------------------|----------------|
| 1 x Screw pack | 2 x Terminal block | 1 x Mounting bracket | 1 x SATA Cable |
|----------------|--------------------|----------------------|----------------|