



MODEL:
TANK-XM81 Series

External Expansion Accessories for TANK-XM81 Series
Expansion Chassis / Backplane / Power Module

User Manual



Revision

Date	Version	Changes
December 30, 2022	1.00	Initial release

Copyright

COPYRIGHT NOTICE

The information in this document is subject to change without prior notice in order to improve reliability, design and function and does not represent a commitment on the part of the manufacturer.

In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

TRADEMARKS

All registered trademarks and product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective owners.

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.

Table of Contents

1 INTRODUCTION.....	1
1.1 OVERVIEW.....	2
1.2 MODEL VARIATIONS	4
1.3 FEATURES.....	5
1.4 SPECIFICATIONS	5
1.5 PHYSICAL DIMENSIONS	7
2 UNPACKING	12
2.1 ANTI-STATIC PRECAUTIONS	13
2.2 UNPACKING PRECAUTIONS.....	13
2.3 UNPACKING CHECKLIST	14
2.3.1 TXC-XM81-3S.....	14
2.3.2 TXC-XM81-4S.....	15
2.3.3 TXC-XM81-G1	17
2.3.4 TXC-XM81-G2.....	18
2.3.5 IDD-1228150	19
3 INSTALLATION	21
3.1 INSTALLATION PRECAUTIONS	22
3.2 EXPANSION SLOT COVER REMOVAL	23
3.3 TXC-XM81-3S INSTALLATION	23
3.4 TXC-XM81-4S INSTALLATION	28
3.5 TXC-XM81-G1 INSTALLATION	33
3.6 TXC-XM81-G2 INSTALLATION	38
3.7 IDD-X1228150 INSTALLATION	43
3.7.1 <i>Onto the Chassis Base (for Front I/O)</i>	44
3.7.2 <i>Into the Backplane (for Rear I/O)</i>	46
3.8 AVAILABLE DRIVERS	49
3.8.1 <i>Driver Download</i>	50
4 SYSTEM MOTHERBOARD	52



- 4.1 TXCBP-XM81-2A 53
 - 4.1.1 Layout 53
 - 4.1.2 Peripheral Interface Connectors 53
 - 4.1.3 Fan Connector 54
- 4.2 TXCBP-XM81-2B 55
 - 4.2.1 Layout 55
 - 4.2.2 Peripheral Interface Connectors 55
 - 4.2.3 Fan Connector 56
- 4.3 TXCBP-XM81-4A 57
 - 4.3.1 Layout 57
 - 4.3.2 Peripheral Interface Connectors 57
 - 4.3.3 Fan Connector 58
 - 4.3.4 Power Connector 59
- 4.4 TXCBP-XM81-4B 60
 - 4.4.1 Layout 60
 - 4.4.2 Peripheral Interface Connectors 60
 - 4.4.3 Fan Connector 61
 - 4.4.4 Power Connector 62
- 4.5 TXCBP-XM81-4C 63
 - 4.5.1 Layout 63
 - 4.5.2 Peripheral Interface Connectors 63
 - 4.5.3 Fan Connector 64
- 4.6 TXCBP-XM81-G2 65
 - 4.6.1 Layout 65
 - 4.6.2 Peripheral Interface Connectors 65
 - 4.6.3 Fan Connector 66
 - 4.6.4 Power Connector 67
- 4.7 IDD-X1228150 68
 - 4.7.1 Layout 68
 - 4.7.2 Peripheral Interface Connectors 68
 - 4.7.3 Power Input Connector..... 69
 - 4.7.4 Power Output Connector (to Backplane) 70
 - 4.7.5 Power Output Connector (to Add-on Card)..... 71
 - 4.7.6 Power LED Indicators 72

List of Figures

Figure 1-1: Expansion Chassis for TANK-XM81 Series.....	2
Figure 1-2: Backplanes for TANK-XM81 Series.....	3
Figure 3-1: Expansion Slot Cover Removal.....	23
Figure 3-2: Remove the Cover of TXC-XM81-3S.....	24
Figure 3-3: Remove Gold Finger Protection Cover of TXC-XM81-3S.....	24
Figure 3-4: Install Gold Finger Protection Cover	25
Figure 3-5: Install Backplane into TXC-XM81-3S.....	26
Figure 3-6: Install Fan Cable.....	26
Figure 3-7: Install TXC-XM81-3S to the Host	27
Figure 3-8: Secure TXC-XM81-3S to the Chassis	27
Figure 3-9: Install Cover Screws of TXC-XM81-3S	28
Figure 3-10: Remove the Cover of TXC-XM81-4S.....	29
Figure 3-11: Remove the Gold Finger Protection Cover of TXC-XM81-4S	29
Figure 3-12: Install Gold Finger Protection Cover	30
Figure 3-13: Install Backplane into TXC-XM81-4S.....	31
Figure 3-14: Install Fan Cable.....	31
Figure 3-15: Install TXC-XM81-4S to the Host	32
Figure 3-16: Secure TXC-XM81-4S to the Chassis	32
Figure 3-17: Install Cover Screws of TXC-XM81-4S	33
Figure 3-18: Remove the Cover of TXC-XM81-G1	34
Figure 3-19: Remove the Gold Finger Protection Cover of TXC-XM81-G1	34
Figure 3-20: Install Gold Finger Protection Cover	35
Figure 3-21: Install Backplane into TXC-XM81-G1	36
Figure 3-22: Install Fan Cable.....	36
Figure 3-23: Install TXC-XM81-G1 to the Host	37
Figure 3-24: Secure TXC-XM81-G1 to the Chassis.....	37
Figure 3-25: Install Cover Screws of TXC-XM81-G1.....	38
Figure 3-26: Remove the Cover of TXC-XM81-G2	39
Figure 3-27: Remove the Gold Finger Protection Cover of TXC-XM81-G2	39
Figure 3-28: Install Gold Finger Protection Cover	40



Figure 3-29: Install Backplane into TXC-XM81-G241

Figure 3-30: Install Fan Cable.....41

Figure 3-31: Install TXC-XM81-G2 to the Host42

Figure 3-32: Secure TXC-XM81-G2 to the Chassis.....42

Figure 3-33: Install Cover Screws of TXC-XM81-G2.....43

Figure 3-34: Install IDD-X122815044

Figure 3-35: Connect Power Cable to Backplane.....44

Figure 3-36: Connect Power Cable to Add-on Card.....45

Figure 3-37: Connect with Power Supply45

Figure 3-38: Install IO bracket46

Figure 3-39: Install power module46

Figure 3-40: Connect Power Cable to Backplane.....47

Figure 3-41: Connect Power Cable to Add-on Card.....47

Figure 3-42: Connect with Power Supply48

Figure 3-43: IEI Resource Download Center.....49

Figure 4-1: Connector and Jumper Locations (TXCBP-XM81-2A)53

Figure 4-2: Fan Connector Location (TXCBP-XM81-2A).....54

Figure 4-3: Connector and Jumper Locations (TXCBP-XM81-2B)55

Figure 4-4: Fan Connector Location (TXCBP-XM81-2B).....56

Figure 4-5: Connector and Jumper Locations (TXCBP-XM81-4A)57

Figure 4-6: Fan Connector Location (TXCBP-XM81-4A).....58

Figure 4-7: Power Connector Location (TXCBP-XM81-4A)59

Figure 4-8: Connector and Jumper Locations (TXCBP-XM81-4B)60

Figure 4-9: Fan Connector Location (TXCBP-XM81-4B).....61

Figure 4-10: Power Connector Location (TXCBP-XM81-4B)62

Figure 4-11: Connector and Jumper Locations (TXCBP-XM81-4C)63

Figure 4-12: Fan Connector Location (TXCBP-XM81-4C).....64

Figure 4-13: Connector and Jumper Locations (TXCBP-XM81-G2).....65

Figure 4-14: Fan Connector Location (TXCBP-XM81-G2)66

Figure 4-15: Power Connector Location (TXCBP-XM81-G2)67

Figure 4-16: Connector and Jumper Locations (IDD-X1228150)68

Figure 4-17: Power Input Connector Location (IDD-X1228150)69

Figure 4-18: Power Output1 Connector Location (IDD-X1228150)70

Figure 4-19: Power Output2 Connector Location (IDD-X1228150)71

Figure 4-20: LED Indicator Locations (IDD-X1228150)72

List of Tables

Table 1-1: Model Variations of External Expansion Accessories	4
Table 1-2: TANK-XM81 Series External expansion specifications	6
Table 1-3: Physical dimensions	11
Table 4-1: Peripheral Interface Connectors (TXCBP-XM81-2A)	53
Table 4-2: Fan Connector Pinouts (TXCBP-XM81-2A)	54
Table 4-3: Peripheral Interface Connectors (TXCBP-XM81-2B)	55
Table 4-4: Fan Connector Pinouts (TXCBP-XM81-2B)	56
Table 4-5: Peripheral Interface Connectors (TXCBP-XM81-4A)	57
Table 4-6: Fan Connector Pinouts (TXCBP-XM81-4A)	58
Table 4-7: Power Connector Pinouts (TXCBP-XM81-4A).....	59
Table 4-8: Peripheral Interface Connectors (TXCBP-XM81-4B)	60
Table 4-9: Fan Connector Pinouts (TXCBP-XM81-4B)	61
Table 4-10: Power Connector Pinouts (TXCBP-XM81-4B).....	62
Table 4-11: Peripheral Interface Connectors (TXCBP-XM81-4C)	63
Table 4-12: Fan Connector Pinouts (TXCBP-XM81-4C)	64
Table 4-13: Peripheral Interface Connectors (TXCBP-XM81-G2)	65
Table 4-14: Fan Connector Pinouts (TXCBP-XM81-G2).....	66
Table 4-15: Power Connector Pinouts (TXCBP-XM81-G2)	67
Table 4-16: Peripheral Interface Connectors (IDD-X1228150)	68
Table 4-17: Power Input Connector Pinouts (IDD-X1228150).....	69
Table 4-18: Power Output1 Connector Pinouts (IDD-X1228150)	70
Table 4-19: Power Output2 Connector Pinouts (IDD-X1228150)	71
Table 4-20: LED Indicator Status (IDD-X1228150)	72

Chapter

1

Introduction



1.1 Overview



TXC-XM81-3S



TXC-XM81-4S



TXC-XM81-G1



TXC-XM81-G2

Figure 1-1: Expansion Chassis for TANK-XM81 Series

IEI provides 4 sizes of expansion chassis to add functions to the TANK-XM81 series, fulfilling more application requirements. Combining with the optional backplanes, full-size graphics cards or PCIe/PCI expansion cards can be installed to enhance system functionality.



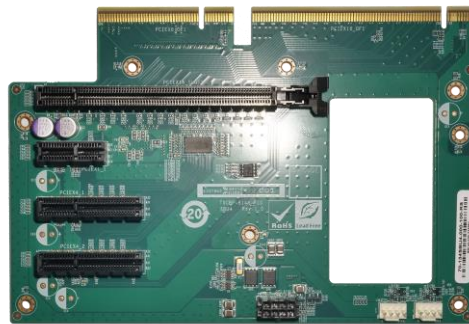
External expansion products



TXCBP-XM81-2A



TXCBP-XM81-2B



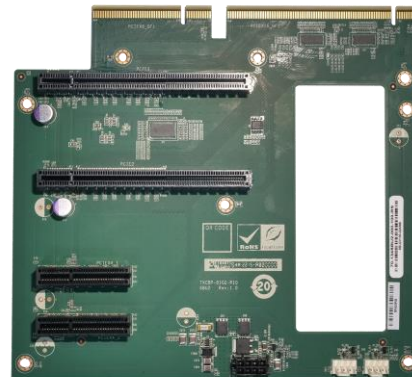
TXCBP-XM81-4A



TXCBP-XM81-4B



TXCBP-XM81-4C



TXCBP-XM81-G2

Figure 1-2: Backplanes for TANK-XM81 Series

IEI provides 6 kinds of backplanes for the 4 models of the TXC series expansion chassis. Users can choose the one that best fit the application requirements.



1.2 Model Variations

The model variations of the external expansion accessories are listed below.

Model No.	Description
TXC-XM81-G2-R10	Dual GPU expansion chassis
TXC-XM81-G1-R10	Single GPU expansion chassis
TXC-XM81-4S-R10	4-slot expansion chassis
TXC-XM81-3S-R10	3-slot expansion chassis
TXCBP-XM81-2A-R10	2-slot backplane module, 1 x PCIe by 16 & 1 x PCIe by 4
TXCBP-XM81-2B-R10	2-slot backplane module, 2 x PCIe by 8
TXCBP-XM81-4A-R10	4-slot backplane module, 1 x PCIe by 16 & 2 x PCIe by 4 & 1 x PCIe by 1 w/ power connector
TXCBP-XM81-4B-R10	4-slot backplane module, 2 x PCIe by 8 & 2 x PCIe by 4 w/ power connector
TXCBP-XM81-4C-R10	4-slot backplane module, 1 x PCIe by 16 & 2 x PCI & 1 x PCIe by 4
TXCBP-XM81-G2-PW-R10	6-slot backplane module, 2 x PCIe by 8 & 2 x PCIe by 4 w/ power connector
IDD-X1228150-R10	150W@16~28V or 380W@12V DC input & 12V output power module

Table 1-1: Model Variations of External Expansion Accessories



External expansion products

1.3 Features

The features of the external expansion accessories are listed below:

- Multiple PCIe slots
- 1 x PCIe x16 or 2 x PCIe x8 or 1 x PCIe x8 & 2 x PCIe x4 (optional)
- 1 x PCIe x4 or 4 x PCIe x1 (optional)
- 1 x PCIe x1
- Optional 150/380W power supply module supported

1.4 Specifications

The technical specifications of the external expansion accessories are listed below.

Chassis Model	TXC-XM81-3S-R10		TXC-XM81-4S-R10		
Supported Backplane	TXCBP-XM81-2 A-R10	TXCBP-XM81- 2B-R10	TXCBP-XM81- 4A-R10	TXCBP-XM81- 4B-R10	TXCBP-XM81 -4C-R10
Slot 1	PCIe x16	PCIe x16 (PCIe x8 signal)	PCIe x16	PCIe x16 (PCIe x8 signal)	PCIe x16
Slot 2	N/A	N/A	PCIe x1	PCIe x4	PCIe x4
Slot 3	PCIe x4	PCIe x16 (PCIe x8 signal)	PCIe x4	PCIe x16 (PCIe x8 signal)	PCI
Slot 4	N/A	N/A	PCIe x4	PCIe x4	PCI
System Fan (Chassis)	1 x 5cm (RS5015B12VH, 6000rpm, 35db) 1 x 5cm (optional)		1 x 8cm (R128025BU, 4500rpm, 44db)		
System Fan (Backplane)	1 x 4-pin (1x4)	2 x 4-pin (1x4)	2 x 4-pin (1x4)	2 x 4-pin (1x4)	1 x 4-pin (1x4)
Power Connector (Backplane)	N/A	N/A	1 x 8-pin (2x4)	1 x 8-pin (2x4)	N/A
Max. Length of Add-on Card (mm)	223.18		224.40		
Additional Power Board	N/A		IDD-X1228150 (adds a terminal block on rear I/O)		
Dimensions (W x H x D) (mm)	230.6 x 69.16 x 255		230.6 x 100 x 255		
Dimensions with Host (W x H x D) (mm)	230.6 x 137.86 x 255		230.6 x 168.5 x 255		



External expansion products

Chassis Model	TXC-XM81-G1-R10	TXC-XM81-G2-R10
Supported Backplane	TXCBP-XM81-4A-R10	TXCBP-XM81-G2-PW-R10
Slot 1	PCIe x16	PCIe x16 (PCIe x8 signal)
Slot 2	PCIe x1	N/A
Slot 3	PCIe x4	PCIe x16 (PCIe x8 signal)
Slot 4	PCIe x4	N/A
Slot 5	N/A	PCIe x4
Slot 6	N/A	PCIe x4
System Fan (Chassis)	1 x 8cm (3FD1280-DP184C2AL, 800rpm, 40db)	
System Fan (Backplane)	2 x 4-pin (1x4)	2 x 4-pin (1x4)
Power Connector (Backplane)	1 x 8-pin (2x4)	1 x 8-pin (2x4)
Max. Length of Add-on Card (mm)	339.8	
Additional Power Board	IDD-X1228150 (adds a terminal block on rear I/O)	
Dimension (W x H x D) (mm)	230.6 x 166.3 x 370.4	230.6 x 207.1 x 370.4
Dimensions with Host (W x H x D) (mm)	230.6 x 168.7 x 370.4	230.6 x 209.86 x 370.4

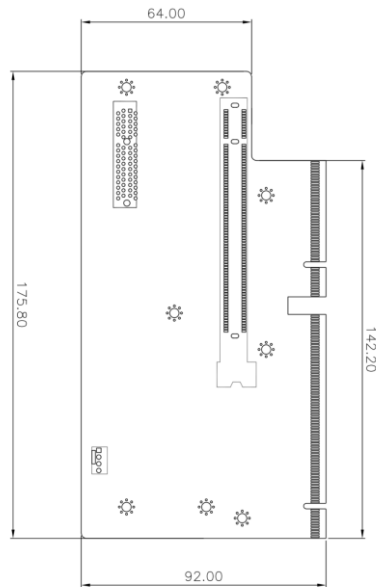
Table 1-2: TANK-XM81 Series External expansion specifications



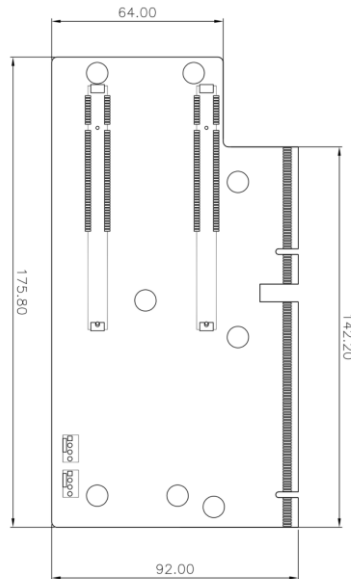
External expansion products

1.5 Physical Dimensions

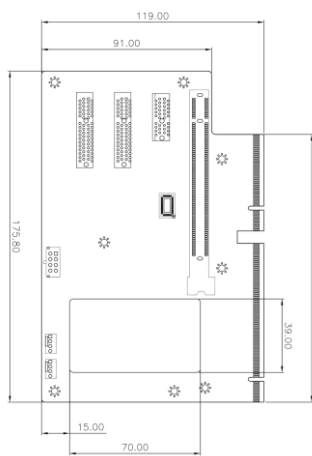
The physical dimensions of the external expansion accessories are shown below.



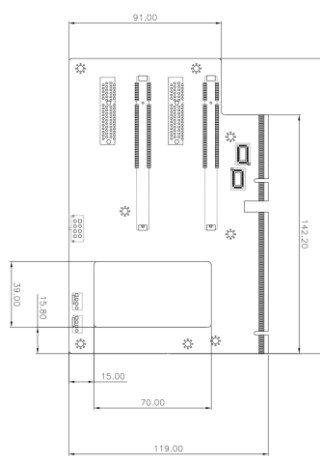
TXCBP-XM81-2A



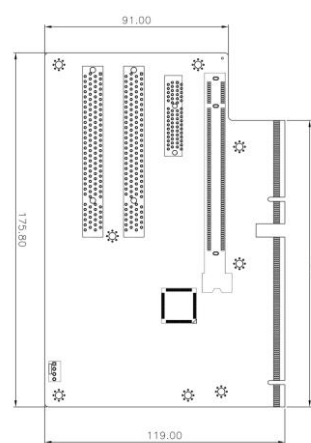
TXCBP-XM81-2B



TXCBP-XM81-4A



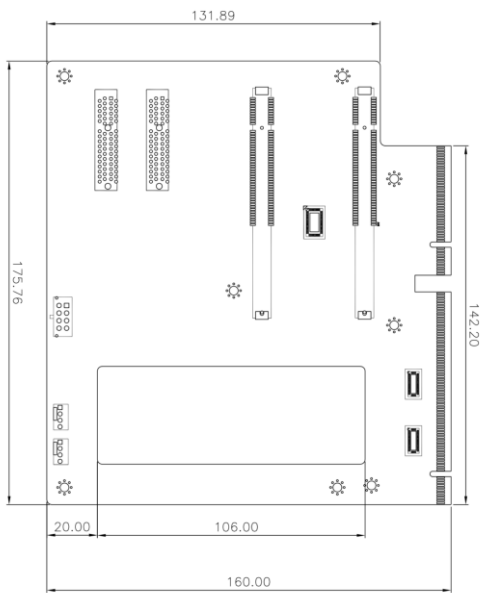
TXCBP-XM81-4B



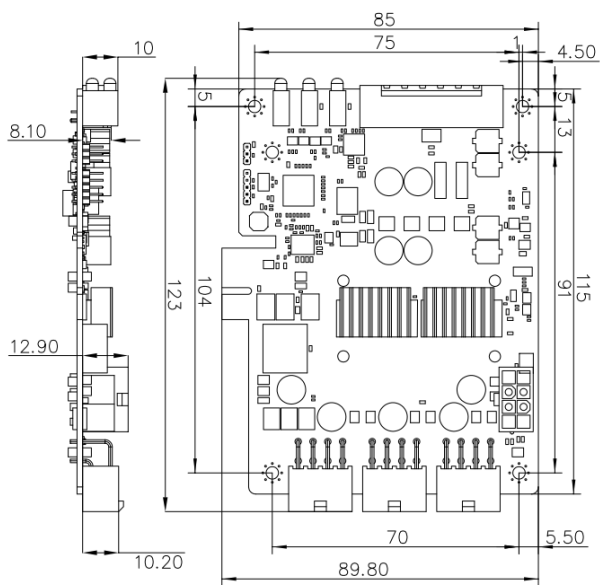
TXCBP-XM81-4C



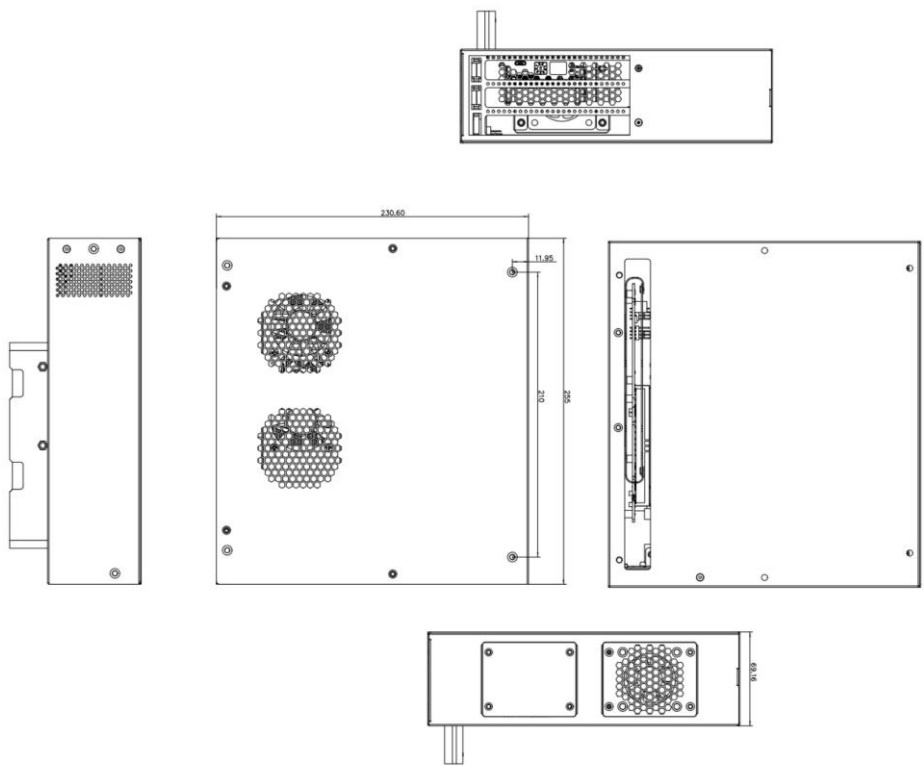
External expansion products



TXCBP-XM81-G2

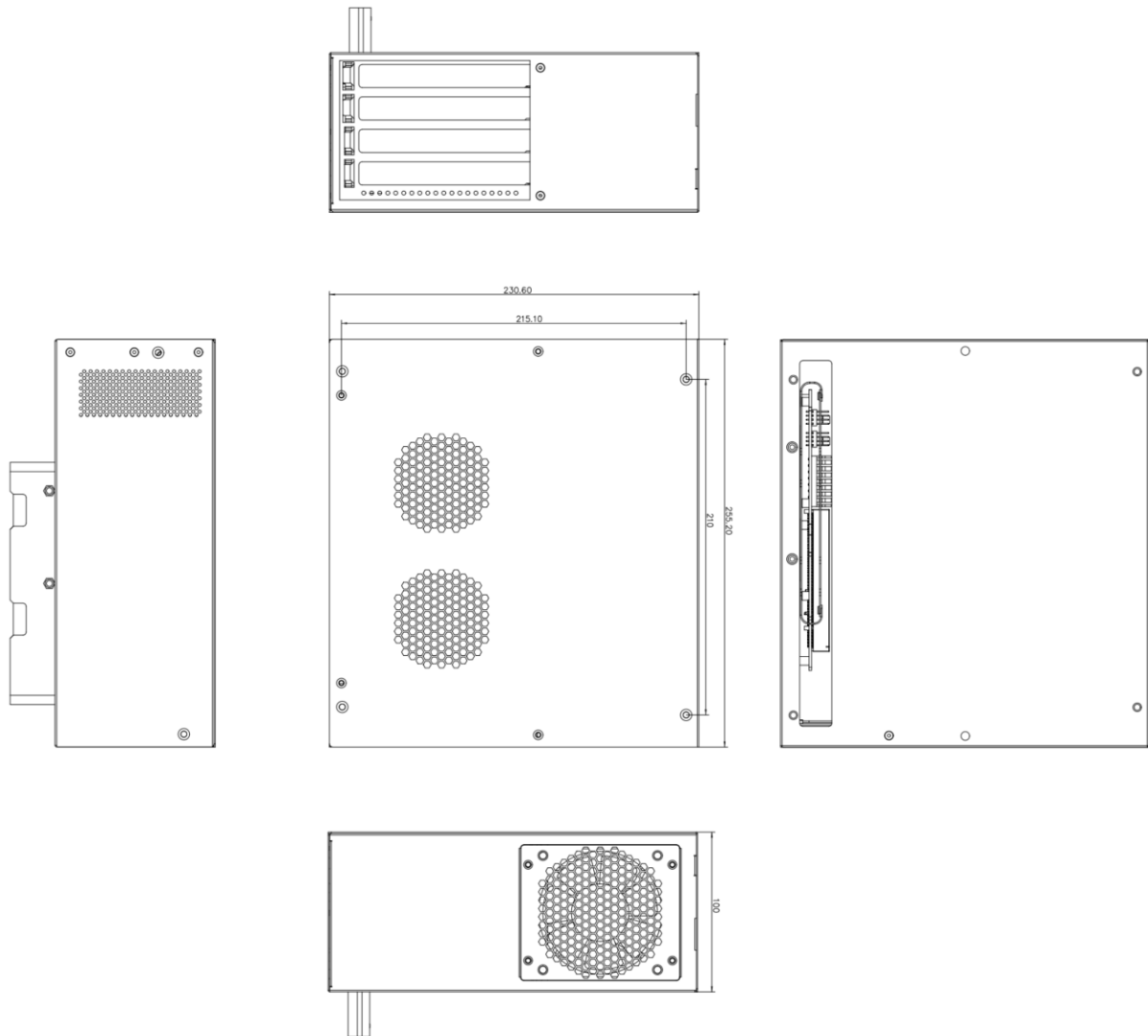


IDD-X1228150



TXC-XM81-3S

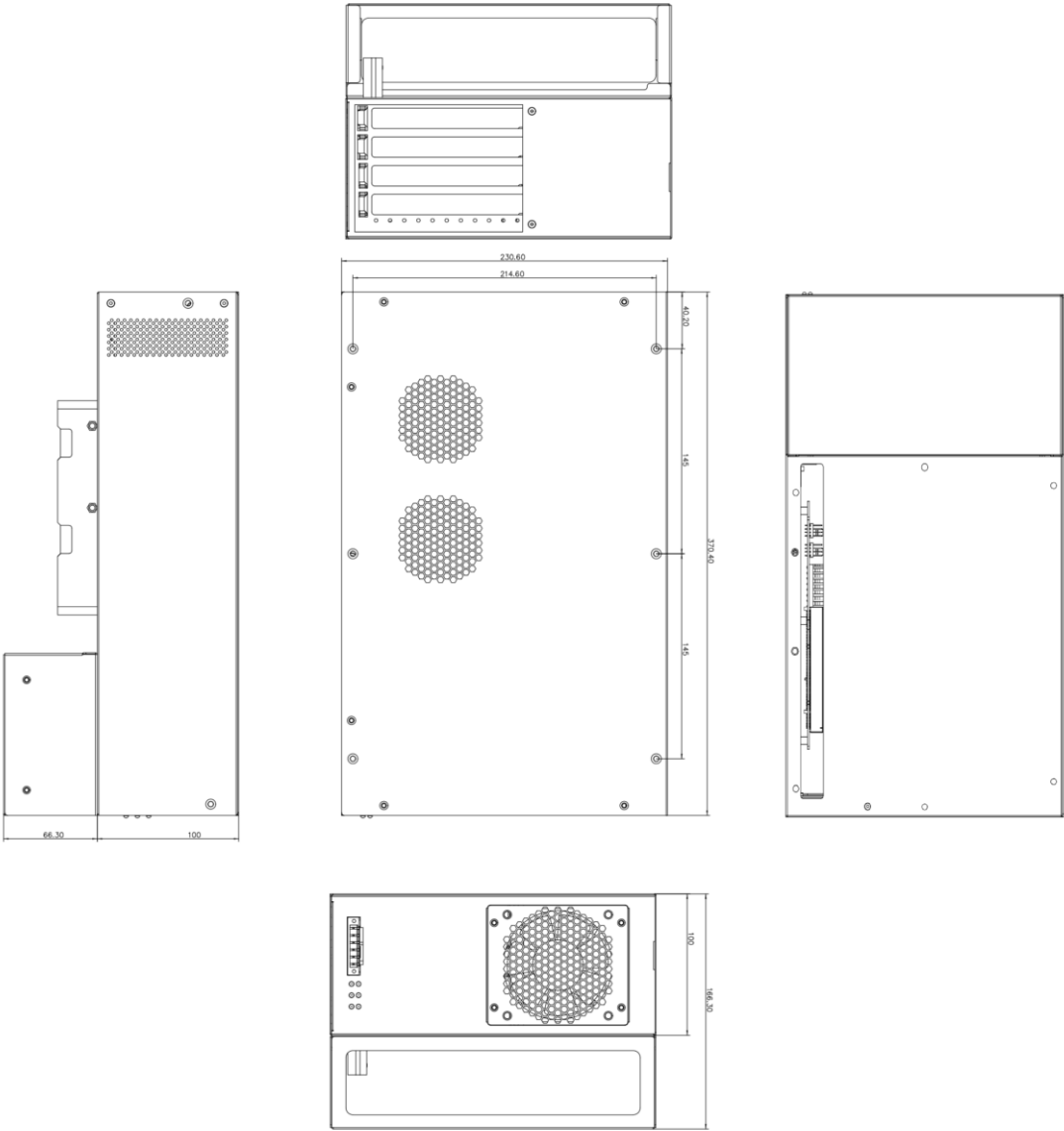
External expansion products



TXC-XM81-4S



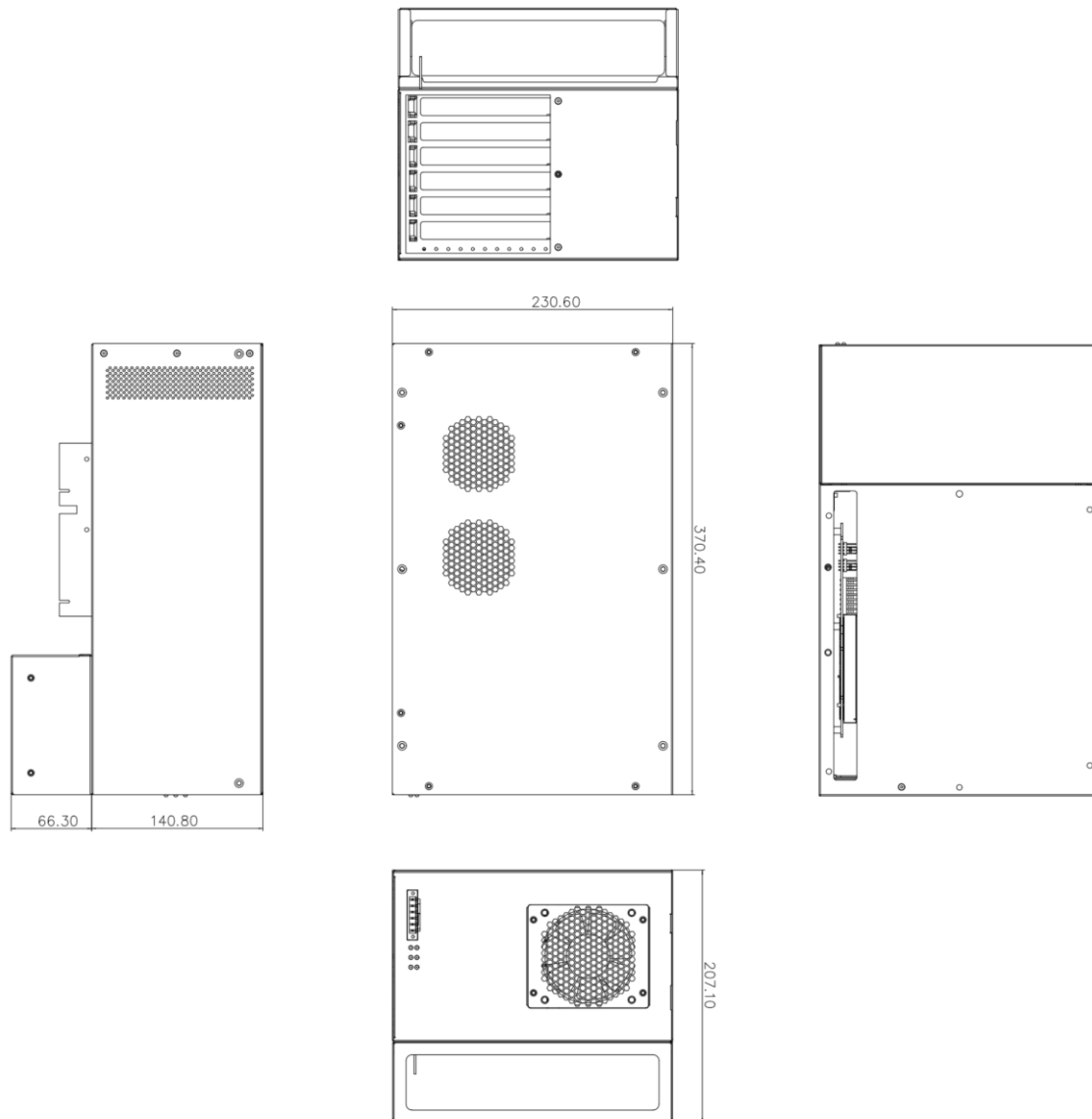
External expansion products



TXC-XM81-G1



External expansion products



TXC-XM81-G2

Table 1-3: 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-XM81 Series External Expansion Products and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the TANK-XM81 Series External Expansion Products. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the TANK-XM81 Series External Expansion Products 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-XM81 Series External Expansion Products, place it on an anti-static pad. This reduces the possibility of ESD damaging the TANK-XM81 Series External Expansion Products.

2.2 Unpacking Precautions

When the TANK-XM81 Series External Expansion Products 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-XM81 Series External Expansion Products 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-XM81 Series External Expansion Products from or contact an IEI sales representative directly. To contact an IEI sales representative, please send an email to sales@ieiworld.com.

2.3.1 TXC-XM81-3S

The TXC-XM81-3S is shipped with the following components:

Quantity	Item and Part Number	Image
Standard		
1	TXC-XM81-3S	
2	Mounting brackets	

External expansion products

Quantity	Item and Part Number	Image
Standard		
1	Chassis screws	

Optional		
2-slot backplane (PCIe x16 & PCIe x4) (P/N: TXCBP-XM81-2A-R10)		
2-slot backplane (two PCIe x8) (P/N: TXCBP-XM81-2B-R10)		

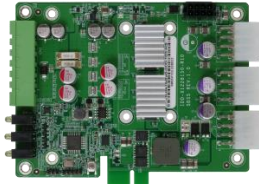
2.3.2 TXC-XM81-4S

The TXC-XM81-4S is shipped with the following components:

Quantity	Item and Part Number	Image
Standard		
1	TXC-XM81-4S	



External expansion products

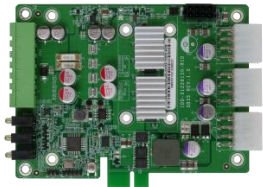
Quantity	Item and Part Number	Image
Standard		
2	Mounting brackets	
1	Chassis screws	
Optional		
4-Slot Backplane (PCIe x16 & Two PCIe x4 & PCIe x1) (P/N: TXCBP-XM81-4A-R10)		
4-Slot Backplane (Two PCIe x8 & Two PCIe x4) (P/N: TXCBP-XM81-4B-R10)		
4-Slot Backplane (PCIe x16 & PCIe x4 & Two PCI) (P/N: TXCBP-XM81-4C-R10)		
Expansion Power Board (P/N: IDD-X1228150-R10)		



External expansion products

2.3.3 TXC-XM81-G1

The TXC-XM81-G1 is shipped with the following components:

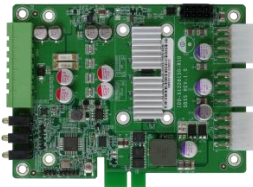
Quantity	Item and Part Number	Image
Standard		
1	TXC-XM81-G1	
2	Mounting brackets	
1	Chassis screws	
Optional		
4-Slot Backplane (PCIe x16 & Two PCIe x4 & PCIe x1) (P/N: TXCBP-XM81-4A-R10)		
Expansion Power Board (P/N: IDD-X1228150-R10)		



External expansion products

2.3.4 TXC-XM81-G2

The TXC-XM81-G2 is shipped with the following components:

Quantity	Item and Part Number	Image
Standard		
1	TXC-XM81-G2	
2	Mounting brackets	
1	Chassis screws	
Optional		
4-Slot Backplane (Two PCIe x8 & Two PCIe x4) (P/N: TXCBP-XM81-G2-PW-R10)		
Expansion Power Board (P/N: IDD-X1228150-R10)		



External expansion products

2.3.5 IDD-1228150

The IDD-1228150 is shipped with the following components:

Quantity	Item and Part Number	Image
Standard		
1	IDD-1228150	
1	Power cable for BP (P/N: 32102-056000-100-RS)	
1	Power cable for graphics card (P/N: 32110-000200-100-RS)	
1	Terminal block (P/N: 33502-000542-RS)	
1	IO blank (P/N: 45002-4683C0-00-HF)	
1	Chassis screws	
Optional		



External expansion products

Quantity	Item and Part Number	Image
Standard		
	Power cable for graphics card (P/N: 32110-000200-100-RS)	



Chapter

3

Installation

3.1 Installation Precautions

**CAUTION:**

The TANK-XM81 Series Products 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-XM81 Series Products.

During installation, be aware of the precautions below:

- **Read the user manual:** The user manual provides a complete description of the TANK-XM81 Series Products, installation instructions and configuration options.
- **DANGER! Disconnect Power:** Power to the TANK-XM81 Series Products 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-XM81 Series Products is opened while the power cord is still connected to an electrical outlet.
- **Qualified Personnel:** The TANK-XM81 Series Products 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-XM81 Series Products. The TANK-XM81 Series Products's cooling vents must not be obstructed by any objects. Leave at least 5 cm of clearance around the TANK-XM81 Series Products to prevent overheating.
- **Grounding:** The TANK-XM81 Series Products 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-XM81 Series Products.

External expansion products

3.2 Expansion Slot Cover Removal

Before installing the external expansion components, the expansion slot cover must be removed from the bottom cover of the TANK-XM81 series. Follow the steps below to complete the task.

Step 1: Turn the TANK-XM81 series over and remove the 6 screws on the bottom cover.

Step 2: Take off the bottom cover.

Step 3: Remove the expansion slot cover by removing the 2 retention screws from the bottom cover.

Step 4: Re-install the bottom cover and secure it with 6 screws removed previously.

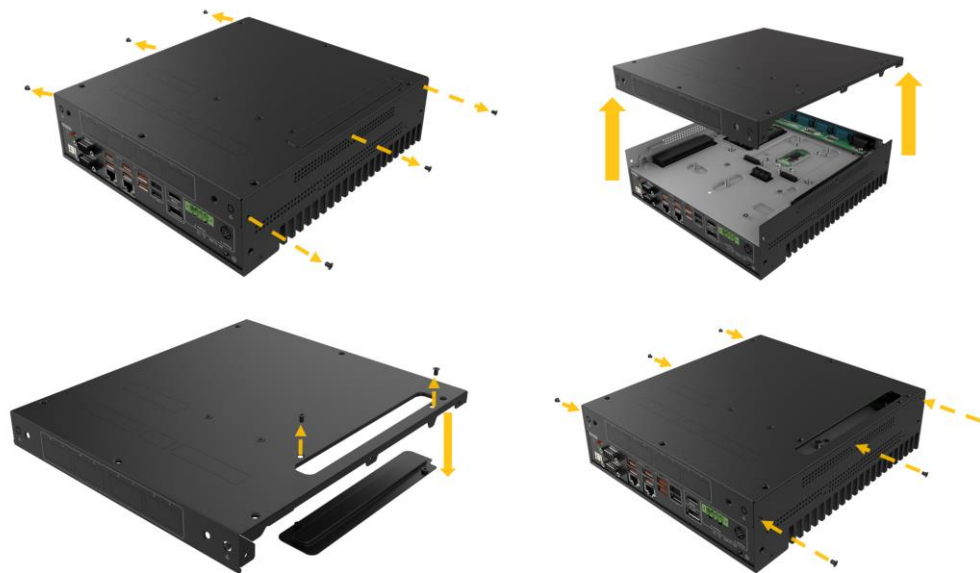


Figure 3-1: Expansion Slot Cover Removal

3.3 TXC-XM81-3S Installation

The TXC-XM81-3S chassis can be configured with the TXCBP-XM81-2A and TXCBP-XM81-2B backplanes. Before installing the chassis, install the backplane on the chassis, and then on the host. Follow the steps below to complete the task.

External expansion products

Step 1: Remove the nine screws from the cover of the TXC-XM81-3S chassis and remove the cover.

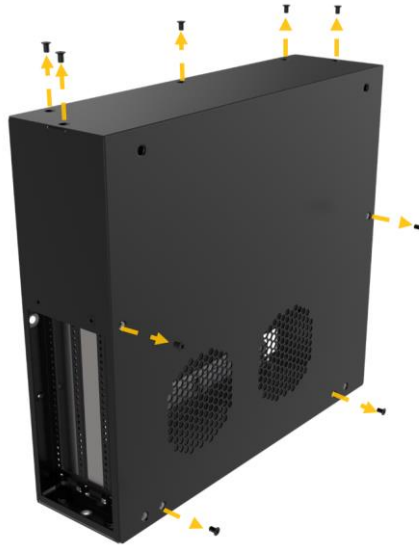


Figure 3-2: Remove the Cover of TXC-XM81-3S

Step 2: Remove the gold finger protection cover from the TXC-XM81-3S chassis by removing the two screws shown below.



Figure 3-3: Remove Gold Finger Protection Cover of TXC-XM81-3S

External expansion products

Step 3: Disassemble the gold finger protection cover. Secure the bottom plate to the base of the backplane by using 2 standoffs and 1 screw. Then use 4 screws to install the upper plate onto the backplane.

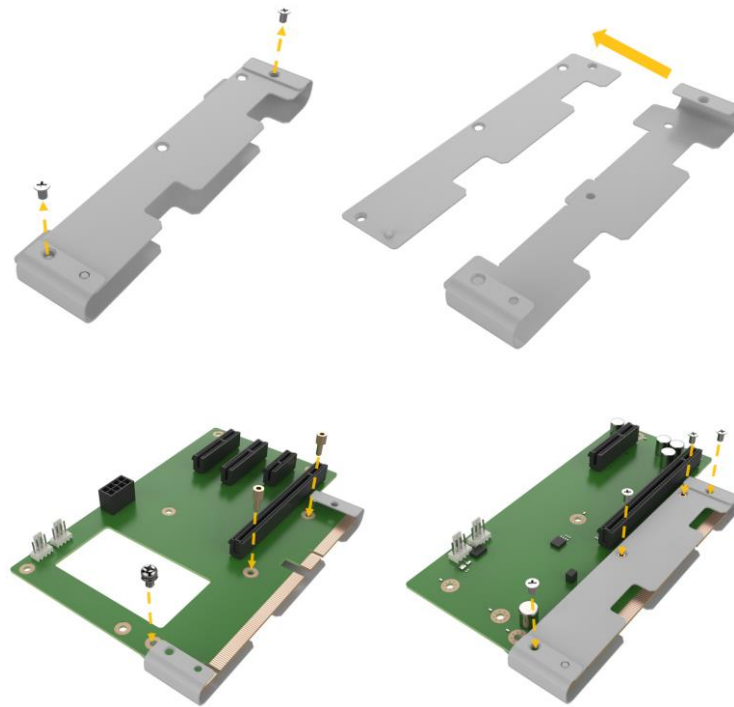


Figure 3-4: Install Gold Finger Protection Cover



External expansion products

Step 4: Insert the backplane into the TXC-XM81-3S chassis. Secure the backplane with five screws. Secure the gold finger protection cover with the 2 screws removed.



Figure 3-5: Install Backplane into TXC-XM81-3S

Step 5: Connect the fan cable from the TXC-XM81-3S chassis to the fan port on the backplane.



Figure 3-6: Install Fan Cable



External expansion products

Step 6: Insert the golden finger of the expansion chassis into the PCIe x16 slot of the TANK-XM81 series.



Figure 3-7: Install TXC-XM81-3S to the Host

Step 7: Use 6 screws to secure the TXC-XM81-3S chassis to the TANK-XM81 series.

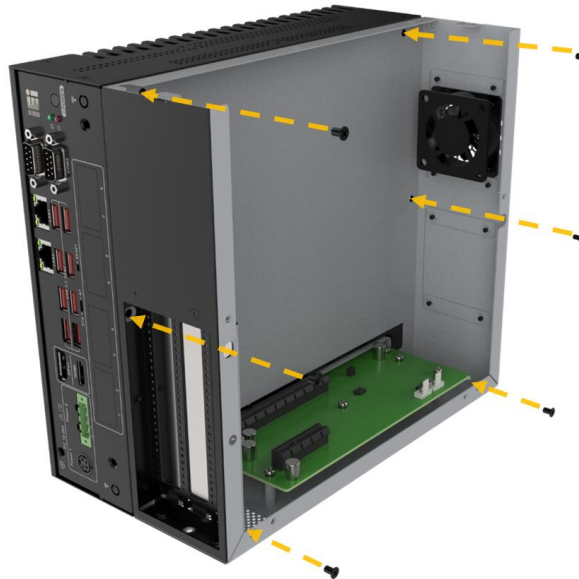


Figure 3-8: Secure TXC-XM81-3S to the Chassis

External expansion products

Step 8: Install the cover of the expansion chassis and secure it with the 9 screws previously removed.



Figure 3-9: Install Cover Screws of TXC-XM81-3S

3.4 TXC-XM81-4S Installation

The TXC-XM81-4S chassis can be configured with the TXCBP-XM81-4A, TXCBP-XM81-4B and TXCBP-XM81-4C backplanes. Before installing the chassis, install the backplane on the chassis, and then on the host. Follow the steps below to complete the task.

Step 1: Remove the 11 screws from the cover of the TXC-XM81-4S chassis and remove the cover.

External expansion products

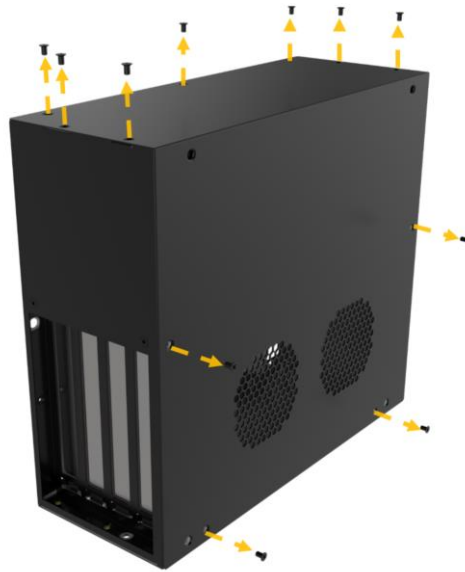


Figure 3-10: Remove the Cover of TXC-XM81-4S

Step 2: Remove the gold finger protection cover from the TXC-XM81-4S chassis by removing the two screws shown below.



Figure 3-11: Remove the Gold Finger Protection Cover of TXC-XM81-4S



External expansion products

Step 3: Disassemble the gold finger protection cover. Secure the bottom plate to the base of the backplane by using 2 standoffs and 1 screw. Then use 4 screws to install the upper plate onto the backplane.

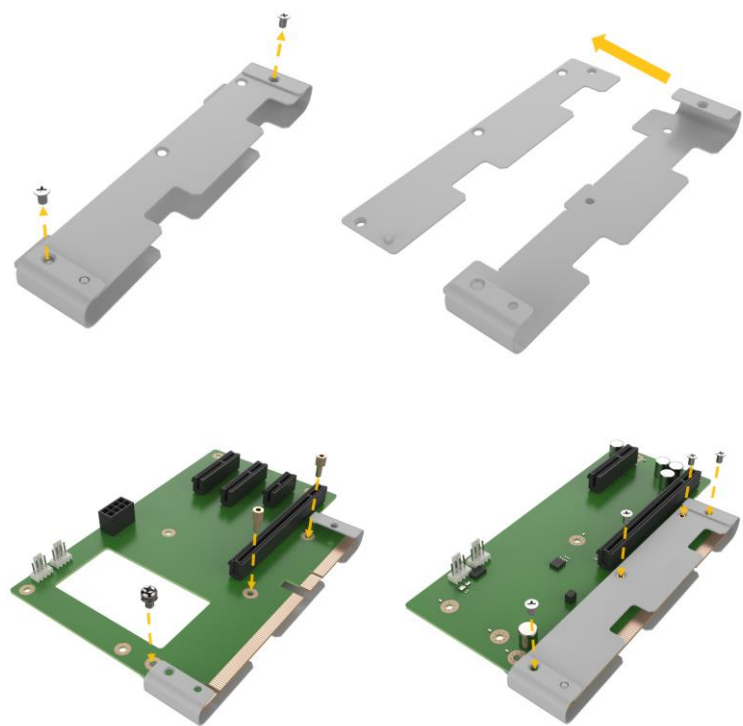


Figure 3-12: Install Gold Finger Protection Cover

External expansion products

Step 4: Insert the backplane into the TXC-XM81-4S chassis. Secure the backplane with five screws. Secure the gold finger protection cover with the 2 screws removed.

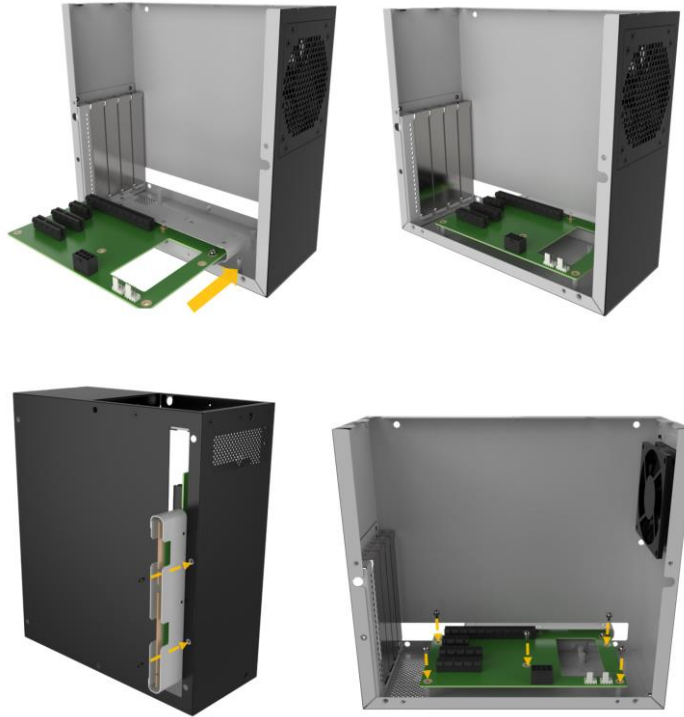


Figure 3-13: Install Backplane into TXC-XM81-4S

Step 5: Connect the fan cable from the TXC-XM81-4S to the fan port on the backplane.



Figure 3-14: Install Fan Cable



External expansion products

Step 6: Insert the golden finger of the expansion chassis into the PCIe x16 slot of the TANK-XM81 series.



Figure 3-15: Install TXC-XM81-4S to the Host

Step 7: Use 6 screws to secure the TXC-XM81-4S chassis to the TANK-XM81 series.



Figure 3-16: Secure TXC-XM81-4S to the Chassis



External expansion products

Step 8: Install the cover of the expansion chassis and secure it with the 11 screws previously removed.



Figure 3-17: Install Cover Screws of TXC-XM81-4S

3.5 TXC-XM81-G1 Installation

The TXC-XM81-G1 chassis can be configured with the TXCBP-XM81-4A backplanes. Before installing the chassis, install the backplane on the chassis, and then on the host. Follow the steps below to complete the task.

Step 1: Remove the nine screws from the cover of the TXC-XM81-G1 chassis and remove the cover.

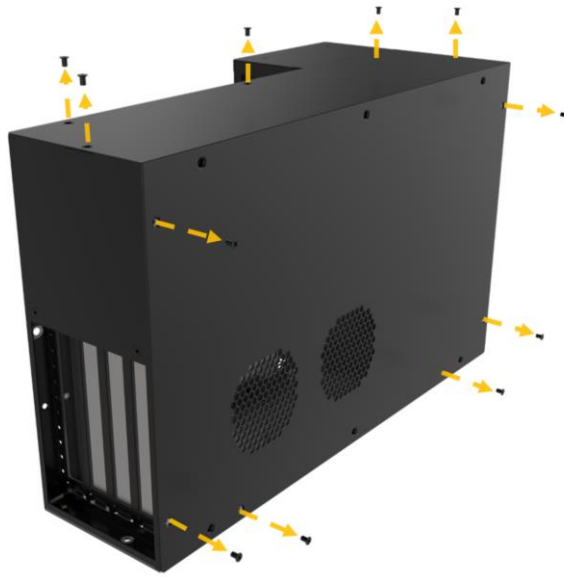


Figure 3-18: Remove the Cover of TXC-XM81-G1

Step 2: Remove the gold finger protection cover from the TXC-XM81-G1 chassis by removing the two screws shown below.



Figure 3-19: Remove the Gold Finger Protection Cover of TXC-XM81-G1

External expansion products

Step 3: Disassemble the gold finger protection cover. Secure the bottom plate to the base of the backplane by using 2 standoffs and 1 screw. Then use 4 screws to install the upper plate onto the backplane.

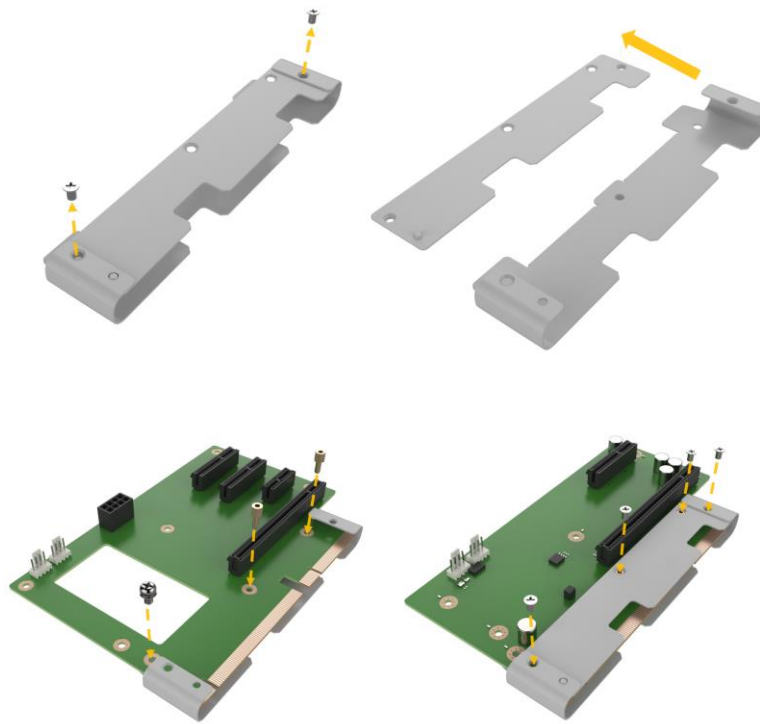


Figure 3-20: Install Gold Finger Protection Cover



External expansion products

Step 4: Insert the backplane into the TXC-XM81-4S chassis. Secure the backplane with five screws. Secure the gold finger protection cover with the 2 screws removed.

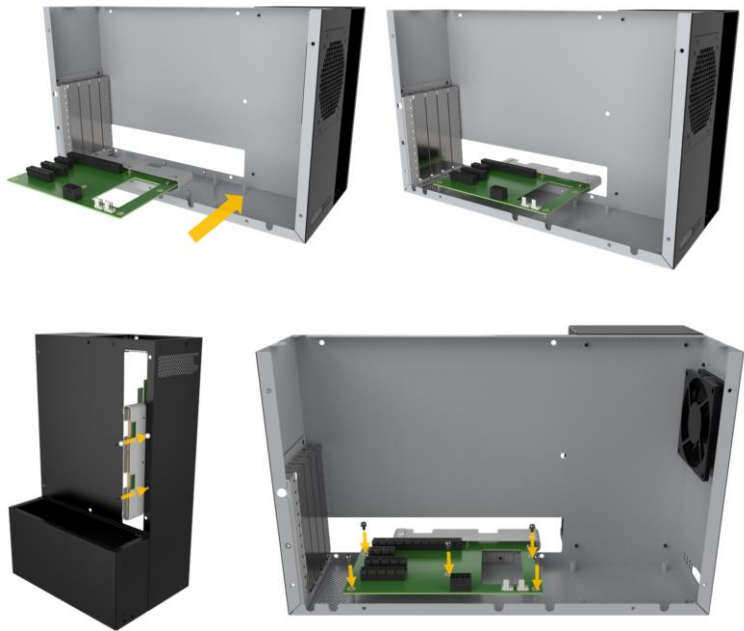


Figure 3-21: Install Backplane into TXC-XM81-G1

Step 5: Connect the fan cable from the TXC-XM81-G1 chassis to the fan port on the backplane.

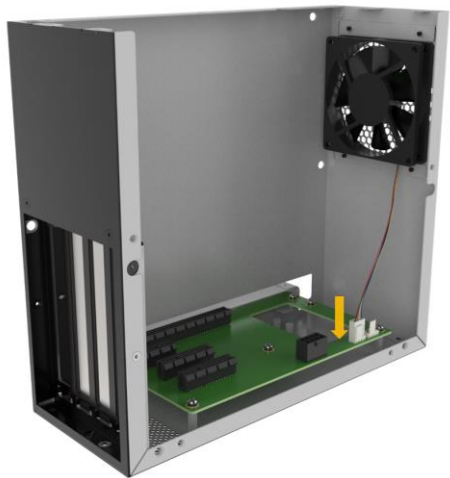


Figure 3-22: Install Fan Cable



External expansion products

Step 6: Insert the golden finger of the expansion chassis into the PCIe x16 slot of the TANK-XM81 series



Figure 3-23: Install TXC-XM81-G1 to the Host

Step 7: Use 6 screws to secure the TXC-XM81-G1 chassis to the TANK-XM81 series.



Figure 3-24: Secure TXC-XM81-G1 to the Chassis

External expansion products

Step 8: Install the cover of the expansion chassis and secure it with the 11 screws previously removed



Figure 3-25: Install Cover Screws of TXC-XM81-G1

3.6 TXC-XM81-G2 Installation

The TXC-XM81-G2 chassis can be configured with the TXCBP-XM81-G2 backplanes. Before installing the chassis, install the backplane on the chassis, and then on the host. Follow the steps below to complete the task.

Step 1: Remove the 13 screws from the cover of the TXC-XM81-G2 chassis and remove the cover.

External expansion products

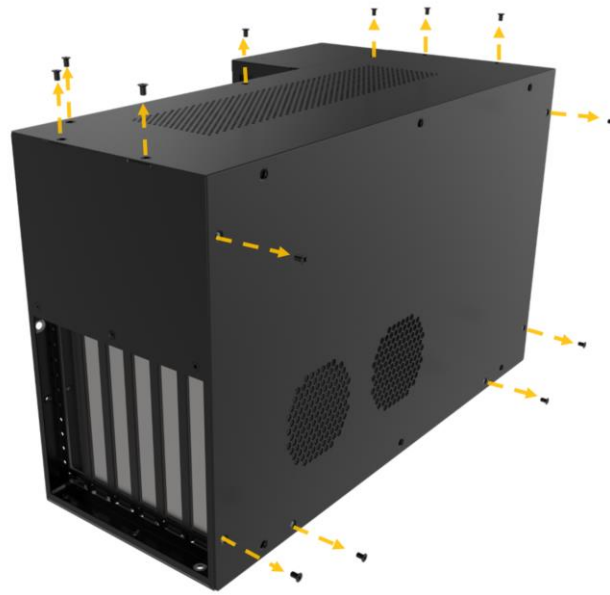


Figure 3-26: Remove the Cover of TXC-XM81-G2

Step 2: Remove the gold finger protection cover from the TXC-XM81-G2 chassis by removing the two screws shown below.



Figure 3-27: Remove the Gold Finger Protection Cover of TXC-XM81-G2



External expansion products

Step 3: Disassemble the gold finger protection cover. Secure the bottom plate to the base of the backplane by using 2 standoffs and 1 screw. Then use 4 screws to install the upper plate onto the backplane.

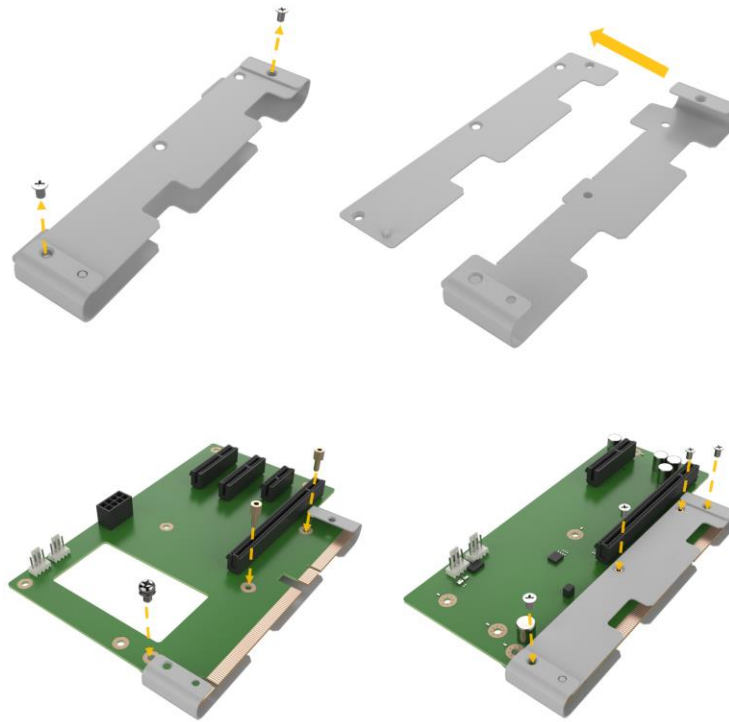


Figure 3-28: Install Gold Finger Protection Cover

External expansion products

Step 4: Insert the backplane into the TXC-XM81-G2 chassis. Secure the backplane with five screws. Secure the gold finger protection cover with the 2 screws removed.

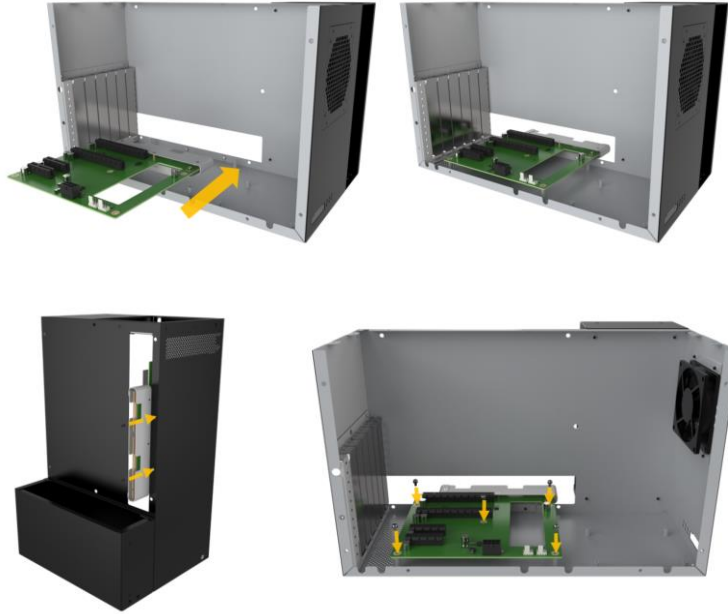


Figure 3-29: Install Backplane into TXC-XM81-G2

Step 5: Connect the fan cable from the TXC-XM81-G2 chassis to the fan port on the backplane.



Figure 3-30: Install Fan Cable



External expansion products

Step 6: Insert the golden finger of the expansion chassis into the PCIe x16 slot of the TANK-XM81 series



Figure 3-31: Install TXC-XM81-G2 to the Host

Step 7: Use 6 screws to secure the TXC-XM81-G2 chassis to the TANK-XM81 series.



Figure 3-32: Secure TXC-XM81-G2 to the Chassis



External expansion products

Step 8: Install the cover of the expansion chassis and secure it with the 13 screws previously removed



Figure 3-33: Install Cover Screws of TXC-XM81-G2

3.7 IDD-X1228150 Installation

The IDD-X1228150 power supply module can provide auxiliary power supply support for the TANK-XM81 series, and can provide two power supply schemes: 12V 380W or 16-28V 150W. It can be installed either on the chassis base or into the backplane. To install it, follow the steps described below.

The IDD-X1228150 is shipped with 2 types of power cables. One can be connected to the backplane (please refer to the backplane specification). The other one can be connected to the graphics card (if the graphics card needs more cables, please contact IEI to purchase).



External expansion products

3.7.1 Onto the Chassis Base (for Front I/O)

Step 1: Use four screws to install the IDD-X1228150 power module onto the base of the TXC-XM81-G1 or TXC-XM81-G2 expansion chassis as shown below.



Figure 3-34: Install IDD-X1228150

Step 2: Connect the power cable from the IDD-X1228150 to backplane.

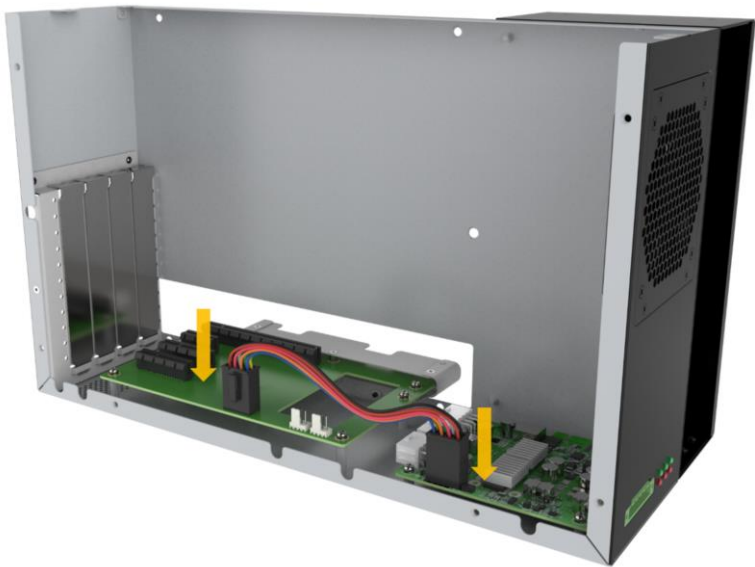


Figure 3-35: Connect Power Cable to Backplane

External expansion products

Or connect the power cable to the graphics card.



Figure 3-36: Connect Power Cable to Add-on Card

Step 3: Connect a power supply to the power input connectors of the host and the power module. Ensure the wires are connected to the terminal blocks correctly. Please refer to **Section 4.7** and the user manual of the TANK-XM81 for the pin defines of the power input connectors.



Figure 3-37: Connect with Power Supply



External expansion products

3.7.2 Into the Backplane (for Rear I/O)

Step 1: Install the IO bracket onto the IDD-X1228150 and secure it with 2 screws.

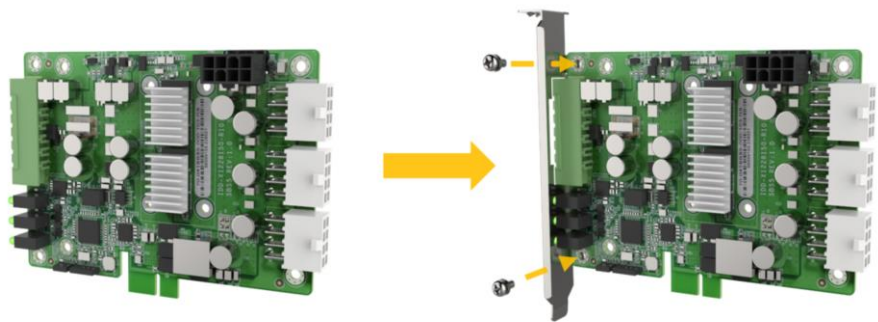


Figure 3-38: Install IO bracket

Step 2: Insert the IDD-X1228150 into the PCIe slot of the backplane. Use screws to secure the power module to the rear of the TXC-XM81 series expansion chassis.



Figure 3-39: Install power module

Step 3: Connect the power cable from the IDD-X1228150 to the backplane.

External expansion products



Figure 3-40: Connect Power Cable to Backplane

Or connect the power cable to the graphics card.

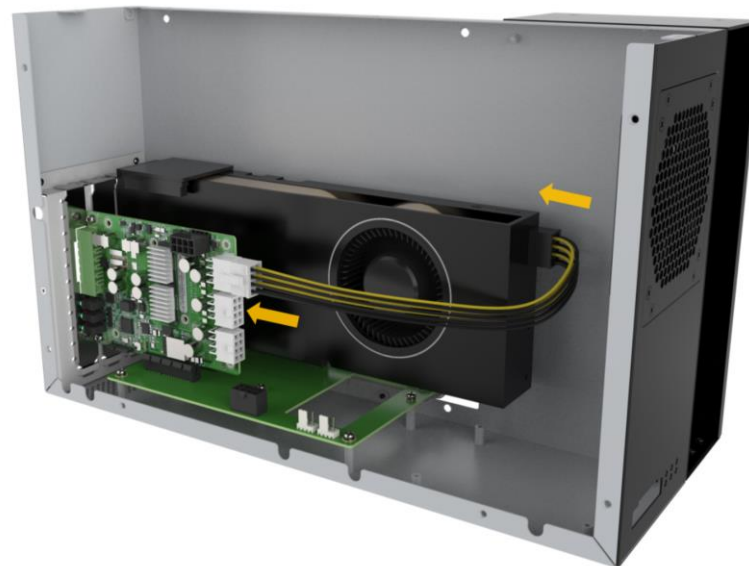


Figure 3-41: Connect Power Cable to Add-on Card

Step 4: Connect a power supply to the power input connectors of the host and the power module. Ensure the wires are connected to the terminal blocks correctly. Please



External expansion products

refer to **Section 4.7** and the user manual of the TANK-XM81 for the pin defines of the power input connectors.



Figure 3-42: Connect with Power Supply



External expansion products

3.8 Available Drivers

All the drivers for the TANK-XM81 Series External Expansion Products are available on IEI Resource Download Center (<https://download.ieiworld.com>). Type TANK-XM81 Series External Expansion Products and press Enter to find all the relevant software, utilities, and documentation.

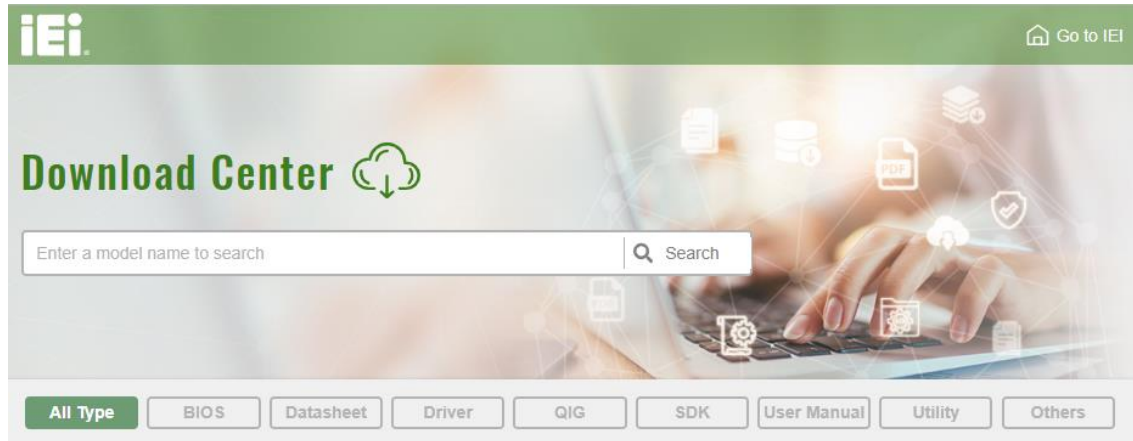


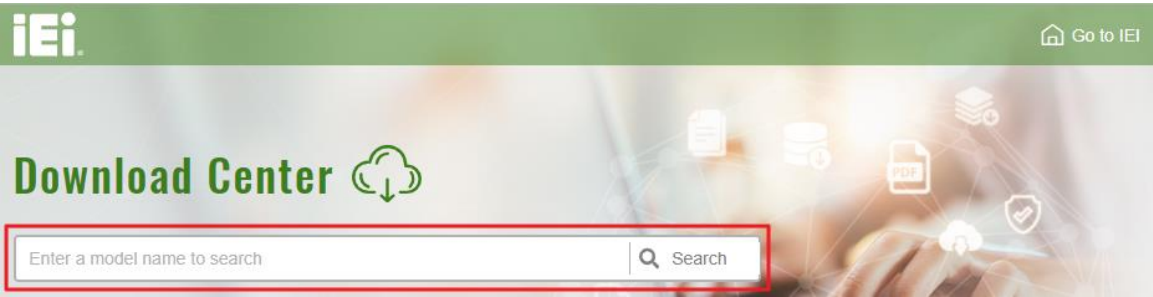
Figure 3-43: IEI Resource Download Center



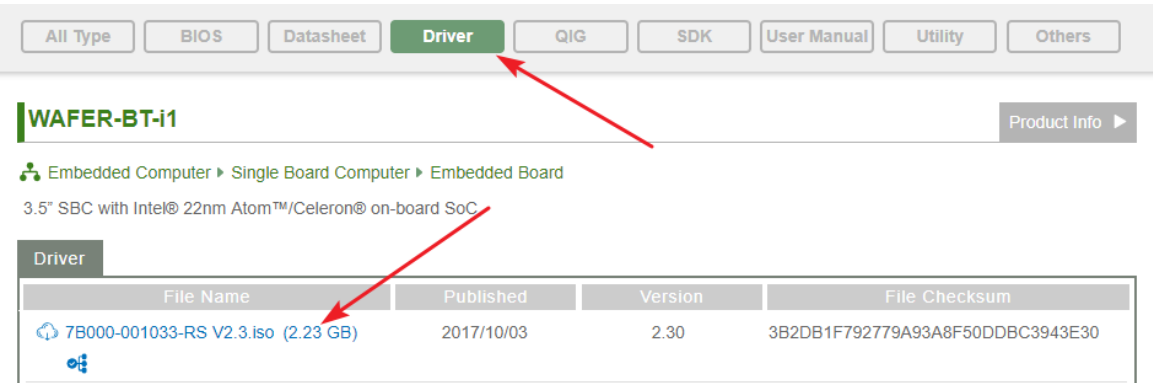
3.8.1 Driver Download

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

Step 1: Go to <https://download.ieiworld.com>. Type TANK-XM81 Series External Expansion Products and press Enter.

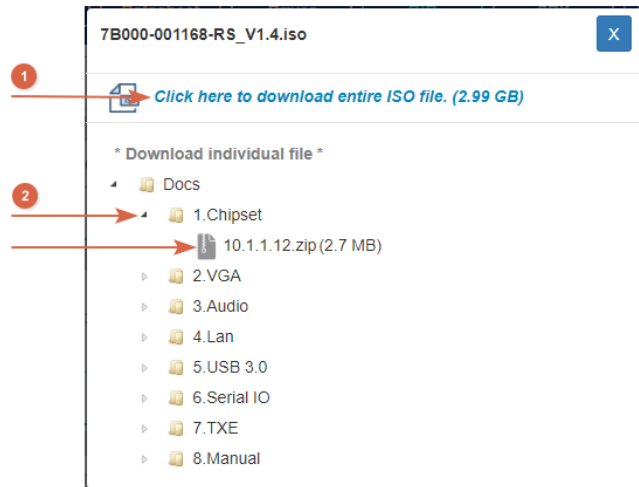


Step 2: All product-related software, utilities, and documentation will be listed. You can choose **Driver** to filter the result.



External expansion products

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

External expansion products

TANK-XM81 series products provide a variety of expansion backplanes. Through the PCIe expansion interface customized by IEI, a variety of functions can be expanded. The connectors and jumpers of the expansion boards are listed in the following sections.

4.1 TXCBP-XM81-2A

4.1.1 Layout

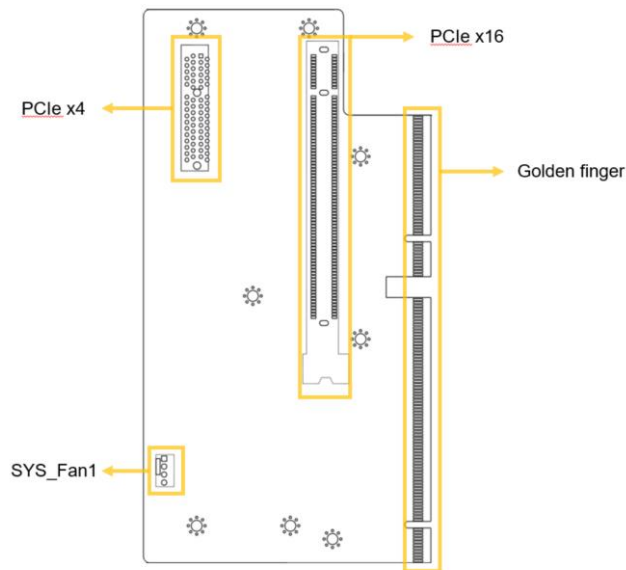


Figure 4-1: Connector and Jumper Locations (TXCBP-XM81-2A)

4.1.2 Peripheral Interface Connectors

The table below lists all the connectors on the board.

Connector	Type	Label
PCIe x16 slot	PCIe slot for add-on card	PCIE1
PCIe x4 slot	PCIe slot for add-on card	PCIEX4_1
Fan connector	4-pin wafer	CPU_FAN1

Table 4-1: Peripheral Interface Connectors (TXCBP-XM81-2A)



4.1.3 Fan Connector

- CN Label: SYS_FAN1
- CN Type: 4-pin wafer, p=2.54 mm
- CN Location: See Figure 4-2
- CN Pinouts: See Table 4-2

The fan connector attaches to a smart cooling fan

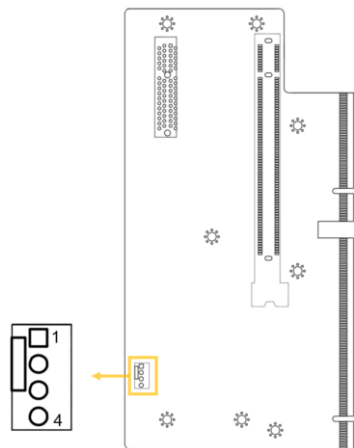


Figure 4-2: Fan Connector Location (TXCBP-XM81-2A)

Pin	Description	Pin	Description
1	GND	2	+12V
3	FANIO	4	PWM

Table 4-2: Fan Connector Pinouts (TXCBP-XM81-2A)



External expansion products

4.2 TXCBP-XM81-2B

4.2.1 Layout

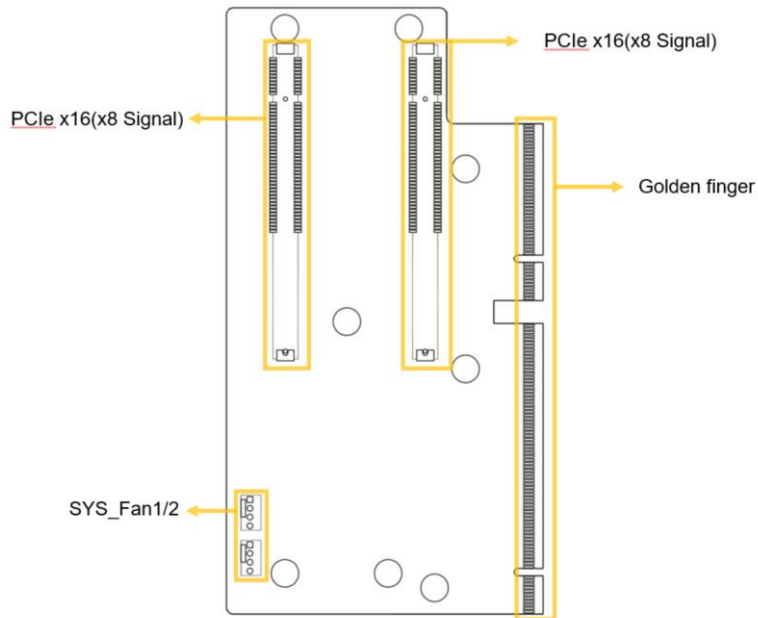


Figure 4-3: Connector and Jumper Locations (TXCBP-XM81-2B)

4.2.2 Peripheral Interface Connectors

The table below lists all the connectors on the board.

Connector	Type	Label
PCIe x16 slots	PCIe slot for add-on card	PCIE1 PCIE2
Fan connectors	4-pin wafer	SYS_FAN1 SYS_FAN2

Table 4-3: Peripheral Interface Connectors (TXCBP-XM81-2B)



4.2.3 Fan Connector

- CN Label: SYS_FAN1
- CN Type: 4-pin wafer, p=2.54 mm
- CN Location: See Figure 4-4
- CN Pinouts: See Table 4-4

The fan connector attaches to a smart cooling fan

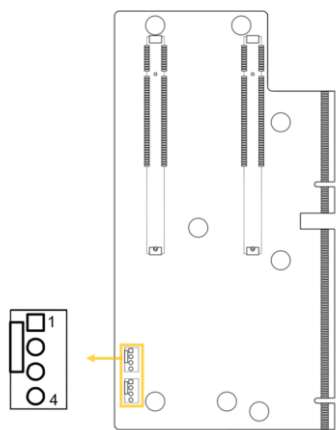


Figure 4-4: Fan Connector Location (TXCBP-XM81-2B)

Pin	Description	Pin	Description
1	GND	2	+12V
3	FANIO	4	PWM

Table 4-4: Fan Connector Pinouts (TXCBP-XM81-2B)



External expansion products

4.3 TXCBP-XM81-4A

4.3.1 Layout

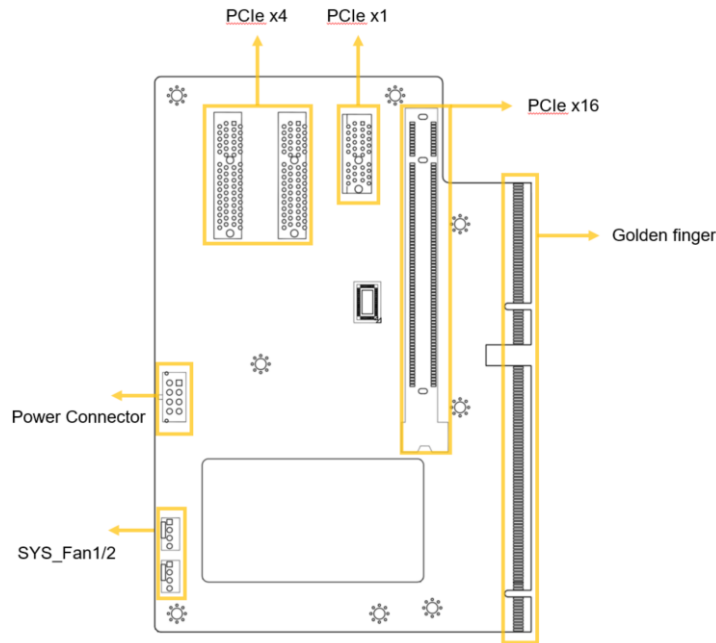


Figure 4-5: Connector and Jumper Locations (TXCBP-XM81-4A)

4.3.2 Peripheral Interface Connectors

The table below lists all the connectors on the board.

Connector	Type	Label
PCIe x16 slot	PCIe slot for add-on card	PCIEX16_SLOT1
PCIe x1 slot	PCIe slot for add-on card	PCIEX1_1
PCIe x4 slots	PCIe slot for add-on card	PCIEX4_1 PCIEX4_2
Power connector	2x4 pin header	PW1
Fan connectors	4-pin wafer	SYS_FAN1 SYS_FAN2

Table 4-5: Peripheral Interface Connectors (TXCBP-XM81-4A)



4.3.3 Fan Connector

- CN Label: SYS_FAN1, SYS_FAN2
- CN Type: 4-pin wafer, p=2.54 mm
- CN Location: See Figure 4-6
- CN Pinouts: See Table 4-6

The fan connector attaches to a smart cooling fan

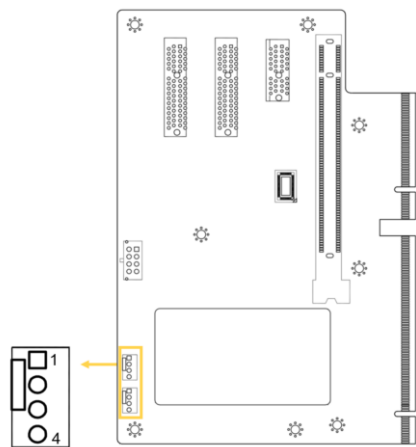


Figure 4-6: Fan Connector Location (TXCBP-XM81-4A)

Pin	Description	Pin	Description
1	GND	2	+12V
3	FANIO	4	PWM

Table 4-6: Fan Connector Pinouts (TXCBP-XM81-4A)



External expansion products

4.3.4 Power Connector

- CN Label:** PW1
- CN Type:** 8-pin header, p=3 mm
- CN Location:** See Figure 4-7
- CN Pinouts:** See Table 4-7

Use the power connector to connect the power cable to the power module.

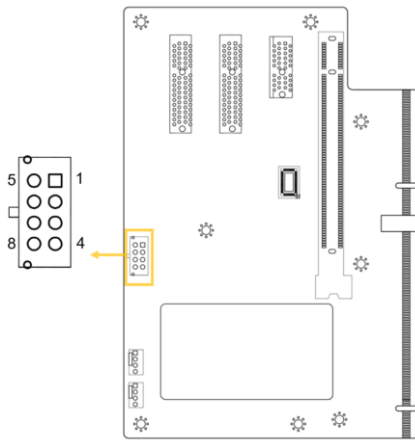


Figure 4-7: Power Connector Location (TXCBP-XM81-4A)

Pin	Description	Pin	Description
1	+12V	2	+12V
3	GND	4	BP_PWR_GPIO_EC
5	+12V	6	GND
7	+12A	8	PW_SW

Table 4-7: Power Connector Pinouts (TXCBP-XM81-4A)

4.4 TXCBP-XM81-4B

4.4.1 Layout

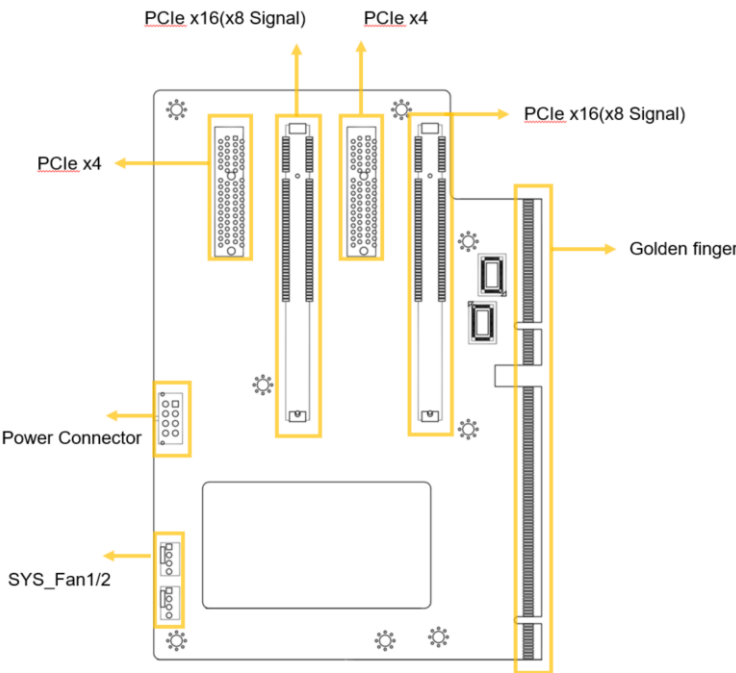


Figure 4-8: Connector and Jumper Locations (TXCBP-XM81-4B)

4.4.2 Peripheral Interface Connectors

The table below lists all the connectors on the board.

Connector	Type	Label
PCIe x16 slots	PCIe slot for add-on card	PCIE1 PICE2
PCIe x4 slots	PCIe slot for add-on card	PCIEX4_1 PCIEX4_2
Power connector	2x4 pin header	PW1
Fan connectors	4-pin wafer	SYS_FAN1 SYS_FAN2

Table 4-8: Peripheral Interface Connectors (TXCBP-XM81-4B)

External expansion products

4.4.3 Fan Connector

CN Label: SYS_FAN1, SYS_FAN2

CN Type: 4-pin wafer, p=2.54 mm

CN Location: See Figure 4-9

CN Pinouts: See Table 4-9

The fan connector attaches to a smart cooling fan

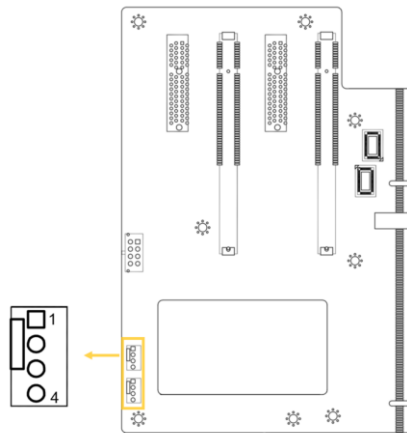


Figure 4-9: Fan Connector Location (TXCBP-XM81-4B)

Pin	Description	Pin	Description
1	GND	2	+12V
3	FANIO	4	PWM

Table 4-9: Fan Connector Pinouts (TXCBP-XM81-4B)



4.4.4 Power Connector

- CN Label: PW1
- CN Type: 8-pin wafer, p=3 mm
- CN Location: See Figure 4-10
- CN Pinouts: See Table 4-10

Use the power connector to connect the power cable to the power module.

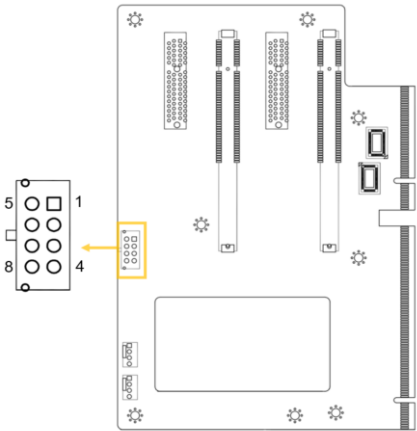


Figure 4-10: Power Connector Location (TXCBP-XM81-4B)

Pin	Description	Pin	Description
1	+12V	2	+12V
3	GND	4	BP_PWR_GPIO_EC
5	+12V	6	GND
7	+12A	8	PW_SW

Table 4-10: Power Connector Pinouts (TXCBP-XM81-4B)



External expansion products

4.5 TXCBP-XM81-4C

4.5.1 Layout

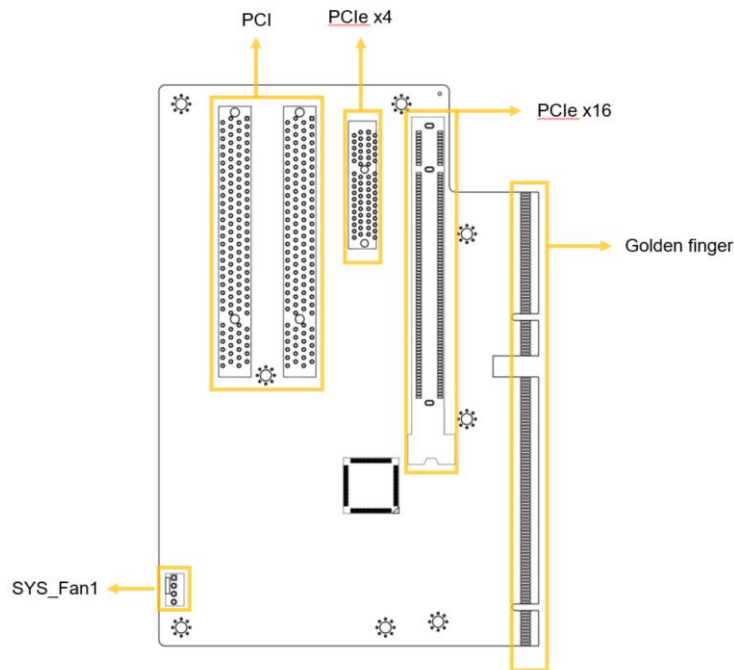


Figure 4-11: Connector and Jumper Locations (TXCBP-XM81-4C)

4.5.2 Peripheral Interface Connectors

The table below lists all the connectors on the board.

Connector	Type	Label
PCIe x16 slot	PCIe slot for add-on card	PCIEX16_SLOT1
PCIe x4 slot	PCIe slot for add-on card	PCIEX4_1
PCI slot	PCI slot for add-on card	PCI1 PCI2
Fan connectors	4-pin wafer	SYS_FAN1

Table 4-11: Peripheral Interface Connectors (TXCBP-XM81-4C)



4.5.3 Fan Connector

- CN Label: SYS_FAN1
- CN Type: 4-pin wafer, p=2.54 mm
- CN Location: See Figure 4-12
- CN Pinouts: See Table 4-12

The fan connector attaches to a smart cooling fan

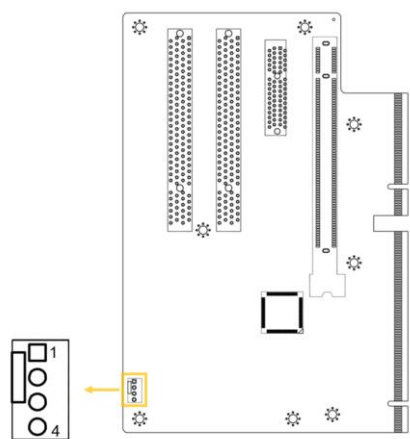


Figure 4-12: Fan Connector Location (TXCBP-XM81-4C)

Pin	Description	Pin	Description
1	GND	2	+12V
3	FANIO	4	PWM

Table 4-12: Fan Connector Pinouts (TXCBP-XM81-4C)



External expansion products

4.6 TXCBP-XM81-G2

4.6.1 Layout

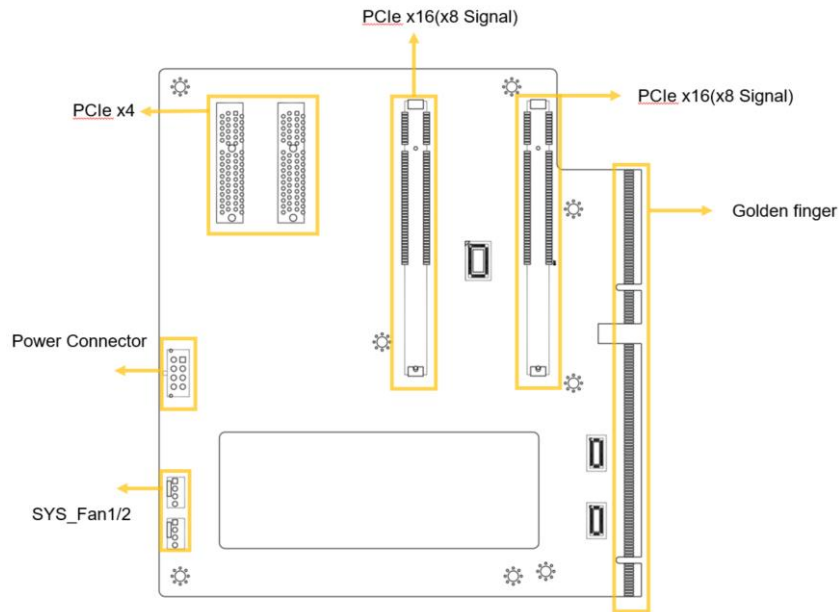


Figure 4-13: Connector and Jumper Locations (TXCBP-XM81-G2)

4.6.2 Peripheral Interface Connectors

The table below lists all the connectors on the board.

Connector	Type	Label
PCIe x16 slots	PCIe slot for add-on card	PCIE1 PCIE2
PCIe x4 slots	PCIe slot for add-on card	PCIEX4_1 PCIEX4_2
Power connector	2x4 pin header	PW1
Fan connectors	4-pin wafer	SYS_FAN1 SYS_FAN2

Table 4-13: Peripheral Interface Connectors (TXCBP-XM81-G2)



4.6.3 Fan Connector

- CN Label: SYS_FAN1, SYS_FAN2
- CN Type: 4-pin wafer, p=2.54 mm
- CN Location: See Figure 4-14
- CN Pinouts: See Table 4-14

The fan connector attaches to a smart cooling fan

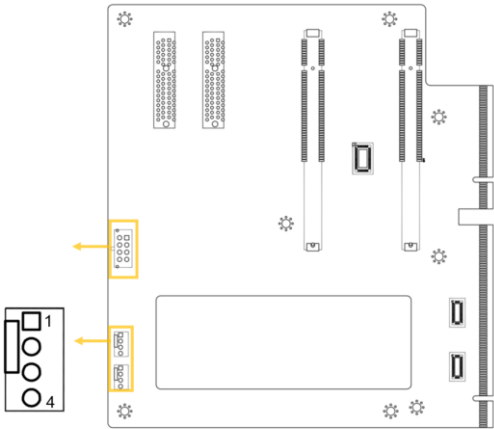


Figure 4-14: Fan Connector Location (TXCBP-XM81-G2)

Pin	Description	Pin	Description
1	GND	2	+12V
3	FANIO	4	PWM

Table 4-14: Fan Connector Pinouts (TXCBP-XM81-G2)



External expansion products

4.6.4 Power Connector

- CN Label:** PW1
- CN Type:** 8-pin wafer, p=3 mm
- CN Location:** See Figure 4-15
- CN Pinouts:** See Table 4-15

Use the power connector to connect the power cable to the power module.

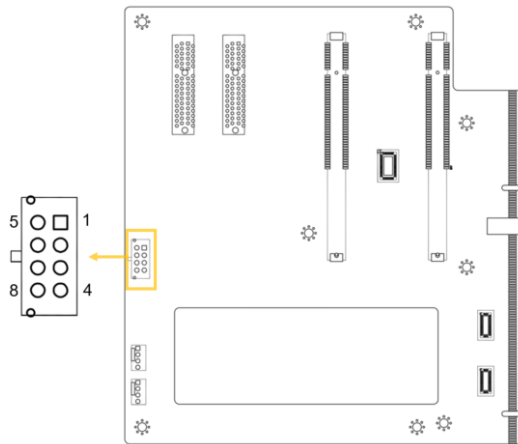


Figure 4-15: Power Connector Location (TXCBP-XM81-G2)

Pin	Description	Pin	Description
1	+12V	2	+12V
3	GND	4	BP_PWR_GPIO_EC
5	+12V	6	GND
7	+12A	8	PW_SW

Table 4-15: Power Connector Pinouts (TXCBP-XM81-G2)

4.7 IDD-X1228150

4.7.1 Layout

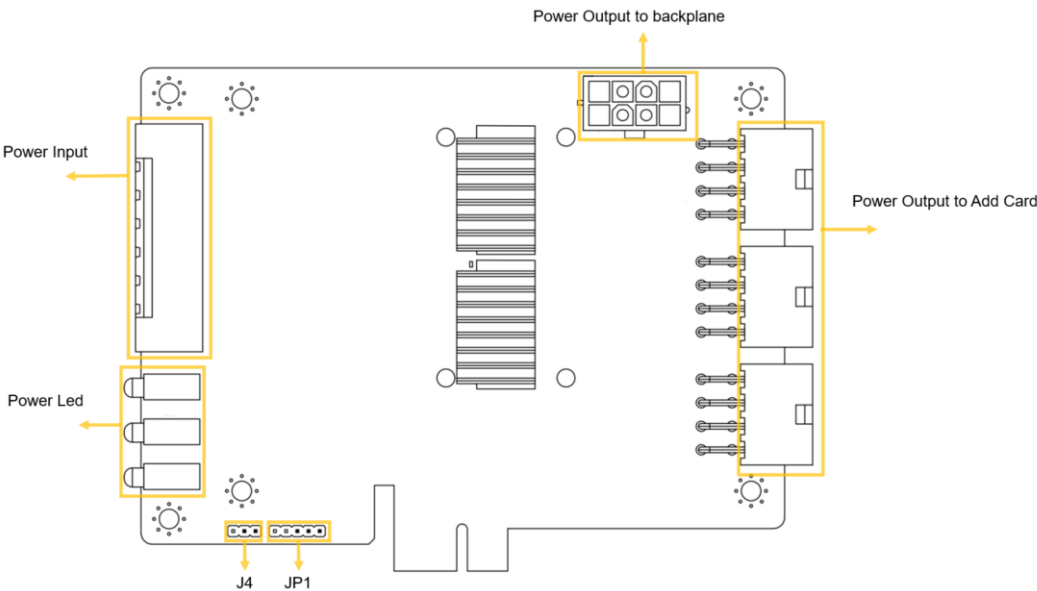


Figure 4-16: Connector and Jumper Locations (IDD-X1228150)

4.7.2 Peripheral Interface Connectors

The table below lists all the connectors on the board.

Connector	Type	Label
Power input	1x6 pin terminal block	CN1
LED	LED	LED1, LED2, LED3
Power output to add-on card	2x4 pin header	J1, J2, J3
Power output to backplane	2x4 pin header	PW1
MCU programming connector	1x5 pin header	JP1
MCU programming connector	1x3 pin header	J4

Table 4-16: Peripheral Interface Connectors (IDD-X1228150)

External expansion products

4.7.3 Power Input Connector

- CN Label:** CN1
- CN Type:** 6-pin terminal block, p=5.08 mm
- CN Location:** See Figure 4-17
- CN Pinouts:** See Table 4-17

The power input connector connects to power supply.

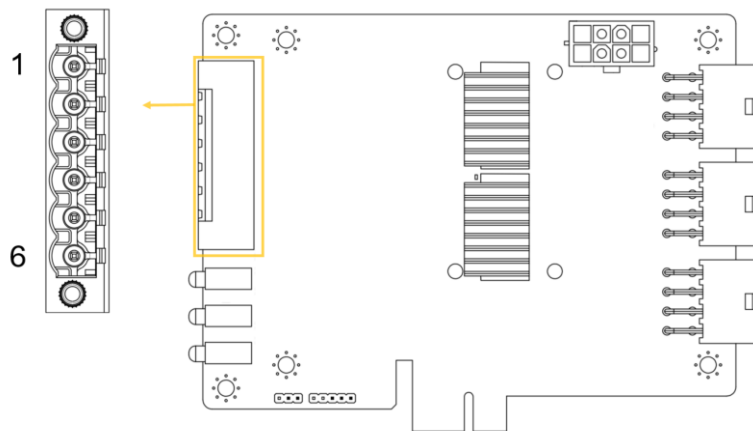


Figure 4-17: Power Input Connector Location (IDD-X1228150)

Pin	Description	Pin	Description
1	DC_IN	2	DC_IN
3	DC_IN	4	GND
5	GND	6	GND

Table 4-17: Power Input Connector Pinouts (IDD-X1228150)

4.7.4 Power Output Connector (to Backplane)

- CN Label:

PW1
- CN Type:

8-pin wafer, p=3 mm
- CN Location:

See Figure 4-18
- CN Pinouts:

See Table 4-18

Use the power output connector to connect the power cable to the backplane.

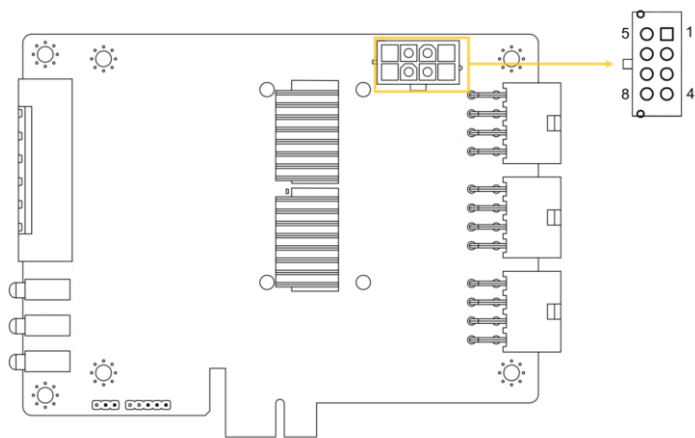


Figure 4-18: Power Output1 Connector Location (IDD-X1228150)

Pin	Description	Pin	Description
1	+12V	2	+12V
3	GND	4	BP_PWR_GPIO_EC
5	+12V	6	GND
7	+12A	8	PW_SW

Table 4-18: Power Output1 Connector Pinouts (IDD-X1228150)

External expansion products

4.7.5 Power Output Connector (to Add-on Card)

- CN Label:** J1,J2,J3
- CN Type:** 8-pin wafer, p=4.2 mm
- CN Location:** See Figure 4-19
- CN Pinouts:** See Table 4-19

Use the power output connector to connect the power cable to add-on cards.

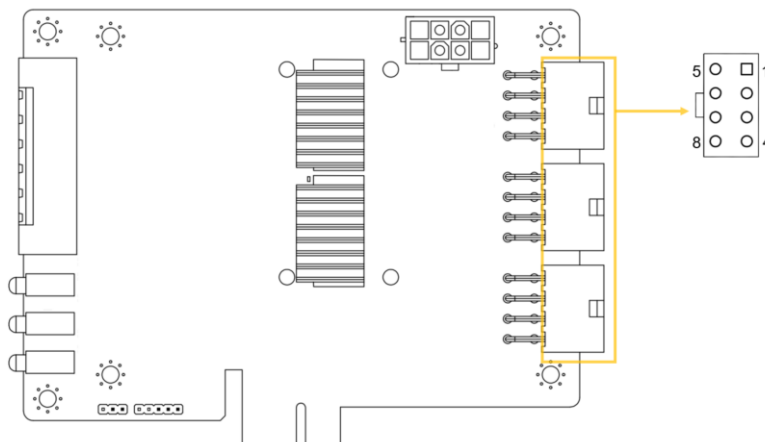


Figure 4-19: Power Output2 Connector Location (IDD-X1228150)

Pin	Description	Pin	Description
1	+12V	2	+12V
3	+12V	4	GND
5	GND	6	GND
7	GND	8	GND

Table 4-19: Power Output2 Connector Pinouts (IDD-X1228150)



4.7.6 Power LED Indicators

- CN Label: LED1, LED2, LED3
- CN Type: LED
- CN Location: See Figure 4-20
- CN Pinouts: See Table 4-20

The LED indicators show the power status.

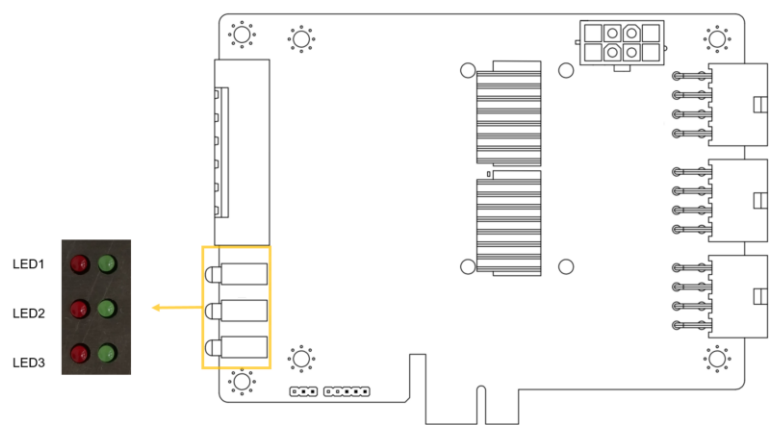


Figure 4-20: LED Indicator Locations (IDD-X1228150)

LED Indicator		Description				
LED1	RED	On	Wide voltage input	Of	12V input	Alternately flashing indicates a fault. Please check the input and output
	GREED	Off		On		
LED2	RED	Off		On		
	GREED	On		Of		
LED3	RED	On	being output			
	GREED	On	output with load			

Table 4-20: LED Indicator Status (IDD-X1228150)