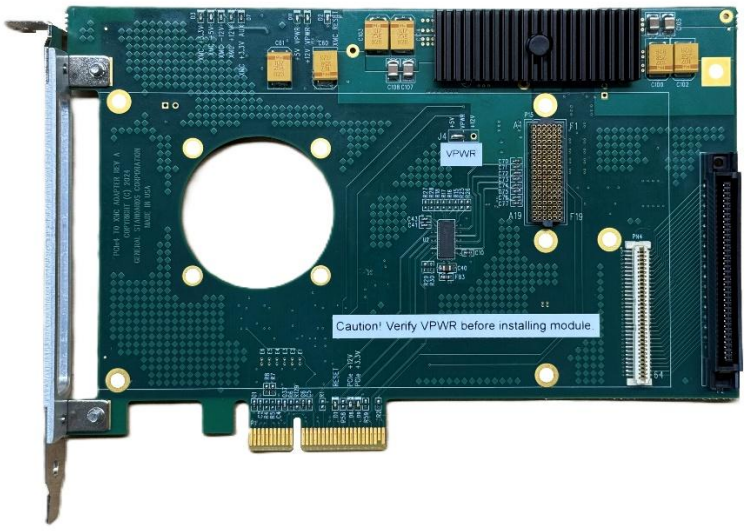
PCIe4 to XMC Adapter

USER MANUAL



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1. INTRODUCTION

1.1 OVERVIEW

The PCIe4 to PMC Adapter (Figure 1) allows a single width XMC module to be installed on a standard height PCI Express board. The PCI Express x4 link from the host board is connected to the XMC module via a PCIe redriver. Other options include RIO, external fan, and a selectable VPWR.

This Adapter requires +12V and +3.3V from the PCIe bus connector. The +12V from the PCIe bus connector is used to generate the supplies for the XMC card providing up to 25W(all supplies combined). The +3.3V from the PCIe bus connector is used for the redriver device.

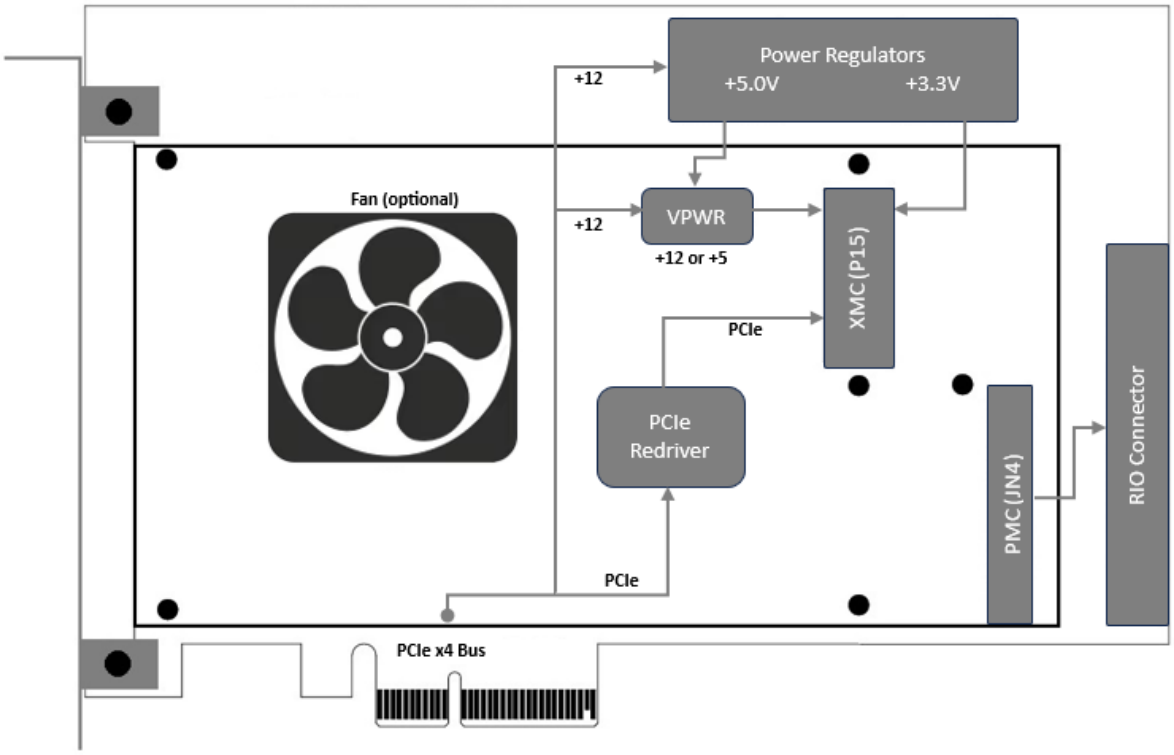


Figure 1.1 PCIe4 to PMC Adapter; Functional Organization

RIO connections are made through a single 68-pin I/O connector. Power requirements consist of +3.3 VDC and +12V, in compliance with the PCIe specification, and operation over the specified temperature range is achieved with conventional convection cooling.

2. INSTALLATION

2.1 BOARD CONFIGURATION

This product has no field-alterable configuration features and is completely configured at the factory for field use.

2.2 PHYSICAL INSTALLATION

To minimize the opportunity for accidental damage before installation, the board should be stored in the original protective shipping envelope. System power must be turned OFF before proceeding with the installation.

> **CAUTION:** This product is susceptible to damage from electrostatic discharge (ESD). Before removing the board from the conductive shipping envelope, ensure that the work surface, the installer and the host board have been properly discharged to ground.

After removing the board from the shipping container, position the board with the P15 mezzanine connector facing the mating connector on the host board (Figure 2). Then carefully press the board into position on the host. Verify that the P15 connector has mated completely and that the board is seated firmly against the host. Then attach the board to the host by passing the mounting screws through the host board into the corresponding mounting holes in the standoffs and front-panel bezel. Tighten the screws carefully to complete the installation. Do not overtighten.

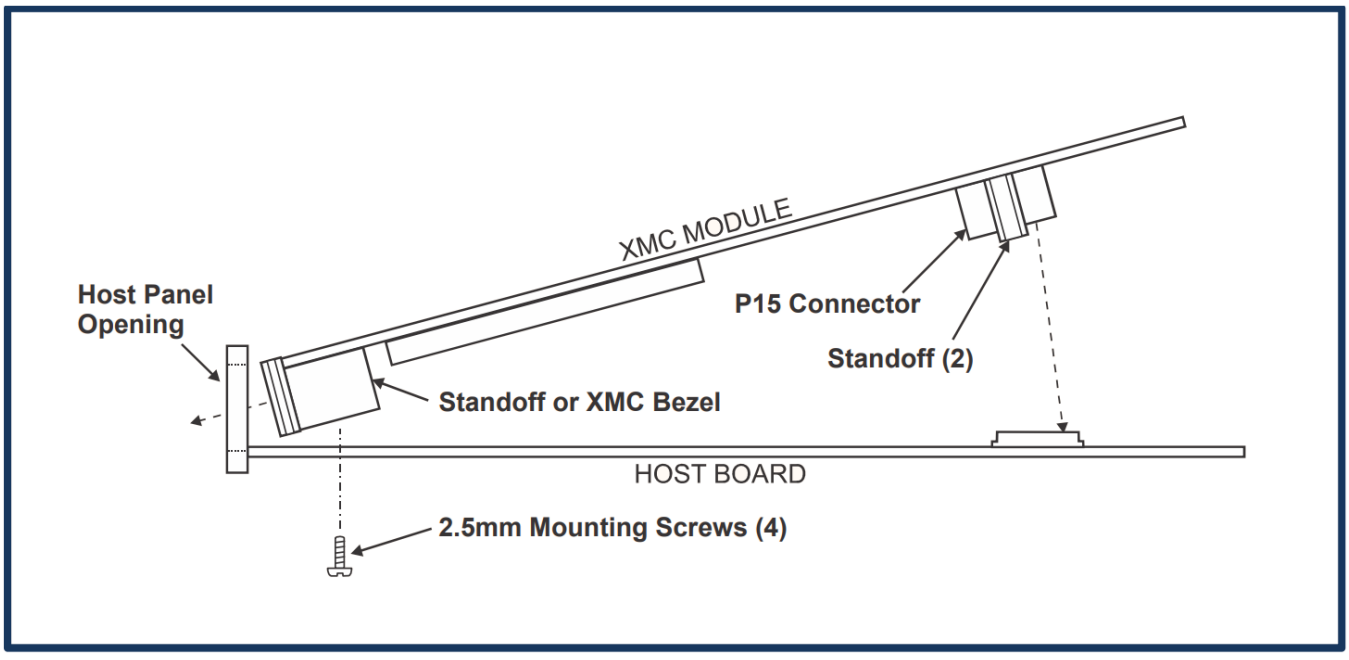


Figure 2.1 Mechanical Installation

3. INDICATORS

3.1 LEDS

LED descriptions are listed in the table below.

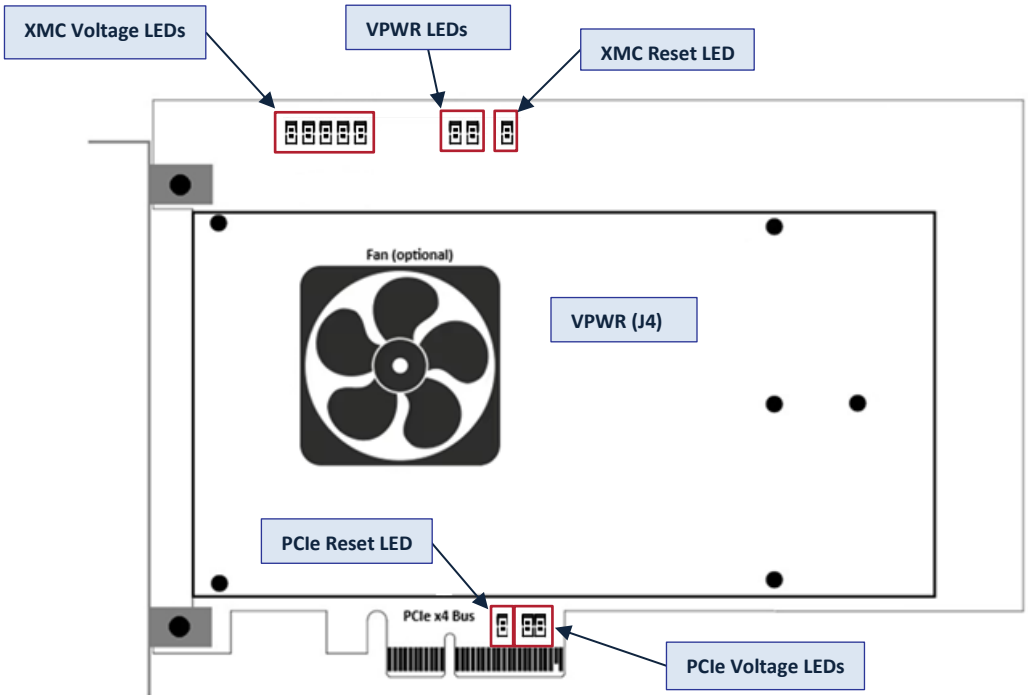


Figure 3.1 LED Locations

LED	Label	Description
D1	PCIe Reset	On when PCIe reset occurs
D2	XMC Reset	On when a XMC reset occurs
D3	XMC +3.3v	On when +3.3v XMC voltage is present
D4	XMC +5v	On when +5v XMC voltage is present
D5	XMC -12v	On when -12v XMC voltage is present
D6	XMC +12v	On when +12v XMC voltage is present
D7	XMC +3.3v AUX	On when +3.3v XMC AUX voltage is present
D8	PCIe +12v	On when +12v PCIe voltage is present
D9	PCIe +3.3v	On when +3.3v PCIe voltage is present
D11	+5v VPWR	On when VPWR is set to +5v
D12	+12v VPWR	On when VPWR is set to +12v

Table 3.1 LED Descriptions

4. CONFIGURATION

4.1 VPWR

The selection of VPWR is determined at J4. Factory configured.

4.2 SW2

For default settings, all switches should be closed. Switches 1-3 are for global addressing. Switch 4 is for MVMRO. When switch 4 is open, the XMC disables writes to nonvolatile memory on the XMC.

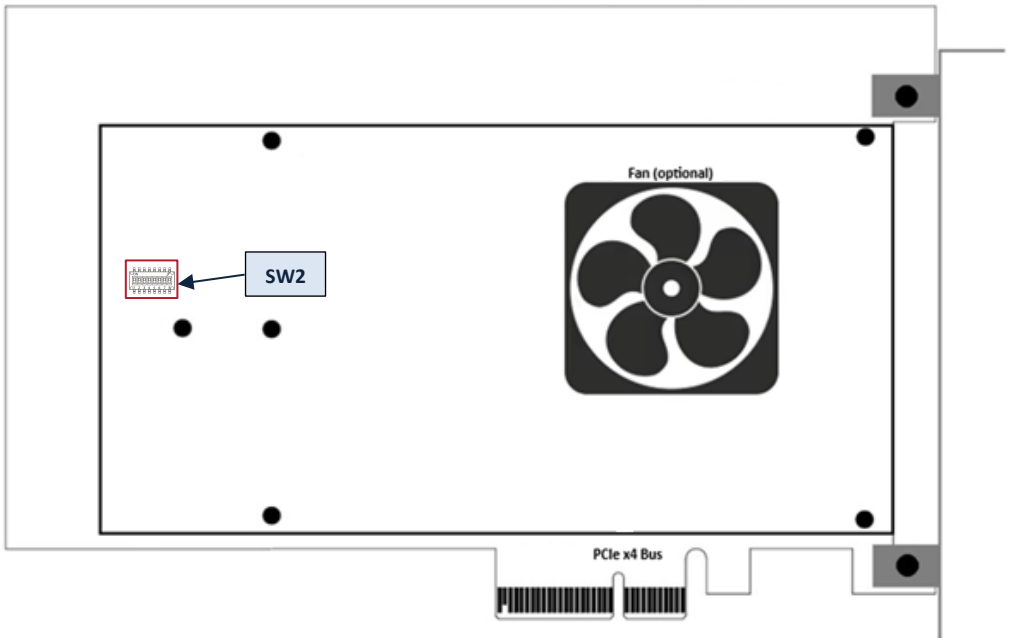
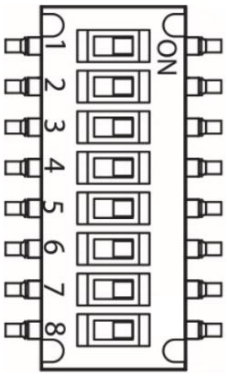


Figure 4.1 SW2 Location



Switch	Connection
1	GA0
2	GA1
3	GA2
4	MVMRO
5	N/A
6	N/A
7	N/A
8	N/A

Table 4.1 SW2 Description

5. CONNECTOR PINOUTS

5.1 XMC: (J15)

	A	B	C	D	E	F
01	PET0p0	PET0n0	3.3V	PET0p1	PET0n1	VPWR
02	GND	GND	NC	GND	GND	MRST#
03	PET0p2	PET0n2	3.3V	PET0p3	PET0n3	VPWR
04	GND	GND	NC	GND	GND	NC
05	NC	NC	3.3V	NC	NC	VPWR
06	GND	GND	NC	GND	GND	+12V
07	NC	NC	3.3V	NC	NC	VPWR
08	GND	GND	NC	GND	GND	-12V
09	NC	NC	NC	NC	NC	VPWR
10	GND	GND	NC	GND	GND	GA0
11	PER0p0	PER0n0	NC	PER0p1	PER0n1	VPWR
12	GND	GND	GA1	GND	GND	MPRESENT#
13	PER0p2	PER0p2	3.3V AUX	PER0p3	PER0n3	VPWR
14	GND	GND	GA2	GND	GND	NC
15	NC	NC	NC	NC	NC	VPWR
16	GND	GND	MVMRO	GND	GND	NC
17	NC	NC	NC	NC	NC	NC
18	GND	GND	NC	GND	GND	NC
19	REFCLKp	REFCLKn	NC	WAKE# 4)	NC	NC

Table 5.1 XMC J15 Pin Assignment

NOTICE: NC means not connected.

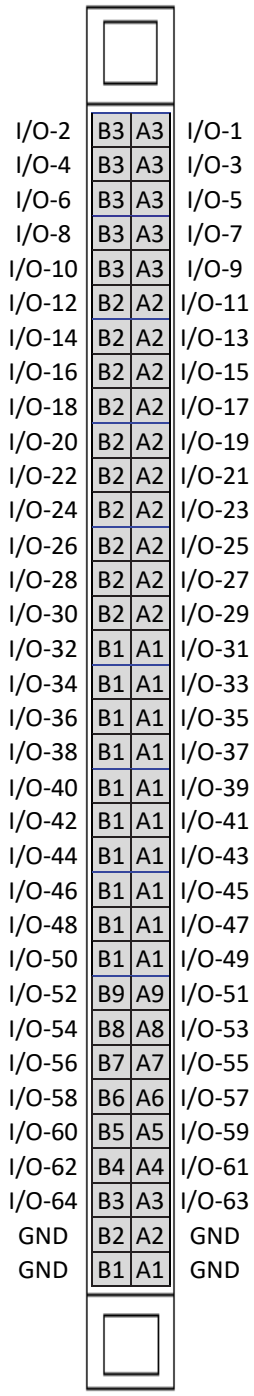
5.2 PMC CONNECTOR: (PN4)

Signal	Pin		Pin	Signal
I/0 1	**1**		**2**	I/0 2
I/0 3	**3**		**4**	I/0 4
I/0 5	**5**		**6**	I/0 6
I/0 7	**7**		**8**	I/0 8
I/0 9	**9**		**10**	I/0 10
I/0 11	**11**		**12**	I/0 12
I/0 13	**13**		**14**	I/0 14
I/0 15	**15**		**16**	I/0 16
I/0 17	**17**		**18**	I/0 18
I/0 19	**19**		**20**	I/0 20
I/0 21	**21**		**22**	I/0 22
I/0 23	**23**		**24**	I/0 24
I/0 25	**25**		**26**	I/0 26
I/0 27	**27**		**28**	I/0 28
I/0 29	**29**		**30**	I/0 30
I/0 31	**31**		**32**	I/0 32
I/0 33	**33**		**34**	I/0 34
I/0 35	**35**		**36**	I/0 36
I/0 37	**37**		**38**	I/0 38
I/0 39	**39**		**40**	I/0 40
I/0 41	**41**		**42**	I/0 42
I/0 43	**43**		**44**	I/0 44
I/0 45	**45**		**46**	I/0 46
I/0 47	**47**		**48**	I/0 48
I/0 49	**49**		**50**	I/0 50
I/0 51	**51**		**52**	I/0 52
I/0 53	**53**		**54**	I/0 54
I/0 55	**55**		**56**	I/0 56
I/0 57	**57**		**58**	I/0 58
I/0 59	**59**		**60**	I/0 60
I/0 61	**61**		**62**	I/0 62
I/0 63	**63**		**64**	I/0 64

Table 5.2 PMC Pin Assignment

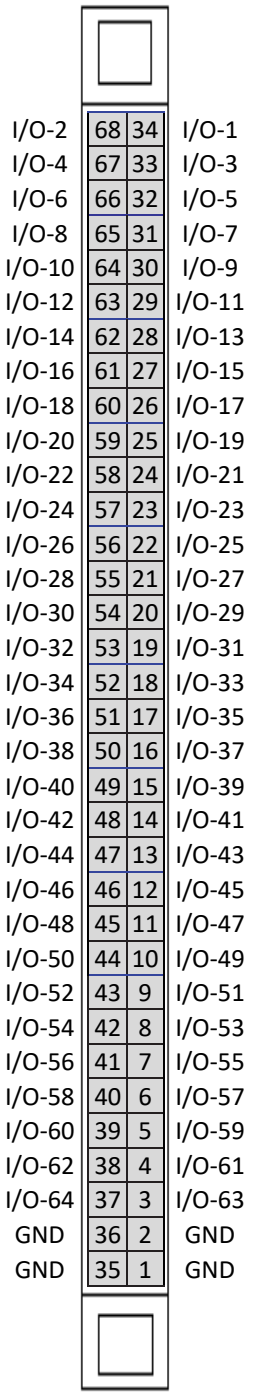
5.3 REAR IO CONNECTOR: (P2)

Rear I/O Connector Pin Assignment
(AMP 787170-7, 68 Position D-Type Receptacle)
(Original pin list shown below)



I/O-2	B3	A3	I/O-1
I/O-4	B3	A3	I/O-3
I/O-6	B3	A3	I/O-5
I/O-8	B3	A3	I/O-7
I/O-10	B3	A3	I/O-9
I/O-12	B2	A2	I/O-11
I/O-14	B2	A2	I/O-13
I/O-16	B2	A2	I/O-15
I/O-18	B2	A2	I/O-17
I/O-20	B2	A2	I/O-19
I/O-22	B2	A2	I/O-21
I/O-24	B2	A2	I/O-23
I/O-26	B2	A2	I/O-25
I/O-28	B2	A2	I/O-27
I/O-30	B2	A2	I/O-29
I/O-32	B1	A1	I/O-31
I/O-34	B1	A1	I/O-33
I/O-36	B1	A1	I/O-35
I/O-38	B1	A1	I/O-37
I/O-40	B1	A1	I/O-39
I/O-42	B1	A1	I/O-41
I/O-44	B1	A1	I/O-43
I/O-46	B1	A1	I/O-45
I/O-48	B1	A1	I/O-47
I/O-50	B1	A1	I/O-49
I/O-52	B9	A9	I/O-51
I/O-54	B8	A8	I/O-53
I/O-56	B7	A7	I/O-55
I/O-58	B6	A6	I/O-57
I/O-60	B5	A5	I/O-59
I/O-62	B4	A4	I/O-61
I/O-64	B3	A3	I/O-63
GND	B2	A2	GND
GND	B1	A1	GND

Table 5.3 Rear I/O Original Pin Assignment



I/O-2	68	34	I/O-1
I/O-4	67	33	I/O-3
I/O-6	66	32	I/O-5
I/O-8	65	31	I/O-7
I/O-10	64	30	I/O-9
I/O-12	63	29	I/O-11
I/O-14	62	28	I/O-13
I/O-16	61	27	I/O-15
I/O-18	60	26	I/O-17
I/O-20	59	25	I/O-19
I/O-22	58	24	I/O-21
I/O-24	57	23	I/O-23
I/O-26	56	22	I/O-25
I/O-28	55	21	I/O-27
I/O-30	54	20	I/O-29
I/O-32	53	19	I/O-31
I/O-34	52	18	I/O-33
I/O-36	51	17	I/O-35
I/O-38	50	16	I/O-37
I/O-40	49	15	I/O-39
I/O-42	48	14	I/O-41
I/O-44	47	13	I/O-43
I/O-46	46	12	I/O-45
I/O-48	45	11	I/O-47
I/O-50	44	10	I/O-49
I/O-52	43	9	I/O-51
I/O-54	42	8	I/O-53
I/O-56	41	7	I/O-55
I/O-58	40	6	I/O-57
I/O-60	39	5	I/O-59
I/O-62	38	4	I/O-61
I/O-64	37	3	I/O-63
GND	36	2	GND
GND	35	1	GND

Table 5.4 Rear I/O Alternate Pin Assignment

System Cable Mating Connector:
68-pin 0.050" Subminiature connector: with metal shield: AMP #749621-7 or equivalent.

6. REVISION HISTORY

Revision	Date	Description
1.0	July 29, 2026	Origination

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