IEI Integration Corp.

MODEL:

TANK-XM812 Series

Ruggedized fanless embedded system with AMD Ryzen™ 7000/8000 Series Desktop AM5 Processor, DDR5 8GB pre-installed memory, PCIe x8,PCIe x4, PCIe x1, HDMI/DP/USB, 12~28V DC, RoHS

User Manual

Rev. 1.00 – August 27, 2025

RoHS Lead Free

Revisions

Date	Version	Changes
August 27, 2025	1.00	Initial release

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Manual Conventions

WARNING

Warnings appear where overlooked details may cause damage to the equipment or result in personal injury. Warnings should be taken seriously.

CAUTION

Cautionary messages should be heeded to help reduce the chance of losing data or damaging the product.

NOTE

These messages inform the reader of essential but non-critical information. These messages should be read carefully as any directions or instructions contained therein can help avoid making mistakes.

HOT SURFACE

This symbol indicates a hot surface that should not be touched without taking care.

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Introduction

1.1 Overview

Figure 1-1: TANK-XM812 Series

The TANK-XM812 Series is a ruggedized fanless embedded system for wide range temperature environments. It is powered by AMD Ryzen™ 7000/8000 G-Series Desktop Processors with AMD B650 Chipset, and has two 262-pin DDR5 SDRAM SO-DIMM slots supporting up to 64GB memory (8GB Preinstalled). The TANK-XM812 Series includes one digital I/O port, one HDMI, one DP, two GbE LAN, six USB 3.2 Gen 2, two 2.5” SATA 6Gb/s HDD/SSD bay, two RS-232/422/485 and four RS-232 connectors.

1.2 Model Variations

The model variations of the TANK-XM812 Series are listed below.

Model No.	CPU
TANK-XM812-85AC	AMD Ryzen™ 5 8600G 4.3GHz (up to 5.0 GHz, 6 Core, TDP 65W),
TANK-XM812-87AC	AMD Ryzen™ 7 8700G 4.2GHz (up to 5.1 GHz, 8 Core, TDP 65W),

Table 1-1: TANK-XM812 Series Model Variations

1.3 Features

The TANK-XM812 Series features are listed below:

- Supported CPUs:
  AMD Ryzen™ 7000/8000 Series AM5 Processor
  AMD Ryzen™ 7 8700G 4.2GHz (up to 5.1GHz, 8-core, 65W)
  AMD Ryzen™ 5 8600G 4.3GHz (up to 5.0GHz, 6-core, 65W)
- Rich high-speed I/O interfaces
- Two 2.5" HDD/SSD SATA 6Gb/s bay
- Great flexibility for hardware expansion
- Quad independent display
- Multiple USB ports and serial ports

1.4 Technical Specifications

The TANK-XM812 Series technical specifications are listed in Table 1-2

Specifications	
Chassis	
Color	Black C
Dimensions (WxDxH) (mm)	230.6 x 255.2 x 68.7
System Fan	Fanless
Chassis Construction	Extruded aluminum alloy
Motherboard	
CPU	AMD Ryzen™ 7000/8000 Series AM5 Processor AMD Ryzen™ 7 8700G 4.2GHz (up to 5.1GHz, 8-core, 65W) AMD Ryzen™ 5 8600G 4.3GHz (up to 5.0GHz, 6-core, 65W)
Chipset	AMD B650
System Memory	2 x SO-DIMM DDR5 5200MHz (8GB Pre-installed, up to 96GB)
Storage	
Hard Drive	2 x 2.5” SATA 6Gb/s HDD/SSD bay (RAID 0/1 supported)
I/O Interfaces	
USB 3.2 Gen 2 (10Gb/s)	6
RS-232/422/485	2 x RS-232/422/485 4 x RS232
Ethernet	2 x 2.5 GbE by Intel® I226-V controller
TPM 2.0	1 x 20pin TPM connector (Optional TPM-IN03 module)
Audio	1 x MIC 1 x Line out
Digital I/O	12-bit (6-in/6-out) DB15
Display	1 x DP++, 1 x HDMI™ 2 x USB Type-C (Display + USB 3.2 Gen2 x2)

Specifications	
Expansions	
M.2	1 x 2280 M-key (PCIe Gen4 x4) 1 x 2230 A-key (USB 2.0 + PCIe Gen3 x1)
Backplane	Optional
Power	
Power Input	DC Jack: 12 V~28 V DC Terminal block: 12 V~28 V DC
Power Consumption	12V @ 6.95A (AMD Ryzen™ 7 8700G with 8GB memory)
Remote Power	1 x 2-pin
Reliability	
Mounting	Wall mount
Operating Temperature	-20°C ~ 60°C (CPU TDP 35W & SSD) -20°C ~ 50°C (CPU TDP 65W & SSD), 10% ~ 95% non-condensing
Storage Temperature	-40°C ~ 85°C, 10% ~ 95%, non-condensing
Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
Operating Vibration	MIL-STD-810H 514.8C-I (with SSD)
Weight (Net/Gross)	3.18 / 5 kg
Safety/EMC	CE/FCC
Watchdog Timer	Programmable 1~255 sec/min
OS	
Supported OS	Microsoft Windows 10 IoT Enterprise / Windows 11/ Linux

Table 1-2: Technical Specifications

1.5 Front Panel

The front panel of the TANK-XM812 Series has the following features (**Figure 1-2**):

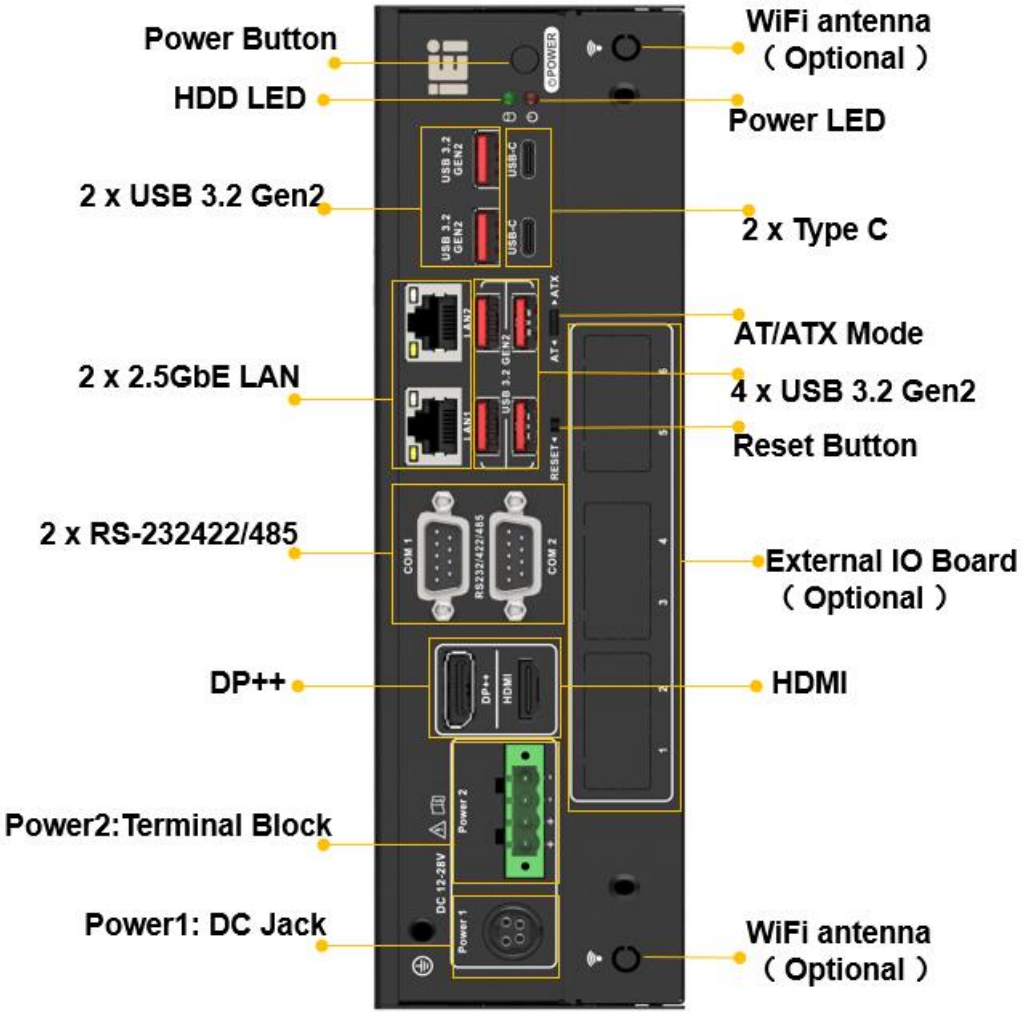


Figure 1-2: Front Panel

1.6 Rear Panel

The rear panel of the TANK-XM812 Series is shown below.

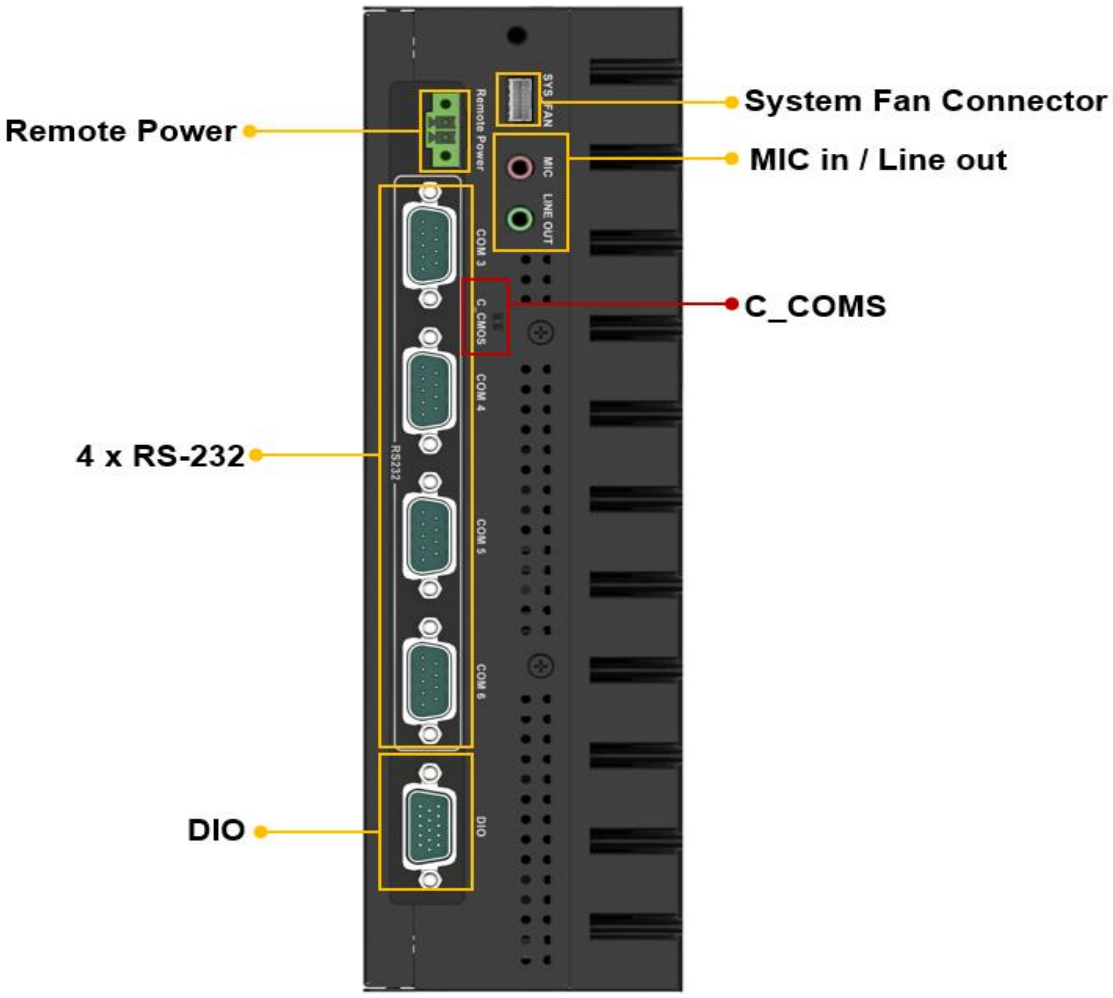


Figure 1-3: Rear Panel

1.7 Physical Dimensions

The physical dimensions of the TANK-XM812 are shown in **Figure 1-4**.

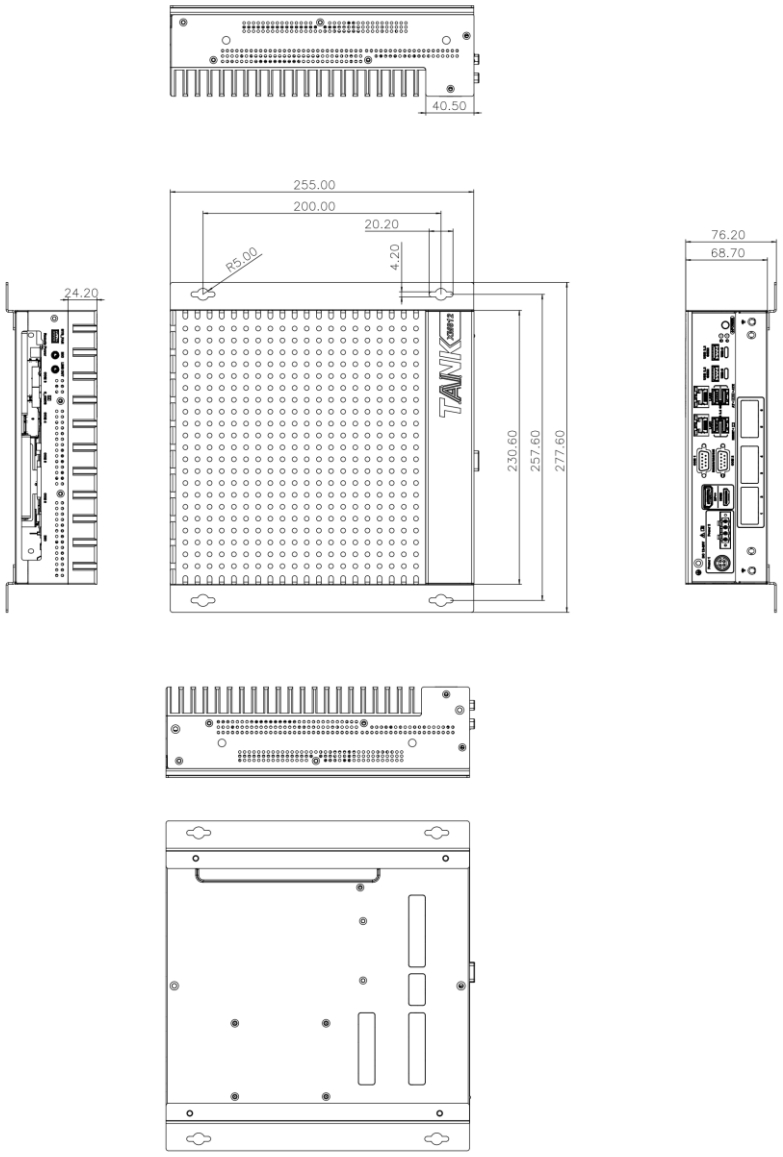


Figure 1-4: Physical Dimensions

Chapter

2

Unpacking

2.1 Anti-static Precautions

WARNING:

Failure to take ESD precautions during installation may result in permanent damage to the TANK-XM812 Series and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the TANK-XM812 Series. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the TANK-XM812 Series or any other electrical component is handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband***: Wearing a simple anti-static wristband can help to prevent ESD from damaging the board.
- ***Self-grounding***: Before handling the board touch any grounded conducting material. During the time the board is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad***: When configuring the TANK-XM812 Series, place it on an antic-static pad. This reduces the possibility of ESD damaging the TANK-XM812 Series.

2.2 Unpacking Precautions

When the TANK-XM812 Series is unpacked, please do the following:

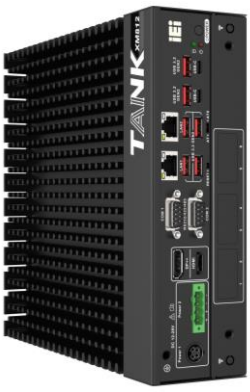
- Follow the anti-static precautions outlined in **Section 2.1**.
- Make sure the packing box is facing upwards so the TANK-XM812 Series does not fall out of the box.
- Make sure all the components shown in **Section 2.2** are present.

2.3 Unpacking Checklist

NOTE:

If some of the components listed in the checklist below are missing, please do not proceed with the installation. Contact the IEI reseller or vendor you purchased the TANK-XM812 Series from or contact an IEI sales representative directly. To contact an IEI sales representative, please send an email to sales@ieiworld.com.

The TANK-XM812 Series is shipped with the following components:

Quantity	Item and Part Number	Image
Standard		
1	TANK-XM812 Series	
2	Mounting brackets	

Quantity	Item and Part Number	Image
Standard		
1	2-pin terminal block	
1	4-pin terminal block	
1	Chassis screws	

2.4 Optional Items

The following table lists the optional items that can be purchased separately.

Optional	
Wi-Fi module (P/N: EMB-WIFI-KIT02I3-R10)	
Power Cord (P/N:32702-000202-100-RS)	
Power Adapter (P/N: 63040-010180-200-RS)	
6-Port POE LAN card (P/N: GPOE-XM81-6P-R11)	
2-slot backplane (PCIe x16 & PCIe x4) (P/N: TXCBP-XM81-2A-R10)	
4-slot backplane (PCIe x16 & PCIe x4 & PCIe x1) (P/N: TXCBP-XM81-4A-A-R11)	

Optional	
4-slot backplane (PCIe x16 & PCIe x4 & two PCI) (P/N: TXCBP-XM81-4C-R10)	
Expansion power board (P/N: IDD-X1228150-R10)	
3-slot chassis (P/N: TXC-XM81-3S-R10)	
4-slot chassis (P/N: TXC-XM81-4S-R10)	
4-slot chassis (full-length graphics card support) (P/N: TXC-XM81-G1-R10)	

Optional	
Expansion fan module (P/N: SF-TANK-XM81-R10)	

NOTE:

1.TXCBP-XM81 series backplane needs to be used with TXC-XM81 series chassis

Chapter

3

Installation

3.1 Installation Precautions

CAUTION:

The TANK-XM812 Series has more than one power supply connection point.

To reduce the risk of electric shock, disconnect all power sources before installing or servicing the TANK-XM812 Series.

During installation, be aware of the precautions below:

- **Read the user manual**: The user manual provides a complete description of the TANK-XM812 Series, installation instructions and configuration options.
- **DANGER! Disconnect Power**: Power to the TANK-XM812 Series must be disconnected during the installation process, or before any attempt is made to access the rear panel. Electric shock and personal injury might occur if the rear panel of the TANK-XM812 Series is opened while the power cord is still connected to an electrical outlet.
- **Qualified Personnel**: The TANK-XM812 Series must be installed and operated only by trained and qualified personnel. Maintenance, upgrades, or repairs may only be carried out by qualified personnel who are familiar with the associated dangers.
- **Air Circulation**: Make sure there is sufficient air circulation when installing the TANK-XM812 Series. The TANK-XM812 Series' cooling vents must not be obstructed by any objects. Leave at least 5 cm of clearance around the TANK-XM812 Series to prevent overheating.
- **Grounding**: The TANK-XM812 Series should be properly grounded. The voltage feeds must not be overloaded. Adjust the cabling and provide external overcharge protection per the electrical values indicated on the label attached to the back of the TANK-XM812 Series.

3.2 Back Cover Removal

Before installing or maintaining the internal components, the back cover must be removed

from the TANK-XM812. Follow the steps below to complete the task.

Step 1: Turn the TANK-XM812 over and remove the 6 screws on the back cover.

Step 2: Take off the back cover (Figure 3-1).

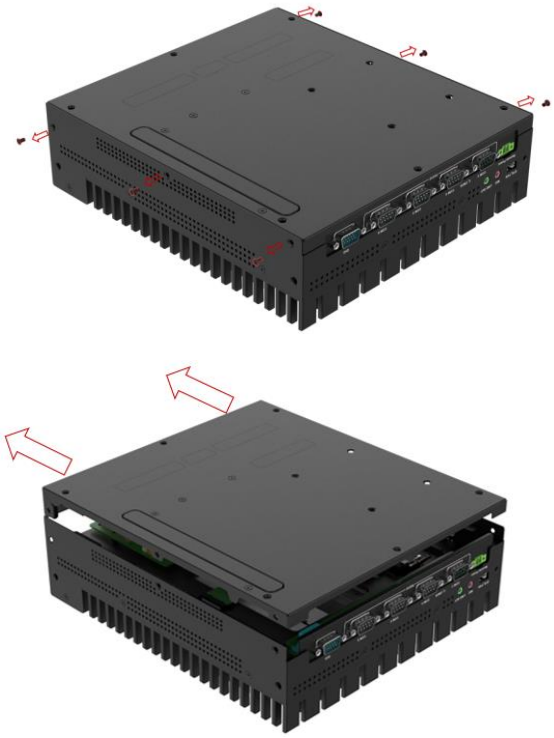


Figure 3-1: Remove the Cover

3.3 CPU Installation

To replace the CPU, you need to remove the motherboard first. Follow the steps below to complete the task.

Step 1: Remove the 11 spring screws on the motherboard, and then take out the motherboard (including the motherboard holder) (**Figure 3-2**).

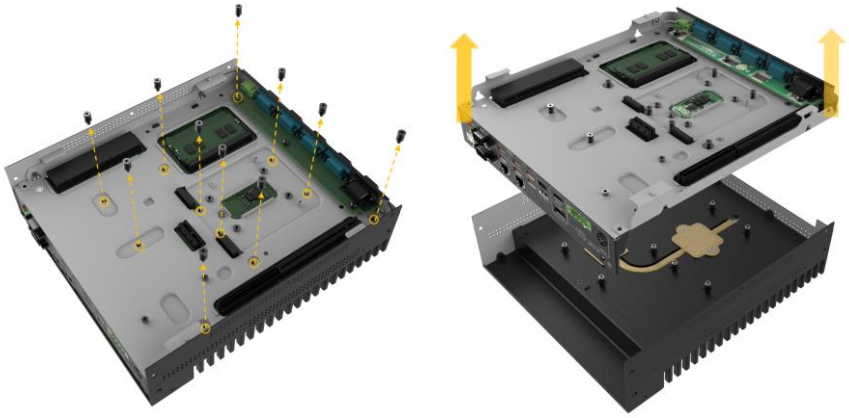


Figure 3-2: Motherboard Removal

Step 2: Pull the lever of the CPU buckle, remove the CPU protection cover, install the CPU at the notch, and fasten the lever down in the buckle (**Figure 3-3**).

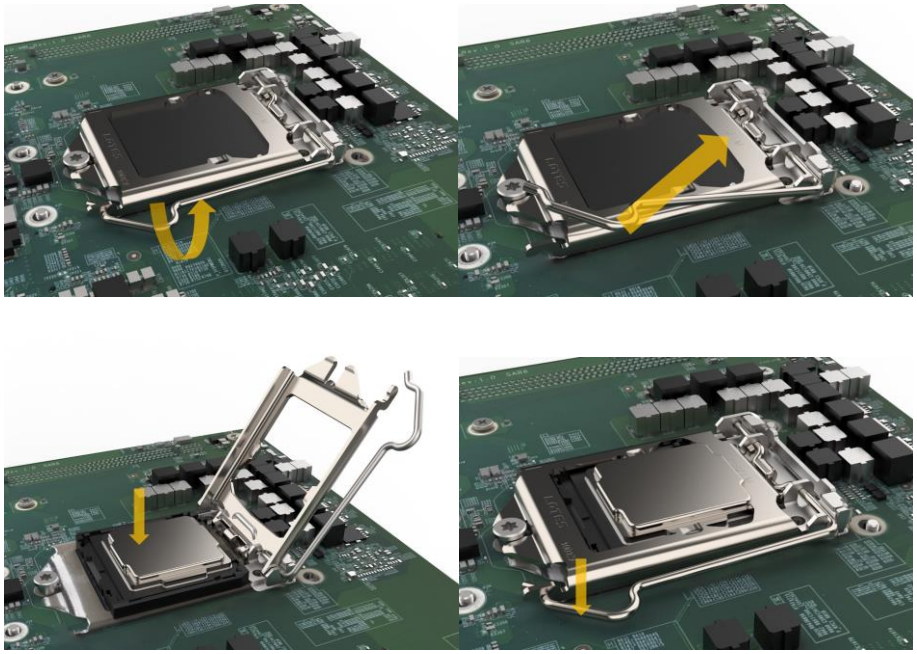


Figure 3-3: CPU Installation

Step 3: Place a thermal pad on the heat conductive block of CPU (**Figure 3-4**).

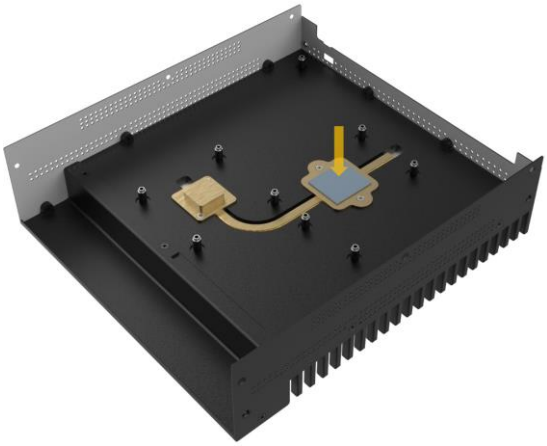


Figure 3-4: CPU Thermal Pad Installation

Step 4: Align the motherboard (together with the motherboard holder) with the 4 positioning rods on the 2 sides, place it on the heat sink, and lock the motherboard with 11 spring screws. (**Figure 3-5**)

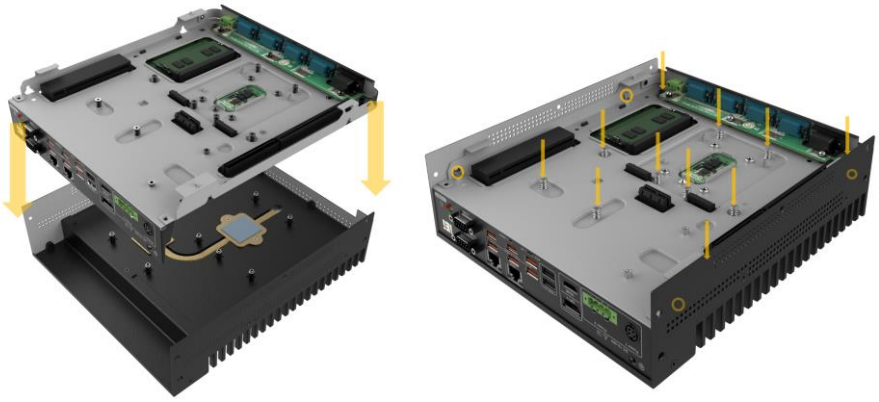


Figure 3-5: Motherboard Installation

3.4 Memory Installation

The **TANK-XM812** is pre-installed with an 8GB memory module. Users can add or replace memory with different capacity by themselves, the installation procedures are described below.

Step 1: Open the two handles of the memory slot.

Step 2: Remove the old memory module and insert a new memory module. Carefully align the memory module so the notch on the memory lines up with the notch on the memory socket.

Step 3: Once aligned, press down until the memory module is properly seated and the two handles fully clip into place (**Figure 3-6**)

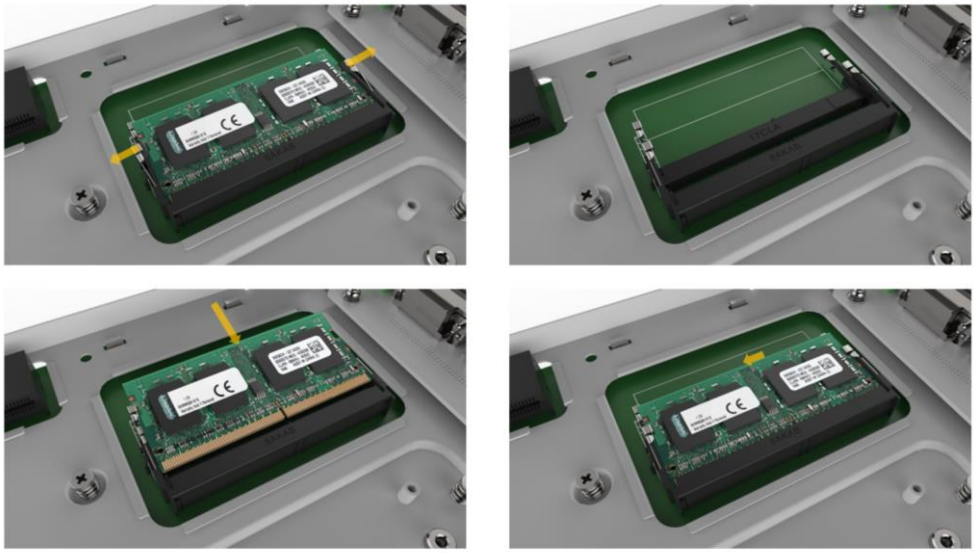


Figure 3-6: Memory Installation

3.5 Storage Installation

The TANK-XM812 supports two types of storage, one M.2 M Key & one 2.5" SSD

3.5.1 M.2 SSD Installation

Remove the M.2 2280 reserved screws, install the M.2 2280 NVME card, and secure the card with the retention screw removed previously (**Figure 3-7**)

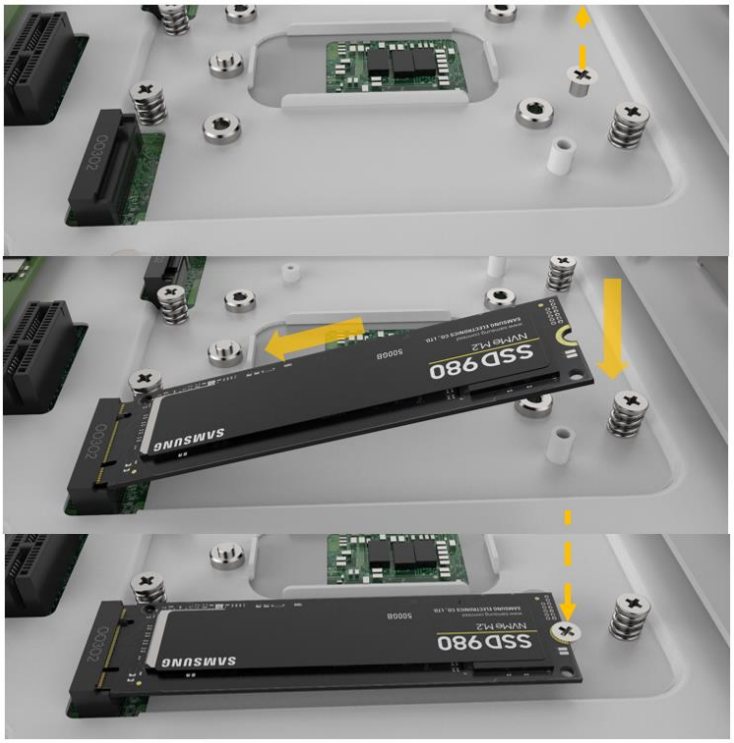


Figure 3-7: M.2 Installation

3.5.2 2.5-inch SSD Installation

Place the hard drive into the hard drive bracket and secure the HDD bracket with the hard drive using four screws.

3.5.2.1 First Hard Drive Installation Steps

Step 1: Placed a hard drive into the drive bay and connect it to the SATA connector

Step 2: Secure the bracket with the hard drive using four screws. (**Figure 3-8**).

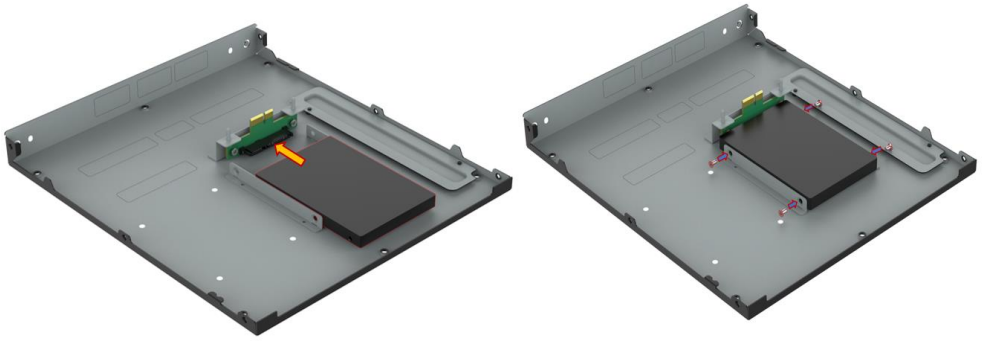


Figure 3-8: HDD Installation

Step 3: Lock the back cover back to the machine. See **Section 3.7**

3.5.2.2 Second Hard Drive Installation Steps

Step 1: Place the hard drive in the hard drive position on the back cover and tighten the 4 fixing screws (**Figure 3-9**).

Figure 3-9: HDD Installation

Step 2: Plug the SATA cable into the hard drive

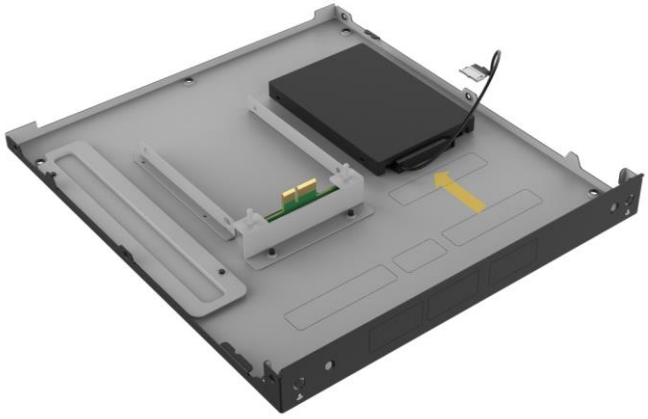


Figure 3-10: Plug in the hard drive cable

Step 3: Move the back cover close to the machine and plug the SATA cable into the motherboard (**Figure 3-11**).

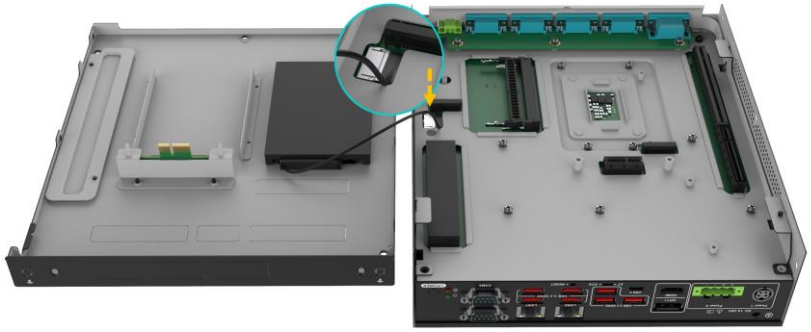


Figure 3-11: Plug in the motherboard cable

Step 4: Lock the back cover back to the machine. See **Section 3.7**

3.6 Wi-Fi Module Installation (Optional)

The Wi-Fi module is an optional accessory. You can purchase it from IEI or other providers. Note that you have to purchase Wi-Fi module, internal antenna and external antenna. It is suggested to purchase an internal antenna longer than 200mm.

To install the Wi-Fi module, follow the steps below.

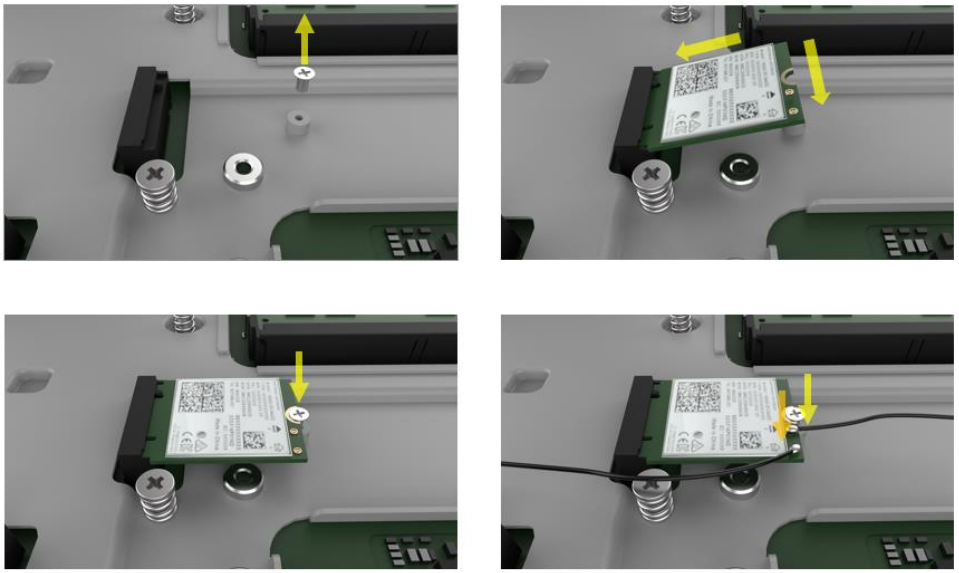
Step 1: Remove the M.2 A key retention screw.

Step 2: Insert the Wi-Fi module (IEI P/N: EMB-WIFI-KIT02I3-R10, including one Intel AX210 wireless Bluetooth function module, two 300mm internal antennas and two 108mm external antennas) and secure the screw.

Step 3: Secure one end of the internal antenna to the Wi-Fi module.

Step 4: Knock out the reserved antenna holes on the chassis, and secure the other end of the internal antenna on the chassis.

Step 5: Install the external antennas (**Figure 3-12**)



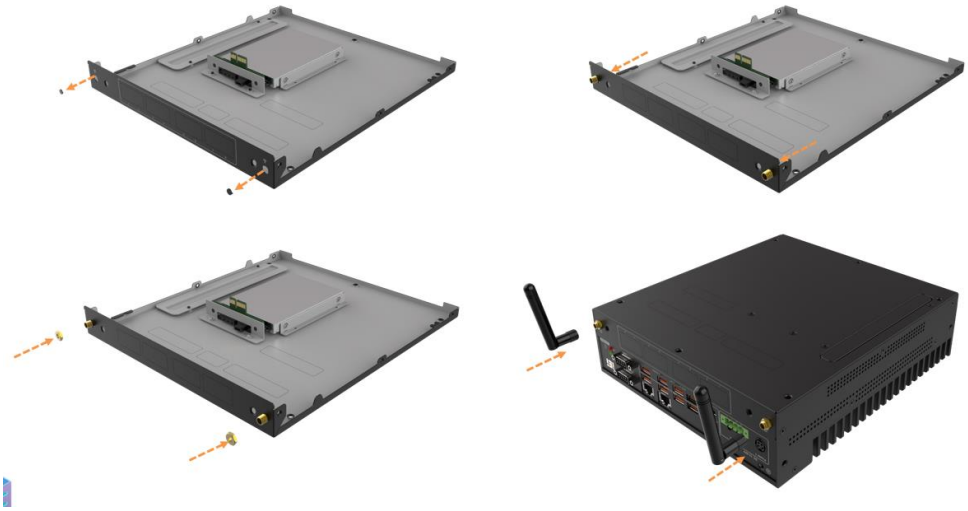


Figure 3-12: Wi-Fi Module and Wi-Fi Antenna Installation

3.7 Back Cover Installation

Push the rear cover in and press it down, fasten the 6 screws on the side (**Figure 3-13**)

Figure 3-13: Back Cover Installation

3.8 Mounting the System with Mounting Brackets

To mount the embedded system onto a wall or some other surface using the two mounting brackets, please follow the steps below.

Step 1: Turn the embedded system over.

Step 2: Align the retention screw holes in each bracket with the corresponding retention screw holes on the bottom surface

Step 3: Secure the brackets to the system by inserting retention screws into each bracket (**Figure 3-14**).

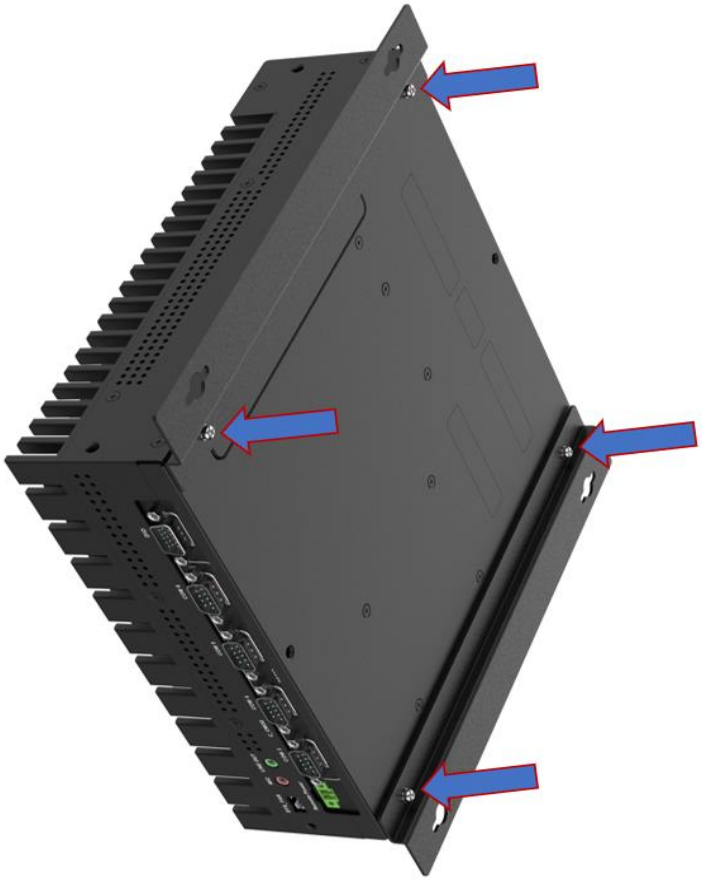


Figure 3-14: Mounting Bracket Retention Screws

Step 4: Drill holes in the intended installation surface.

Step 5: Align the mounting holes in the sides of the mounting brackets with the predrilled holes in the mounting surface.

Step 6: Insert four retention screws, three in each bracket, to secure the system to the wall.

3.9 External Peripheral Interface

The TANK-XM812 Series has the following connectors. Detailed descriptions of the connectors can be found in the subsections below.

- AT/ATX power mode switch
- Digital I/O
- Ethernet
- Power button
- Power DC jack
- Power terminal block
- HDMI
- DP++
- RS-232/422/485
- USB

3.10 Powering On/Off the System

WARNING:

Make sure a power supply with the correct input voltage is being fed into the system. Incorrect voltages applied to the system may cause damage to the internal electronic components and may also cause injury to the user.

- **Power on** the system: press the power button for 3 seconds
- **Power off** the system: press the power button for 6 seconds
- The power of this system can be less than 250W.

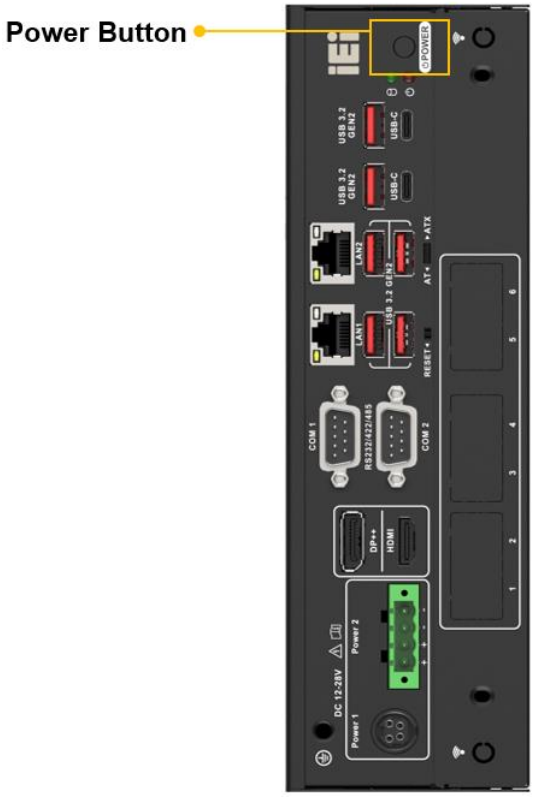


Figure 3-15: Power Button

3.11 Available Drivers

All the drivers for the TANK-XM812 Series are available on IEI Resource Download Center (https://download.ieiworld.com). Type TANK-XM812 Series and press Enter to find all the relevant software, utilities, and documentation.

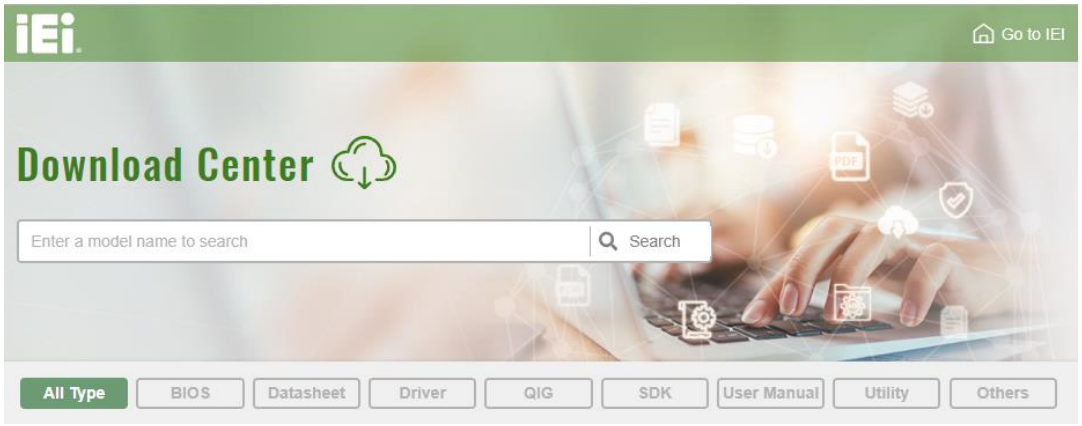
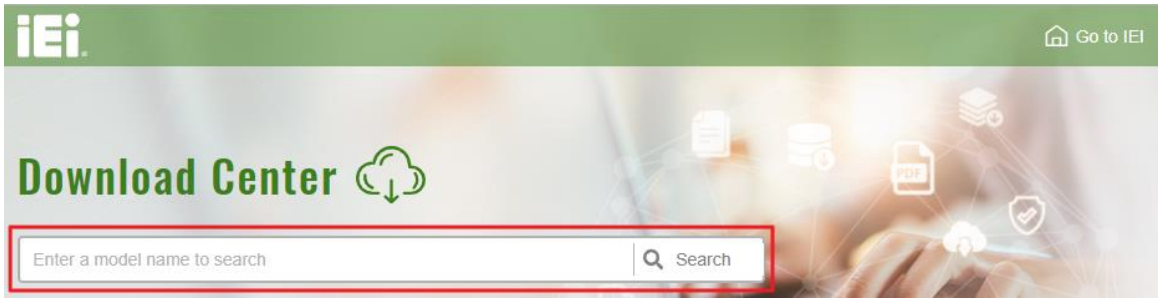


Figure 3-16: IEI Resource Download Center

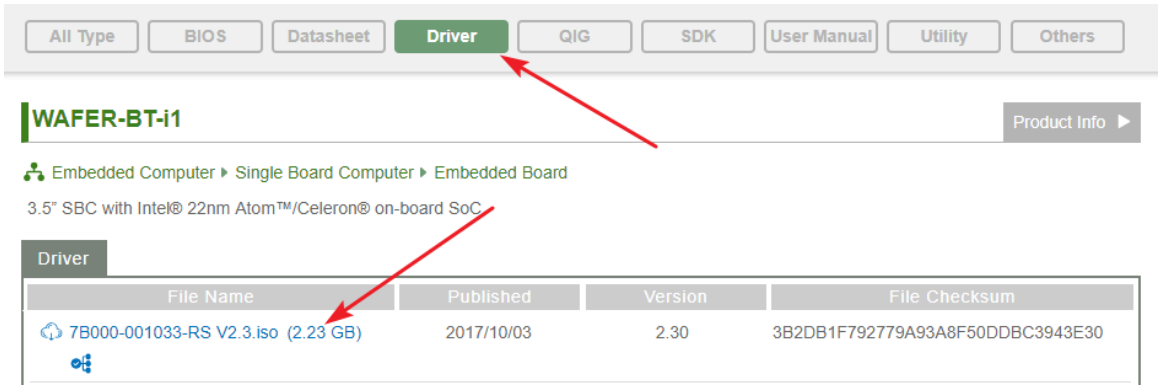
3.11.1 Driver Download

To download drivers from IEI Resource Download Center, follow the steps below.

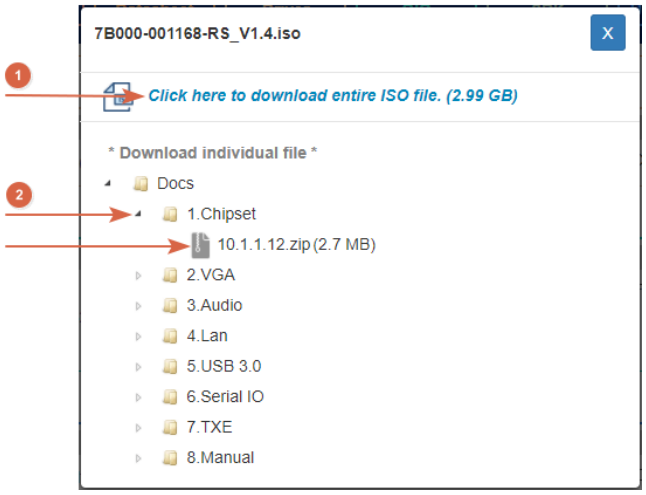
Step 1: Go to https://download.ieiworld.com. Type TANK-XM812 Series and press Enter.



Step 2: All product-related software, utilities, and documentation will be listed. You can choose **Driver** to filter the result.



Step 3: Click the driver file name on the page and you will be prompted with the following window. You can download the entire ISO file (❶), or click the small arrow to find an individual driver and click the file name to download (❷).



NOTE:

To install software from the downloaded ISO image file in Windows 10 (or later), double-click the ISO file to mount it as a virtual drive to view its content.

Chapter

4

System Motherboard

4.1 Overview

This chapter details all the jumpers and connectors of the system motherboard.

4.1.1 Layout

The figures below show all the connectors and jumpers of the system motherboard.

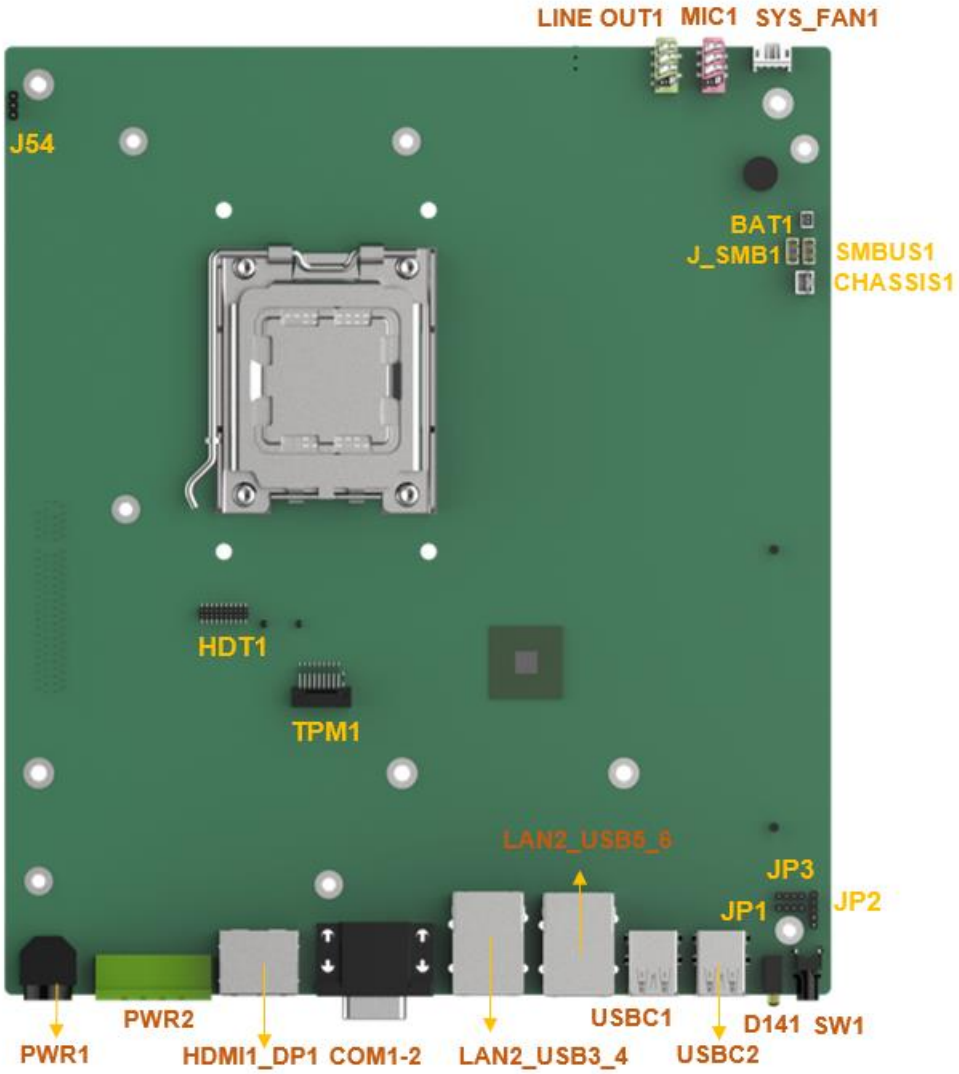


Figure 4-1: System Motherboard (Front)

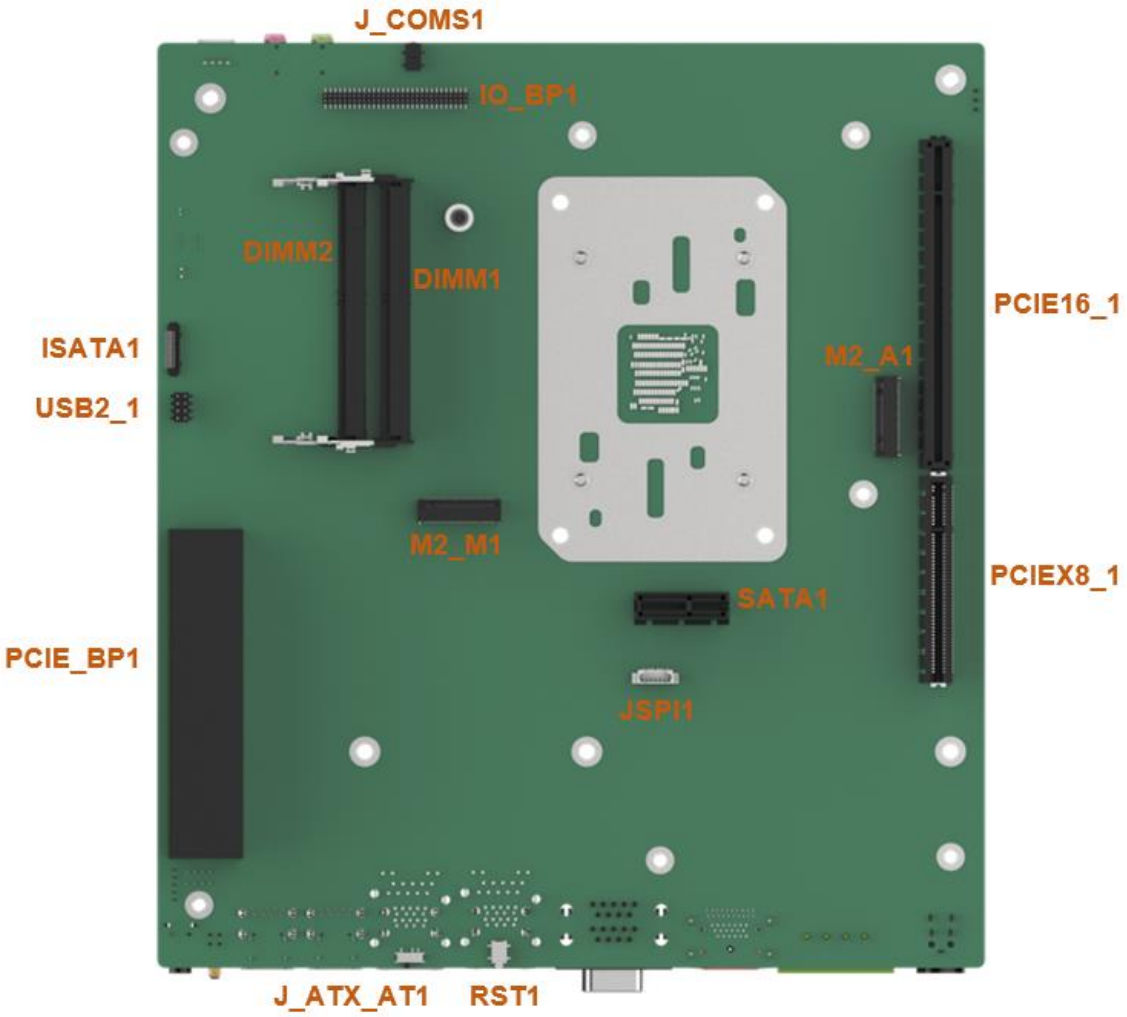


Figure 4-2: System Motherboard (Rear)

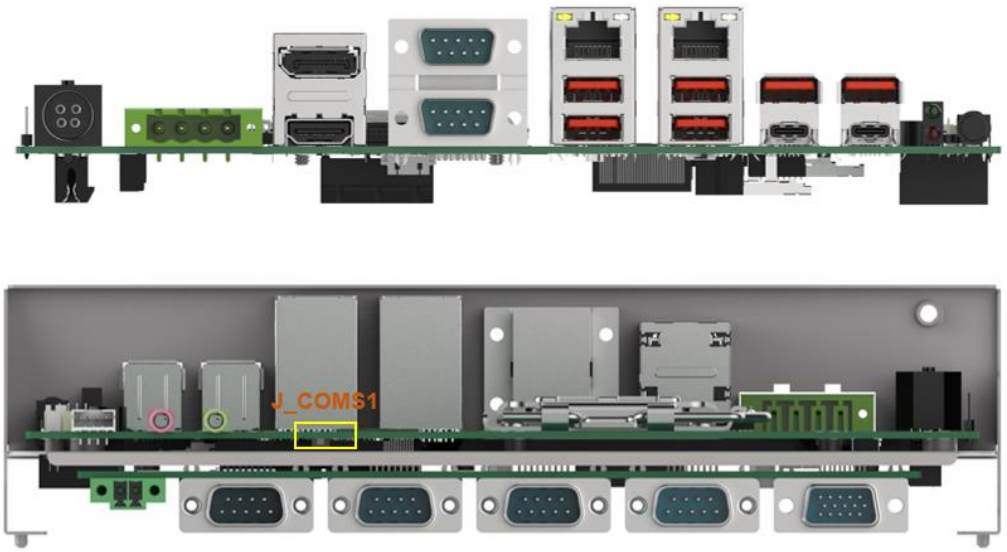


Figure 4-3: System Motherboard (IO)

4.2 Internal Peripheral Connectors

The table below shows a list of the internal peripheral interface connectors on the system motherboard. Pinouts of these connectors can be found in the following sections.

Connector	Type	Label
Clear CMOS switch	4-pin Switch	J_CMOS1
Battery connector	2-pin header	BAT1
BIOS programmer connector	6-pin box header	JSPI1
SMBUS connector	4-pin box header	J_SMB1
PD Controller Debug Connector	4-pin header	JP1, JP3
PD Controller programmer connector	5-pin header	JP2
Power Controller programmer connector	3-pin header	J54
Chassis Open connector	2-pin header	CHASSIS1
SMBUS connector	4-pin box header	SMBUS1
HDT+ Header	20-pin header	HDT1
SPI TPM Connector	20-pin header	TPM1
M.2 M-key slot	M.2 M-key slot	M2_M1

Connector	Type	Label
M.2 A-key slot	M.2 A-key slot	M2_A1
PCIE X16 Socket	PCIe x16 slot	PCIE16_1
PCIeX8 Socket	PCIeX8 slot	PCIEX8_1
PCIEX16 Socket	PCIEX16 slot	PCIE_BP1
DDR4 memory slot	DDR4 memory slot	DIMM1, DIMM2
SATA connector	20 pin Connector	ISATA1
USB2.0 connector	8-pin header	USB2_1
PCIe backplane connector	PCIEX1 slot	SATA1
IO connector	60-pin Connector	IO_BP1

Table 4-1: Peripheral Interface Connectors

4.2.1 Clear CMOS Switch (J_CMOS1)

PIN NO.	DESCRIPTION
Open	Normal Operation (Default)
Push	Clear CMOS Setup

Table 4-2: Clear CMOS Switch (J_CMOS1)

4.2.2 Battery Connector (BAT1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VBATT	2	GND

Table 4-3: Battery Connector (BAT1)

4.2.3 BIOS Programming Connector (JSPI1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+V3.3M_SPI_CON	2	SPI_CS#0_SW
3	SPI_SO_SW	4	SPI_CLK_SW
5	SPI_SI_SW	6	GND

Table 4-4: BIOS Programming Connector Pinouts (JSPI1)

4.2.4 SMBUS Connector (J_SMB1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	EC_SPI_CS#_R	2	+V3.3A_EC
3	EC_SPI_MISO_R	4	NC
5	EC_DET_FLASH	6	EC_SPI_CLK_R
7	GND	8	EC_SPI_MOSI_R

Table 4-5: SMBUS Connector (J_SMB1)

4.2.5 I2C CONN (JP1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3.3V_EC_PD	2	USBC_SCL_EC_PD
3	USBC_SDA_EC_PD	4	GND

Table 4-6: I2C CONN (JP1)

4.2.6 I2C CONN (JP3)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3.3V_EC_PD	2	USBC_SCL_EC_PD
3	USBC_SDA_EC_PD	4	GND

Table 4-7: I2C CONN (JP3)

4.2.7 PD Controller Programmer Connector (JP2)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	PD0_VDDD_SUPPLY	2	GND
3	PD0_XRES	4	PD0_SWD_CLK

5	PD0_SWD_IO		

Table 4-8: PD Controller Programmer Connector (JP2)

4.2.8 Power Controller Programmer Connector (J54)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	PMSCL	2	PMSDA
3	GND	4	

Table 4-9: Power Controller Programmer Connector (J54)

4.2.9 Chassis Open connector (CHASSIS1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	CASEOPEN_N	2	GND

Table 4-10: Chassis Open Connector (CHASSIS1)

4.2.10 SATA Connector (ISATA1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	GND	4	GND
5	GND	6	GND
7	+5V_RUN	8	+5V_RUN
9	+5V_RUN	10	+5V_RUN
11	+5V_RUN	12	NA
13	NA	14	GND
15	SATA_RXP1	16	SATA_RXN1
17	GND	18	SATA_TXN1
19	SATA_TXP1	20	GND

Table 4-11: SATA Connector (ISATA1)

4.2.11 SMBUS Connector (SMBUS1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	SMDAT0_EC
3	SMCLK0_EC	4	+5V_ALW

Table 4-12: SMBUS Connector (ISATA1)

4.2.12 HDT+ Connector (HDT1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	GND	4	GND
5	GND	6	GND
7	+5V_RUN	8	+5V_RUN
9	+5V_RUN	10	+5V_RUN
11	+5V_RUN	12	NA
13	NA	14	GND
15	SATA_RXP1	16	SATA_RXN1
17	GND	18	SATA_TXN1
19	SATA_TXP1	20	GND

Table 4-13: HDT+ Connector (HDT1)

4.2.13 IO connector (IO_BP1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DCD-3	2	DCD-4
3	DSR-3	4	DSR-4
5	SIN3	6	SIN4
7	CTS-3	8	CTS-4
9	RI-3	10	RI-4
11	SOUT3	12	SOUT4
13	RTS-3	14	RTS-4

15	DTR-3	16	DTR-4
17	GND	18	GND
19	DCD-5	20	DCD-6
21	DSR-5	22	DSR-6
23	SIN5	24	SIN6
25	CTS-5	26	CTS-6
27	RI-5	28	RI-6
29	SOUT5	30	SOUT6
31	RTS-5	32	RTS-6
33	DTR-5	34	DTR-6
35	GND	36	GND
37	L_DOUT0	38	L_DIN0
39	L_DOUT1	40	L_DIN1
41	L_DOUT2	42	L_DIN2
43	L_DOUT3	44	L_DIN3
45	L_DOUT4	46	L_DIN4
47	L_DOUT5	48	L_DIN5
49	GND	50	GND
51	NA	52	PWR_BTN_N
53	NA	54	GND
55	NA	56	NA
57	NA	58	+5V_RUN
59	NA	60	+5V_RUN

Table 4-14: IO Connector (IO_BP1)

4.2.14 SPI TPM Connector (TPM1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	GND	4	GND
5	GND	6	GND
7	+5V_RUN	8	+5V_RUN
9	+5V_RUN	10	+5V_RUN

11	+5V_RUN	12	NA
13	NA	14	GND
15	SATA_RXP1	16	SATA_RXN1
17	GND	18	SATA_TXN1
19	SATA_TXP1	20	GND

Table 4-15: SPI TPM Connector (TPM1)

4.2.15 USB2.0 connector (USB2_1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+5V_USB5	2	GND
3	USB2_L_D8N	4	USB2_L_D9P
5	USB2_L_D8P	6	USB2_L_D9N
7	GND	8	+5V_USB5

Table 4-16: USB2.0 Connector (USB2_1)

4.2.16 M.2 A-key slot (M2_A1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND_1	2	3.3V_2
3	USB_D+	4	3.3V_4
5	USB_D-	6	LED#1
7	GND_7	8	NC8
9	NC9	10	NC10
11	NC11	12	NC12
13	NC13	14	NC14
15	NC15	16	LED#2
17	MLDIR sense	18	GND_18
19	DP_ML3N	20	DP_AUXN
21	DP_ML3P	22	DP_AUXP
23	GND_23	24	GND_24
25	DP_ML2N	26	DP_ML1N
27	DP_ML2P	28	DP_ML1P
29	GND_29	30	GND_30
31	DP_HPD	32	DP_ML0N

33	GND_33	34	DP_ML0P
35	PETP0	36	GND_36
37	PETN0	38	VENDOE_38
39	GND_39	40	VENDOE_40
41	PERP0	42	VENDOE_42
43	PERN0	44	COEX3
45	GND_45	46	COEX2
47	REFCLKP0	48	COEX1
49	REFCLKN0	50	SUSCLK
51	GND_51	52	PERST0#
53	CLKREQ0#	54	RESERVED_54
55	PEWAKE0#	56	W_DISABLE1#
57	GND_57	58	I2C_DAT
59	PETP1	60	I2C_CLK
61	PETN1	62	ALERT#
63	GND_63	64	RESERVED_64
65	PERP1	66	PERST1#
67	PERN1	68	CLKREQ1#
69	GND_69	70	PEWAKE1#
71	REFCLKP1	72	3.3V_72
73	REFCLKN1	74	3.3V_74
75	GND_75		

Table 4-17: M.2 A-key slot (M2_A1)

4.2.17 M.2 M-key slot (M2_M1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND_1	2	3.3V_2
3	GND_2	4	3.3V_4
5	PERN3	6	NC_6
7	PERP3	8	NC_8
9	GND_9	10	DAS/DSS#
11	PETN3	12	3.3V_12
13	PETP3	14	3.3V_14

15	GND_15	16	3.3V_16
17	PERN2	18	3.3V_18
19	PERP2	20	NC_20
21	GND_21	22	NC_22
23	PETN2	24	NC_24
25	PETP2	26	NC_26
27	GND_27	28	NC_28
29	PERN1	30	NC_30
31	PERP1	32	NC_32
33	GND_33	34	NC_34
35	PETN1	36	NC_36
37	PETP1	38	DEVSLP
39	GND_39	40	NC_40
41	PERN0/SATA-B+	42	NC_42
43	PERP0/SATA-B-	44	NC_44
45	GND_45	46	NC_46
47	PETN0/SATA-A-	48	NC_48
49	PETP0/SATA-A+	50	PERST#/NC_50
51	GND_51	52	CLKREQ#/NC_52
53	REFCLKN	54	PEWAKE/NC_54
55	REFCLKP	56	NC_56
57	GND_57	58	NC_58
59	Notch0	60	Notch1
61	Notch2	62	Notch3
63	Notch4	64	Notch5
65	Notch6	66	Notch7
67	NC_67	68	SUSCLK
69	PEDET	70	3.3V_70
71	GND_71	72	3.3V_72
73	GND_73	74	3.3V_74
75	GND_75		

Table 4-18: M.2 M-key slot (M2_M1)

4.2.18 PCIeX8 Socket (PCIEX8_1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
A1	PRSNT1#	B1	+12V03
A2	+12V01	B2	+12V04
A3	+12V02	B3	+12V05
A4	GND01	B4	GND35
A5	JTAG2	B5	SMBCLK
A6	JTAG3	B6	SMBDATA
A7	JTAG4	B7	GND36
A8	JTAG5	B8	3_3V03
A9	3_3V01	B9	JTAG1
A10	3_3V02	B10	3_3VAUX
A11	PERST#	B11	WAKE#
A12	GND02	B12	RSVD06
A13	REFCLK+	B13	GND37
A14	REFCLK-	B14	HSOP0
A15	GND03	B15	HSON0
A16	HSIP0	B16	GND38
A17	HSIN0	B17	PRSNT2#01
A18	GND04	B18	GND39
A19	RSVD01	B19	HSOP1
A20	GND05	B20	HSON1
A21	HSIP1	B21	GND40
A22	HSIN1	B22	GND41
A23	GND06	B23	HSOP2
A24	GND07	B24	HSON2
A25	HSIP2	B25	GND42
A26	HSIN2	B26	GND43
A27	GND08	B27	HSOP3
A28	GND09	B28	HSON3
A29	HSIP3	B29	GND44

A30	HSIN3	B30	RSVD07
A31	GND10	B31	PRSNT2#02
A32	RSVD02	B32	GND45
A33	RSVD03	B33	HSOP4
A34	GND11	B34	HSON4
A35	HSIP4	B35	GND46
A36	HSIN4	B36	GND47
A37	GND12	B37	HSOP5
A38	GND13	B38	HSON5
A39	HSIP5	B39	GND48
A40	HSIN5	B40	GND49
A41	GND14	B41	HSOP6
A42	GND15	B42	HSON6
A43	HSIP6	B43	GND50
A44	HSIN6	B44	GND51
A45	GND16	B45	HSOP7
A46	GND17	B46	HSON7
A47	HSIP7	B47	GND52
A48	HSIN7	B48	PRSNT2#03
A49	GND18	B49	GND53

Table 4-19: PCIEX8 Socket (PCIEX8_1)

4.2.19 PCIEX16 Socket (PCIE_BP1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
A1	PRSNT1*	B1	12V
A2	12V	B2	12V
A3	12V	B3	RSVD
A4	JTAG2	B4	GND
A5	JTAG3	B5	SMCLK
A6	JTAG4	B6	SMDAT
A7	JTAG5	B7	GND
A8	3.3V	B8	3.3V
A9	3.3V	B9	JTAG1

A10	PWRGD	B10	3.3VAUX
A11	GND	B11	WAKE*
A12	GND	B12	RSVD
A13	REFCLK+	B13	GND
A14	REFCLK-	B14	HSOP0
A15	GND	B15	HSON0
A16	HSIP0	B16	GND
A17	HSIN0	B17	PRSNT2*
A18	GND	B18	GND
A19	RSVD	B19	HSOP1
A20	GND	B20	HSON1
A21	HSIP1	B21	GND
A22	HSIN1	B22	GND
A23	GND	B23	HSOP2
A24	GND	B24	HSON2
A25	HSIP2	B25	GND
A26	HSIN2	B26	GND
A27	GND	B27	HSOP3
A28	GND	B28	HSON3
A29	HSIP3	B29	GND
A30	HSIN3	B30	RSVD
A31	RSVD	B31	PRSNT2*
A32	GND	B32	GND
A33	RSVD	B33	HSOP4
A34	GND	B34	HSON4
A35	HSIP4	B35	GND
A36	HSIN4	B36	GND
A37	GND	B37	HSOP5
A38	GND	B38	HSON5
A39	HSIP5	B39	GND
A40	HSIN5	B40	GND
A41	GND	B41	HSOP6
A42	GND	B42	HSON6
A43	HSIP6	B43	GND

A44	HSIN6	B44	GND
A45	GND	B45	HSOP7
A46	GND	B46	HSON7
A47	HSIP7	B47	GND
A48	HSIN7	B48	PRSNT2*
A49	GND	B49	GND
A50	RSVD	B50	HSOP8
A51	GND	B51	HSON8
A52	HSIP8	B52	GND
A53	HSIN8	B53	GND
A54	GND	B54	HSOP9
A55	GND	B55	HSON9
A56	HSIP9	B56	GND
A57	HSIN9	B57	GND
A58	GND	B58	HSOP10
A59	GND	B59	HSON10
A60	HSIP10	B60	GND
A61	HSIN10	B61	GND
A62	GND	B62	HSOP11
A63	GND	B63	HSON11
A64	HSIP11	B64	GND
A65	HSIN11	B65	GND
A66	GND	B66	HSOP12
A67	GND	B67	HSON12
A68	HSIP12	B68	GND
A69	HSIN12	B69	GND
A70	GND	B70	HSOP13
A71	GND	B71	HSON13
A72	HSIP13	B72	GND
A73	HSIN13	B73	GND
A74	GND	B74	HSOP14
A75	GND	B75	HSON14
A76	HSIP14	B76	GND
A77	HSIN14	B77	GND

A78	GND	B78	HSOP15
A79	GND	B79	HSON15
A80	HSIP15	B80	GND
A81	HSIN15	B81	PRSNT2*
A82	GND	B82	RSVD

Table 4-20: PCIEX16 Socket (PCIE_BP1)

4.2.20 PCIE X16 Socket (PCIE16_1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
A1	PRSNT1#	B1	+12V03
A2	+12V01	B2	+12V04
A3	+12V02	B3	RSVD05
A4	GND01	B4	GND35
A5	JTAG2	B5	SMBCLK
A6	JTAG3	B6	SMBDATA
A7	JTAG4	B7	GND36
A8	JTAG5	B8	3_3V03
A9	3_3V01	B9	JTAG1
A10	3_3V02	B10	3_3VAUX
A11	PWRGD	B11	WAKE#
A12	GND02	B12	RSVD06
A13	REFCLK+	B13	GND37
A14	REFCLK-	B14	HSOP0
A15	GND03	B15	HSON0
A16	HSIP0	B16	GND38
A17	HSIN0	B17	PRSNT2#01
A18	GND04	B18	GND39
A19	RSVD01	B19	HSOP1
A20	GND05	B20	HSON1
A21	HSIP1	B21	GND40
A22	HSIN1	B22	GND41
A23	GND06	B23	HSOP2
A24	GND07	B24	HSON2

A25	HSIP2	B25	GND42
A26	HSIN2	B26	GND43
A27	GND08	B27	HSOP3
A28	GND09	B28	HSON3
A29	HSIP3	B29	GND44
A30	HSIN3	B30	RSVD07
A31	GND10	B31	PRSNT2#02
A32	RSVD02	B32	GND45
A33	RSVD03	B33	HSOP4
A34	GND11	B34	HSON4
A35	HSIP4	B35	GND46
A36	HSIN4	B36	GND47
A37	GND12	B37	HSOP5
A38	GND13	B38	HSON5
A39	HSIP5	B39	GND48
A40	HSIN5	B40	GND49
A41	GND14	B41	HSOP6
A42	GND15	B42	HSON6
A43	HSIP6	B43	GND50
A44	HSIN6	B44	GND51
A45	GND16	B45	HSOP7
A46	GND17	B46	HSON7
A47	HSIP7	B47	GND52
A48	HSIN7	B48	PRSNT2#03
A49	GND18	B49	GND53
A50	RSVD04	B50	HSOP8
A51	GND19	B51	HSON8
A52	HSIP8	B52	GND54
A53	HSIN8	B53	GND55
A54	GND20	B54	HSOP9
A55	GND21	B55	HSON9
A56	HSIP9	B56	GND56
A57	HSIN9	B57	GND57
A58	GND22	B58	HSOP10

A59	GND23	B59	HSON10
A60	HSIP10	B60	GND58
A61	HSIN10	B61	GND59
A62	GND24	B62	HSOP11
A63	GND25	B63	HSON11
A64	HSIP11	B64	GND60
A65	HSIN11	B65	GND61
A66	GND26	B66	HSOP12
A67	GND27	B67	HSON12
A68	HSIP12	B68	GND62
A69	HSIN12	B69	GND63
A70	GND28	B70	HSOP13
A71	GND29	B71	HSON13
A72	HSIP13	B72	GND64
A73	HSIN13	B73	GND65
A74	GND30	B74	HSOP14
A75	GND31	B75	HSON14
A76	HSIP14	B76	GND66
A77	HSIN14	B77	GND67
A78	GND32	B78	HSOP15
A79	GND33	B79	HSON15
A80	HSIP15	B80	GND68
A81	HSIN15	B81	PRSNT2#04
A82	GND34	B82	RSVD08

Table 4-21: PCIE X16 Socket (PCIE16_1)

4.3 External Interface Panel Connectors

The table below shows a list of the external interface panel connectors on the system motherboard. Pinouts of these connectors can be found in the following sections.

Connector	Type	Label
Power input connector	4-pin DC jack	Power 1
Power input connector	4-pin terminal block	Power 2
DP and HDMI connector	Display Ports, HDMI	DP++ HDMI
Ethernet and USB 3.2 Gen 2 combo connectors	RJ-45, USB 3.2 Gen 2 Type A	LAN2_USB3_4, LAN2_USB5_6,
RS-232/422/485 connector	DB-9	COM1_2
USB4.0 TYPE C	USB4.0 TYPE C	USBC1, USBC2
Audio connector	Line out	LINE OUT1
Audio connector	Line in	MIC1
RS-232 connector	DB-9 connector	COM3, COM4, COM5, COM6
System fan connector	4-pin box header	SYS_FAN1
Digital I/O connector	DB-15 connector	DIO
Power Button	Power Button	SW1
HDD LED	HDD LED	D141

Table 4-22: Rear Panel Connectors

4.3.1 Remote Power Connector

This remote power switch connector can be connected to an external switch for remote control of power on and off (**Figure 4-4**)

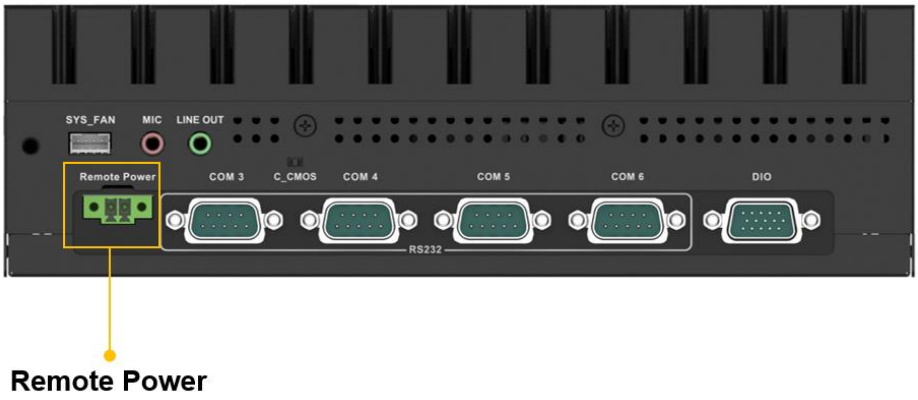


Figure 4-4: Remote Power Connector

4.3.2 DB-9 Serial Port Connectors

The system has two RS-232/422/485 & four RS232 serial port connectors. The pinouts for the serial ports are listed in the table below (**Table 4-23**) (**Figure 4-5**).

PIN NO.	RS232	RS422	RS485
1	DCD#	TX-	TX-
2	RXD	TX+	TX+
3	TXD	RX+	
4	DTR#	RX-	
5	GND		
6	DSR#		
7	RTS#		
8	CTS#		
9	RI#		

Table 4-23: RS-232 (COM4~COM6) & RS-232/422/485 (COM1~COM2) Connector Pinouts

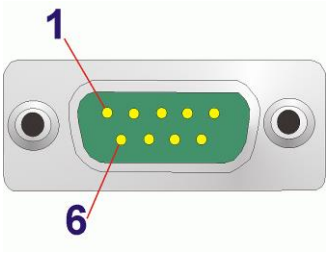


Figure 4-5: DB-9 Serial Port Connector

4.3.3 Power1 DC Jack

The power1 connector connects to the 12V~28V DC power adapter (**Figure 4-6**).

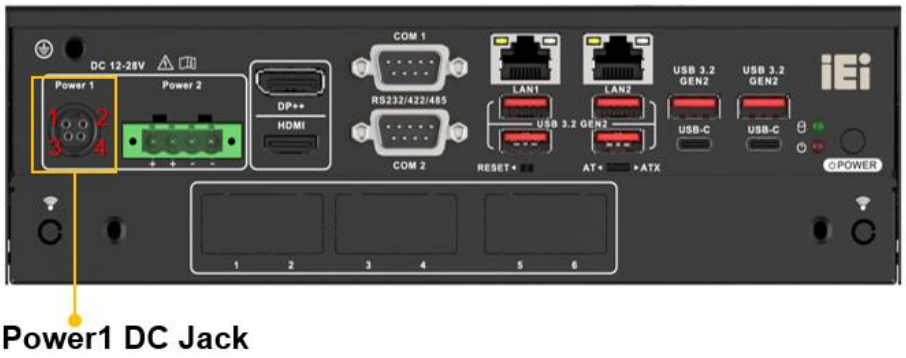


Figure 4-6: Power1 DC Jack

4.3.4 Power2 Terminal Block

The power2 connector connects the leads of a 12 V~28 V DC power supply into the terminal block. Make sure that the power and ground wires are attached to the correct sockets of the connector (**Figure 4-7**).

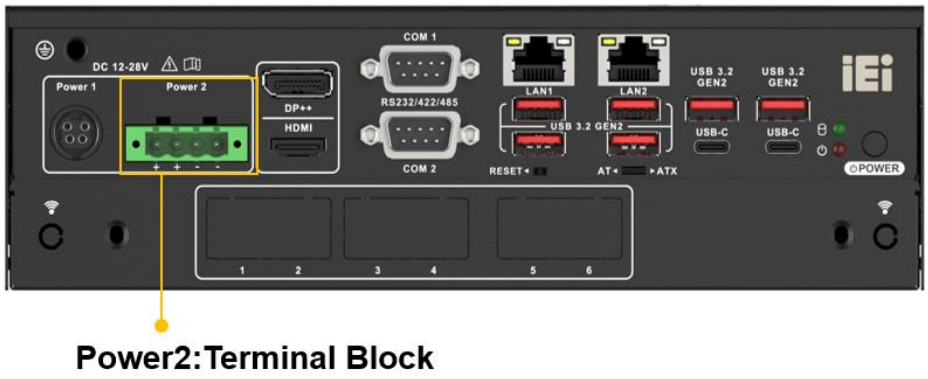


Figure 4-7: Power2 Terminal Block

4.3.5 LAN Connectors

The LAN connectors allow connection to an external network.

Step 1: **Locate the RJ-45 connectors**. The locations of the RJ-45 connectors are shown in **Figure 4-9**.

Step 2: **Align the connectors.** Align the RJ-45 connector on the LAN cable with one of the RJ-45 connectors on the TANK-XM812 Series. See **Figure 4-8**.

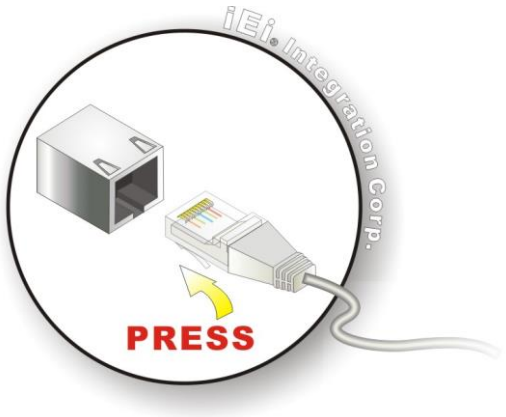


Figure 4-8: LAN Connection

Step 3: **Insert the LAN cable RJ-45 connector.** Once aligned, gently insert the LAN cable RJ-45 connector into the on-board RJ-45 connector.

Figure 4-9: RJ-45 Ethernet Connector

The RJ-45 Ethernet connector has two status LEDs, one green and one yellow. The green LED indicates activity on the port and the yellow LED indicates the port is linked. See **Table 4-24**

Activity/Link LED		Speed LED	
STATUS	**DESCRIPTION**	**STATUS**	**DESCRIPTION**
Off	No link	Off	100 Mbps connection
SS Yellow	Linked	Orange	1 Gbp connection
Blinking	TX/RX activity	Green	2.5 Gbps connection

Table 4-24: RJ-45 Ethernet Connector LEDs

4.3.6 USB 3.2 Gen2 (LAN2_USB3_4, LAN2_USB5_6)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC	10	VCC
2	USB_DATA-	11	USB_DATA-
3	USB_DATA+	12	USB_ DATA+
4	GND	13	GND
5	USB3_RX-	14	USB3_RX-
6	USB3_RX+	15	USB3_ RX+
7	GND	16	GND
8	USB3_TX-	17	USB3_TX-
9	USB3_TX+	18	USB3_TX+

Table 4-25: USB3.2/LAN_USB Connector

4.3.7 USBC1, USBC2 Connector

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
A1	GND	B1	GND
A2	SSTXp1	B2	SSTXp2
A3	SSTXn1	B3	SSTXn2
A4	VBUS	B4	VBUS
A5	CC1	B5	CC2
A6	Dp1	B6	Dp2
A7	Dn1	B7	Dn2
A8	SBU1	B8	SBU2
A9	VBUS	B9	VBUS
A10	SSRXn2	B10	SSRXn2
A11	SSRXp2	B11	SSRXp2
A12	GND	B12	GND

Table 4-26: USBC1, USBC2 Connector

4.3.8 HDMI/DP Connector

To connect the HDMI/DP devices, please plug in HDMI/DP connector in the right direction as shown below:

Figure 4-10: HDMI/DP Connection

4.3.9 Digital Input / Output Connector

The digital I/O connector provides programmable input and output for external devices. The pinouts for the digital I/O connector are listed in the table below (**Table 4-27) (Figure 4-11**).

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	DIN0
3	DIN1	4	DIN2
5	DIN3	6	DIN4
7	DIN5	8	GND
9	DOUT0	10	DOUT1
11	DOUT2	12	DOUT3
13	DOUT4	14	DOUT5
15	+5VS		

Table 4-27: Digital I/O Connector Pinouts

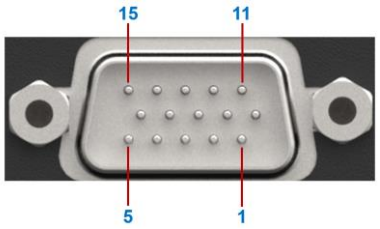


Figure 4-11: DIO Connector

4.3.10 System Fan Connector

The system fan connector can be connected to an external expansion fan (**Figure 4-12**).

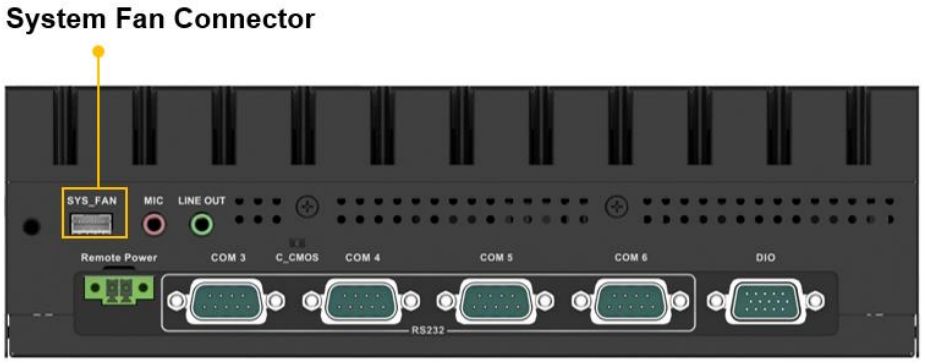


Figure 4-12: SYS_FAN Connector

4.3.11 AT/ATX Power Mode Selection

The TANK-XM812 Series supports AT and ATX power modes. The setting can be made through the AT/ATX power mode switch on the external peripheral interface panel as shown below (**Figure 4-13**).

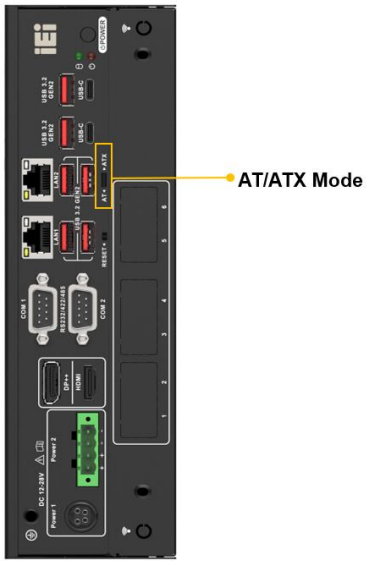


Figure 4-13: AT/ATX Power Mode Switch

4.3.12 LAN Connectors

Pin	Description	Pin	Description
1	MDIA3-	5	MDIA1+
2	MDIA3+	6	MDIA2+
3	MDIA2-	7	MDIA0-
4	MDIA1-	8	MDIA0+

Table 4-28: Ethernet Connector Pinouts

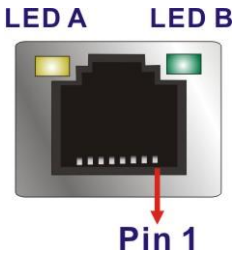


Figure 4-14: Ethernet Connector

LED	Description	LED	Description
ACT / LINK LED		**SPEED LED**	
Status	Description	Status	Description
OFF	No Link	OFF	100 Mbps connection
YELLOW	Link	ORANGE	1 Gbps connection
BLINKING	Data activity	GREEN	2.5 Gbps connection

Table 4-29: Connector LEDs

4.3.13 Power Input Connector, DC Jack (PWR1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DC_IN1	2	GND
3	DC_IN1	4	GND
5	GND		

Table 4-30: Power Input Connector (PWR1)

4.3.14 Power Input Connector, Terminal Block (PWR2)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DC_IN2	2	DC_IN2
3	GND	4	GND

Table 4-31: Power Input Connector (PWR2)

Appendix

A

Regulatory Compliance

DECLARATION OF CONFORMITY

CE

This equipment is in conformity with the following EU directives:

- EMC Directive (2004/108/EC, 2014/30/EU)
- Low-Voltage Directive (2006/95/EC, 2014/35/EU)
- RoHS II Directive (2011/65/EU, 2015/863/EU)

If the user modifies and/or install other devices in the equipment, the CE conformity declaration may no longer apply.

If this equipment has telecommunications functionality, it also complies with the requirements of the Radio Equipment Directive 2014/53/EU.

English
IEI Integration Corp declares that this equipment is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.
Български [Bulgarian]
IEI Integration Corp. декларира, че този оборудване е в съответствие със съществените изисквания и другите приложими правила на Директива 2014/53/EU.
Česky [Czech]
IEI Integration Corp tímto prohlašuje, že tento zařízení je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 2014/53/EU.
Dansk [Danish]
IEI Integration Corp erklærer herved, at følgende udstyr overholder de væsentlige krav c øvrige relevante krav i direktiv 2014/53/EU.
Deutsch [German]
IEI Integration Corp, erklärt dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 2014/53/EU.

Eesti [Estonian]

IEI Integration Corp deklareerib seadme seadme vastavust direktiivi 2014/53/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

Español [Spanish]

IEI Integration Corp declara que el equipo cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/EU.

Ελληνική [Greek]

IEI Integration Corp ΔΗΛΩΝΕΙ ΟΤΙ ΕΞΟΠΛΙΣΜΟΣ ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/EU.

Français [French]

IEI Integration Corp déclare que l'appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/EU.

Italiano [Italian]

IEI Integration Corp dichiara che questo apparecchio è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/EU.

Latviski [Latvian]

IEI Integration Corp deklarē, ka iekārta atbilst būtiskajām prasībām un citiem ar to saistītajiem noteikumiem Direktīvas 2014/53/EU.

Lietuvių [Lithuanian]

IEI Integration Corp deklaruoja, kad šis įranga atitinka esminius reikalavimus ir kitas 2014/53/EU Direktyvos nuostatas.

Nederlands [Dutch]

IEI Integration Corp dat het toestel toestel in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU.

Malti [Maltese]

IEI Integration Corp jiddikjara li dan prodott jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 2014/53/EU.

Magyar [Hungarian]

IEI Integration Corp nyilatkozom, hogy a berendezés megfelel a vonatkozó alapvetõ követelményeknek és az 2014/53/EU irányelv egyéb elõírásainak.

Polski [Polish]

IEI Integration Corp oświadcza, że wyrobu jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 2014/53/EU.

Português [Portuguese]

IEI Integration Corp declara que este equipamento está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/EU.

Româna [Romanian]

IEI Integration Corp declară că acest echipament este in conformitate cu cerinţele esenţiale şi cu celelalte prevederi relevante ale Directivei 2014/53/EU.

Slovensko [Slovenian]

IEI Integration Corp izjavlja, da je ta opreme v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 2014/53/EU.

Slovensky [Slovak]

IEI Integration Corp týmto vyhlasuje, že zariadenia spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 2014/53/EU.

Suomi [Finnish]

IEI Integration Corp vakuuttaa täten että laitteet on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Svenska [Swedish]

IEI Integration Corp förklarar att denna utrustningstyp står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EU.

FCC WARNING

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

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Federal Communication Commission Interference Statement

This equipment has been assembled with components that 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 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.

Appendix

B

Safety Precautions

B.1 Safety Precautions

WARNING:

The precautions outlined in this appendix should be strictly followed. Failure to follow these precautions may result in permanent damage to the TANK-XM812 Series.

Please follow the safety precautions outlined in the sections that follow:

B.1.1 General Safety Precautions

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

- ***Make sure the power is turned off and the power cord is disconnected*** when moving, installing or modifying the system.
- ***Do not apply voltage levels that exceed the specified voltage range***. Doing so may cause fire and/or an electrical shock.
- ***Electric shocks can occur*** if opened while still powered on.
- ***Do not drop or insert any objects*** into the ventilation openings.
- ***If considerable amounts of dust, water, or fluids enter the system***, turn off the power supply immediately, unplug the power cord, and contact the system vendor.
- **DO NOT**:
  - Drop the system against a hard surface.
  - In a site where the ambient temperature exceeds the rated temperature

B.1.2 Anti-static Precautions

WARNING:

Failure to take ESD precautions during the installation of the TANK-XM812 Series may result in permanent damage to the TANK-XM812 Series and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the TANK-XM812 Series. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the TANK-XM812 Series is opened and any of the electrical components are handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband***: Wearing a simple anti-static wristband can help to prevent ESD from damaging any electrical component.
- ***Self-grounding***: Before handling any electrical component, touch any grounded conducting material. During the time the electrical component is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad***: When configuring or working with an electrical component, place it on an antic-static pad. This reduces the possibility of ESD damage.
- ***Only handle the edges of the electrical component***: When handling the electrical component, hold the electrical component by its edges.

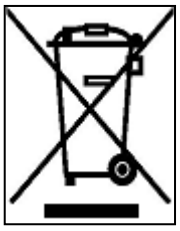
B.1.3 Product Disposal

CAUTION:

Risk of explosion if battery is replaced by and incorrect type. Only certified engineers should replace the on-board battery.

Dispose of used batteries according to instructions and local regulations.

- Outside the European Union – If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority so as to comply with the correct disposal method.
- Within the European Union – The device that produces less waste and is easier to recycle is classified as electronic device in terms of the European Directive 2012/19/EU (WEEE), and must not be disposed of as domestic garbage.



EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product. The mark on electrical and electronic products only applies to the current European Union Member States.

Please follow the national guidelines for electrical and electronic product disposal.

B.2 Maintenance and Cleaning Precautions

When maintaining or cleaning the TANK-XM812 Series, please follow the guidelines below.

B.2.1 Maintenance and Cleaning

Prior to cleaning any part or component of the TANK-XM812 Series, please read the details below.

- The interior of the TANK-XM812 Series does not require cleaning. Keep fluids away from the TANK-XM812 Series interior.
- Be cautious of all small removable components when vacuuming the TANK-XM812 Series.
- Turn the TANK-XM812 Series off before cleaning the TANK-XM812 Series.
- Never drop any objects or liquids through the openings of the TANK-XM812 Series.
- Be cautious of any possible allergic reactions to solvents or chemicals used when cleaning the TANK-XM812 Series.
- Avoid eating, drinking and smoking within vicinity of the TANK-XM812 Series.

B.2.2 Cleaning Tools

Some components in the TANK-XM812 Series may only be cleaned using a product specifically designed for the purpose. In such case, the product will be explicitly mentioned in the cleaning tips. Below is a list of items to use when cleaning the TANK-XM812 Series.

- ***Cloth*** – Although paper towels or tissues can be used, a soft, clean piece of cloth is recommended when cleaning the TANK-XM812 Series.
- ***Water or rubbing alcohol*** – A cloth moistened with water or rubbing alcohol can be used to clean the TANK-XM812 Series.
- ***Using solvents*** – The use of solvents is not recommended when cleaning the TANK-XM812 Series as they may damage the plastic parts.
- ***Vacuum cleaner*** – Using a vacuum specifically designed for computers is one of the best methods of cleaning the TANK-XM812 Series. Dust and dirt can restrict the airflow in the TANK-XM812 Series and cause its circuitry to corrode.
- ***Cotton swabs*** - Cotton swaps moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas.
- ***Foam swabs*** - Whenever possible, it is best to use lint free swabs such as foam swabs for cleaning.

Appendix

C

Error Beep Code

C.1 PEI Beep Codes

Number of Beeps	Description
1	Memory not Installed
1	Memory was installed twice (Install memory routine in PEI Core called twice)
2	Recovery started
3	DXEIPL was not found
3	DXE Core Firmware Volume was not found
4	Recovery failed
4	S3 Resume failed
7	Reset PPI is not available

C.2 DXE Beep Codes

Number of Beeps	Description
1	Invalid password
4	Some of the Architectural Protocols are not available
5	No Console Output Devices are found
5	No Console Input Devices are found
6	Flash update is failed
7	Reset protocol is not available
8	Platform PCI resource requirements cannot be met

NOTE:

If you have any question, please contact IEI for further assistance.

Appendix

D

Hazardous Materials Disclosure

D.1 RoHS II Directive

The details provided in this appendix are to ensure that the product is compliant with the RoHS II Directive. The table below acknowledges the presences of small quantities of certain substances in the product, and is applicable to RoHS II Directive.

Please refer to the following table.

Part Name	Toxic or Hazardous Substances and Elements									
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (CR(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)	Bis(2-ethylhexyl) phthalate (DEHP)	Butyl benzyl phthalate (BBP)	Dibutyl phthalate (DBP)	Diisobutyl phthalate (DIBP)
Housing	O	O	O	O	O	O	O	O	O	O
Printed Circuit Board	O	O	O	O	O	O	O	O	O	O
Metal Fasteners	O	O	O	O	O	O	O	O	O	O
Cable Assembly	O	O	O	O	O	O	O	O	O	O
Fan Assembly	O	O	O	O	O	O	O	O	O	O
Power Supply Assemblies	O	O	O	O	O	O	O	O	O	O
Battery	O	O	O	O	O	O	O	O	O	O

O: This toxic or hazardous substance is contained in all of the homogeneous materials for the part is below the limit requirement in Directive.

X: This toxic or hazardous substance is contained in at least one of the homogeneous materials for this part is above the limit requirement in Directive.

D.2 China RoHS

此附件旨在确保本产品符合中国 RoHS 标准。以下表格标示此产品中某有毒物质的含量符合中国 RoHS 标准规定的限量要求。

本产品上会附有"环境友好使用期限"的标签,此期限是估算这些物质"不会有泄漏或突变"的年限。本产品可能包含有较短的环境友好使用期限的可替换元件,像是电池或灯管,这些元件将会单独标示出来。

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (CR(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
壳体	O	O	O	O	O	O
印刷电路板	O	O	O	O	O	O
金属螺帽	O	O	O	O	O	O
电缆组装	O	O	O	O	O	O
风扇组装	O	O	O	O	O	O
电力供应组装	O	O	O	O	O	O
电池	O	O	O	O	O	O

O: 表示该有毒有害物质在该部件所有物质材料中的含量均在 SJ/T11364-2014 與 GB/T26572-2011 标准规定的限量要求以下。

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11364-2014 與 GB/T26572-2011 标准规定的限量要求。