PCIe Gen5 X4 Slot To U.2 Adapter Card

Part Number: PCI5-AD-x439-01V-U2

User's Manual

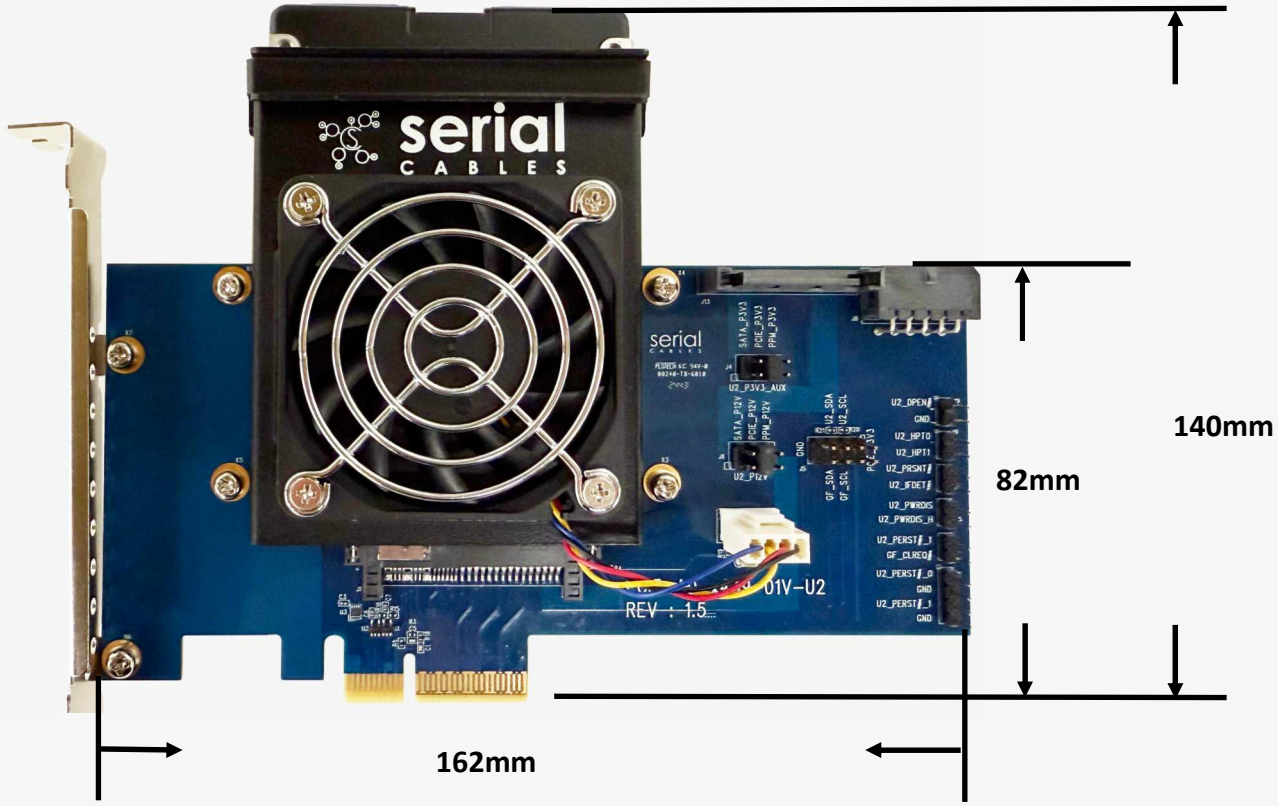
REV: 1.0

Nov. 2024

Change history

REV	Change history	Date of Release
1.0	New created for REV1.5 PCBA design	Nov. 2024

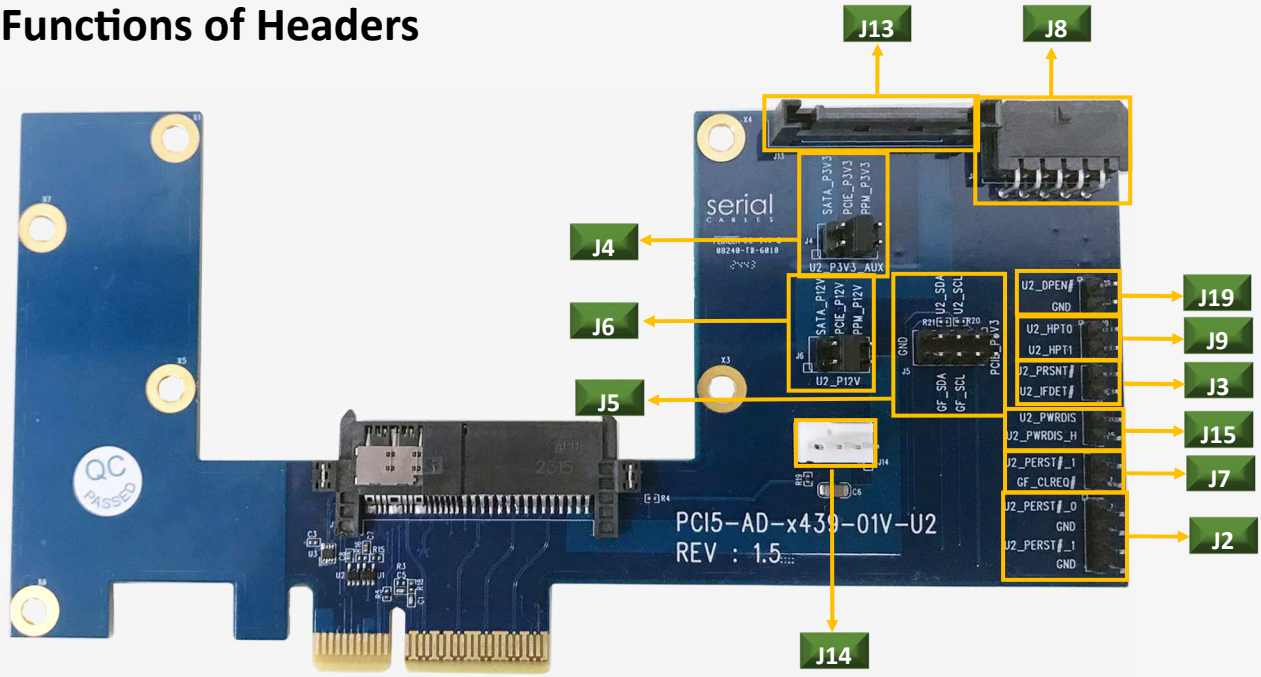
Product Brief



Hardware Specification

Model	PCI5-AD-x439-01V-U2
PCBA Physical Dimension	82mm(H) x 162mm(L). PCI Express add-in card standard, Thickness .063" +/- 0.008" (1.6mm +/- 0.2mm)
Power source Selectable	1. Host PCIe slot 2. SATA 15P Power connector 3. Quarch PPM connector
U.2 SSDs support	7mm and 15mm thickness

Functions of Headers



Headers	Descriptions
J5	**For U.2 SMBus accessing.** Pin3&4, Pin5&7 ON: connect the SMBus of U.2 to host in pins of golden finger. Or SMBus accessing from external I2C analyzer via pins 1, 3 5 and 7.
J14	4Pins wafer FAN connector.
J13	15Pins SATA Power connector.

Pins in Header	Signals	Pins in U.2 connector
1	P3V3	
3	U2_SMCLK	U2_E23
5	U2_SMDAT	U2_E24
7	GND	

Pins in Header	Signals	Pins in Golden finger or M.2 connector
2	P3V3	
4	GF_SMCLK	GF_B5
6	GF_SMDAT	GF_B6
8	GND	

Pin No.	4	3	2	1
Signals	PWM	NC	P12V	GND

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Signals	SATA_P3V3			GND			NC			GND			SATA_P12V		

<table>
<tr><th>Headers</th><th>Descriptions</th></tr>
<tr><td>J6</td><td>
<u>U.2 P12V Power Selection</u>
Pin1&2 ON=Select U.2 P12V sourced from SATA power connector J13.
Pin3&4 ON=Select U.2 P12V sourced from PCIe slot of host server.
Pin5&6 ON=Select U.2 P12V sourced from Quarch PPM connector J8.
<table>
<tr><th>Pins in Header</th><th>Signals</th></tr>
<tr><td>1</td><td rowspan="3">U2_P12V</td></tr>
<tr><td>3</td></tr>
<tr><td>5</td></tr>
</table>
<table>
<tr><th>Signals</th><th>Pins in Header</th></tr>
<tr><td>SATA_P12V</td><td>2</td></tr>
<tr><td>PCIE_P12V</td><td>4</td></tr>
<tr><td>PPM_P12V</td><td>6</td></tr>
</table>
</td></tr>
<tr><td>J4</td><td>
<u>U.2 P3V3_AUX Power Selection</u>
Pin1&2 ON=Select U.2 P3V3_AUX sourced from SATA power connector J13.
Pin3&4 ON=Select U.2 P3V3_AUX sourced from PCIe slot of host server.
Pin5&6 ON=Select U.2 P3V3_AUX sourced from Quarch PPM connector J8.
<table>
<tr><th>Pins in</th><th>Signals</th></tr>
<tr><td>1</td><td rowspan="3">U2_P3V3_AUX</td></tr>
<tr><td>3</td></tr>
<tr><td>5</td></tr>
</table>
<table>
<tr><th>Signals</th><th>Pins in Header</th></tr>
<tr><td>SATA_P3V3</td><td>2</td></tr>
<tr><td>PCIE_P3V3_AUX</td><td>4</td></tr>
<tr><td>PPM_P3V3</td><td>6</td></tr>
</table>
</td></tr>
<tr><td>J8</td><td>
For more information in Quarch PPM support. Please contact SerialCables FAE.
support@serialcables.com
</td></tr>
<tr><td>J19</td><td>
ON: Dual port enabled in U.2 SSDs.
OFF: Dual port disabled in U.2 SSDs.
<table>
<tr><th>Pins in Header</th><th>Signals</th><th>Pins in U.2 connector</th></tr>
<tr><td>1</td><td>U2_DPEN#</td><td>E25</td></tr>
<tr><td>2</td><td>GND</td><td></td></tr>
</table>
</td></tr>
<tr><td>J9</td><td>
Leave floating for “Host Port Quad PCIe Single x4”
<table>
<tr><th>Pins in Header</th><th>Signals</th><th>Pins in U.2 connector</th></tr>
<tr><td>1</td><td>U2_HPT0</td><td>S15</td></tr>
<tr><td>2</td><td>U2_HPT0</td><td>S16</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Headers</th><th>Descriptions</th></tr>
<tr><td>J3</td><td>
<table>
<tr><th>Pins in Header</th><th>Signals</th><th>Pins in U.2 connector</th></tr>
<tr><td>2</td><td>U2_PRSNT#</td><td>P10</td></tr>
<tr><td>1</td><td>U2_IFDET#</td><td>P4</td></tr>
</table>
</td></tr>
<tr><td>J5</td><td>ON: Set U2 PWRDIS to be “H” state.

OFF: Set U2 PWRDIS to be “L” state.

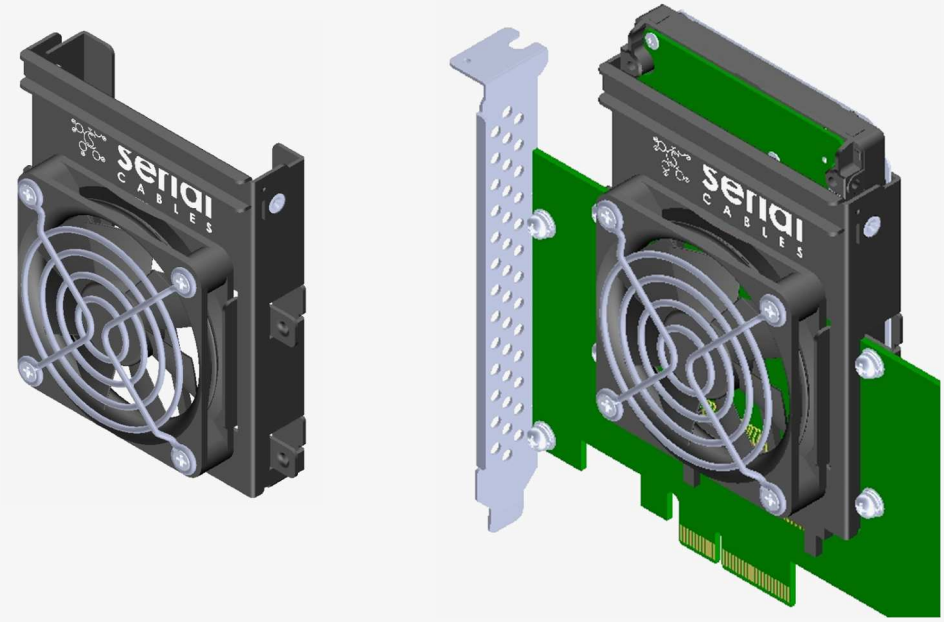
<table>
<tr><th>Pins in Header</th><th>Signals</th><th>Pins in U.2 connector</th></tr>
<tr><td>2</td><td>U2_PWRDIS</td><td>P10</td></tr>
<tr><td>1</td><td>P3V3 PU 1K</td><td>P4</td></tr>
</table>
</td></tr>
<tr><td>J7</td><td>ON: Connect CLKREQ# of Golden finger to U.2

OFF: Disconnect CLKREQ# of Golden finer to U.2

<table>
<tr><th>Pins in Header</th><th>Signals</th><th>Pins in U.2 or GF</th></tr>
<tr><td>1</td><td>U2_PERST#_1</td><td>U2.E4</td></tr>
<tr><td>2</td><td>GF_CLKREQ#</td><td>GF.B12</td></tr>
</table>
</td></tr>
<tr><td>J2</td><td>
<table>
<tr><th>Pins in Header</th><th>Signals</th><th>Pins in U.2 connector</th></tr>
<tr><td>1</td><td>U2_PERST#_0</td><td>E5</td></tr>
<tr><td>2</td><td>GND</td><td></td></tr>
<tr><td>3</td><td>U2_PERST#_1</td><td>E4</td></tr>
<tr><td>4</td><td>GND</td><td></td></tr>
</table>
</td></tr>
</table>

Mechanical

Hinge down for 15mm SSD support



Hinge up for 7mm SSD support