



### PART NUMBER: 3U-MEZZ-PCIE

- Mixed function mezzanine side card for CompactPCI® serial CPU boards
- Based on new mezzanine connectors HSE1/HSE2 (8 x PCIe® Gen3)
- 24-lanes PCI® Express Gen3 switch
- Provides gigabit Ethernet I/O (3 x RJ45)
- Provides USB 3.0 front panel I/O (3 x Type A)
- Provides mass storage capability (1 x M.2 NVMe/ SATA, 1 x mSATA)

## SPECIFICATION

<b>Backplane Connectors</b>	<ul style="list-style-type: none"> <li>• CompactPCI® Serial backplane connectors P1, P2, P4, P5, system board pin assignment</li> <li>• PCI® Express support for all eight peripheral slots of a secondary CompactPCI® Serial backplane</li> <li>• Four links Gen3 x4 (available on peripheral slots 1, 2, 3, 5)</li> <li>• Four links Gen2 x1 (available on peripheral slots 4, 6, 7, 8)</li> <li>• Can be used with any standard CompactPCI® Serial backplane (system slot left aligned)</li> </ul>
<b>PCI Express® Switching</b>	<ul style="list-style-type: none"> <li>• 24-lane 6-port PCI Express® Gen3 packet switch PEX 8724 <ul style="list-style-type: none"> <li>• Upstream 1 x4 link wired to the HSE1 mezzanine connector (CPU card PCH)</li> <li>• Downstream 4 x4 links to the CompactPCI® Serial backplane</li> <li>• Downstream 1 x4 link to the NVMe SSD M.2 socket</li> </ul> </li> <li>• 6-lane 6-port PCI Express® Gen2 packet switch PI7C9X2G606PR <ul style="list-style-type: none"> <li>• Upstream 1 x1 link wired to the HSE2 mezzanine connector (CPU card PCH)</li> <li>• Downstream 4 x1 links to the CompactPCI® Serial backplane</li> </ul> </li> <li>• 6-lane 6-port PCI Express® Gen2 packet switch PI7C9X2G606PR <ul style="list-style-type: none"> <li>• Upstream 1 x1 link wired to the HSE2 mezzanine connector (CPU card PCH)</li> <li>• Downstream 3 x1 links to the I210 Gigabit Ethernet NICs</li> <li>• Downstream 1 x1 link to the TUSB7320 USB controller</li> </ul> </li> </ul>
<b>Front Panel I/O</b>	<ul style="list-style-type: none"> <li>• 3 x RJ45 Gigabit Ethernet jacks, three individual on-board I210-IT controllers</li> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T compliant data transfer rate</li> <li>• 3 x USB 3.0 (3.1 Gen1) Type A receptacles</li> <li>• Two USB ports via on-Board USB controller, one USB port derived from HSE1 mezzanine connector</li> </ul>
<b>Networking</b>	<ul style="list-style-type: none"> <li>• Three individual networking interface controllers (NIC), based on PCI Express®</li> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T connections</li> <li>• Intel® I210-IT -40°C to +85°C operating temperature GbE controllers w. integrated PHY</li> <li>• IPv4/IPv6 checksum offload, 9.5KB Jumbo Frame support, EEE Energy Efficient Ethernet</li> <li>• IEEE 802.1Qav Audio-Video-Bridging (AVB) enhancements for time-sensitive streams (TSN)</li> <li>• IEEE 1588 and 802.1AS packets time stamping for high-precision time synchronization</li> <li>• All GbE ports wired via RJ45 front panel connectors</li> </ul>
<b>USB</b>	<ul style="list-style-type: none"> <li>• Upper front panel receptacle wired to HSE1 mezzanine connector (CPU carrier card PCH)</li> <li>• Middle and lower connectors wired to PCI Express® dual port USB 3.0 controller TUSB7320</li> <li>• USB 3.1 Gen1 (formerly USB 3.0) xHCI (eXtensible host controller interface) SuperSpeed supported</li> <li>• USB 2.0 high-speed, full-speed, low-speed supported</li> <li>• 3 x front panel Type-A USB 3.0 host connectors</li> <li>• VBUS (+5V) 1.5A high current power switches assigned to front panel connectors</li> </ul>
<b>Mass Storage Solutions</b>	<ul style="list-style-type: none"> <li>• M.2 (formerly known as NGFF) socket for an NVMe type SSD module up to 2280 size</li> <li>• PCI Express® Gen3 x4 interface (M-key socket)</li> <li>• Socket height 4.2H (double sided module allowed)</li> <li>• Capacity up to 2TB as of current</li> <li>• Suitable for operating system installation (boot device)</li> <li>• Alternate usage with an SATA type SSD B-M key</li> <li>• Autosensing analog switch for selection between PCIe® and SATA operation</li> <li>• On-Board 6G SATA controller 88SE9170</li> <li>• PCI Express® Mini Card socket, full-size or half-size modules</li> <li>• PCI Express® Mini Cards of all styles supported: USB 2.0 and PCIe® based, and mSATA</li> <li>• Autosensing analog switch for selection between PCIe® and SATA operation</li> <li>• On-Board 6G SATA controller 88SE9170</li> <li>• Suitable for wireless applications e.g. WLAN, Bluetooth or 2G/3G/LTE modem card</li> <li>• Micro SIM card holder associated (15mm x 12mm ETSI TS 102 221 V9.0.0, Mini-UICC)</li> <li>• Suitable for fieldbus modules e.g. CAN-FD, and industrial Ethernet modules (real time networking)</li> <li>• Custom specific F/P design for additional pigtail SMB antenna connectors (12HP front or wider)</li> <li>• Custom specific F/P design for non-radio applications e.g. CAN-FD (12HP or wider)</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>• System expansion with a secondary CompactPCI® Serial backplane</li> <li>• Supports PCI Express® on up to eight peripheral slots (4x4 Gen3, 4x1 Gen2)</li> <li>• Multi GPU card systems</li> <li>• Autonomous driving test equipment</li> <li>• Rugged environments</li> </ul>

## Regulatory & Environmental

- Designed & manufactured in Germany
- ISO 9001 certified quality management
- Custom specific development on request
- Long term availability
- Coating, sealing, underfilling on request
- RoHS compliant 2002/95/EC
- Operating temperature -40°C to +85°C (industrial temperature range)
- Storage temperature: -40°C to +85°C, max. gradient 5°C/min
- Humidity 5% ... 95% RH non condensing
- Altitude -300m ... +3000m
- Shock 15g 0.33ms, 6g 6ms
- Vibration 1g 5-2000Hz
- EC Regulations EN55022, EN55024, EN60950-1 (UL60950-1/IEC60950-1)
- MTBF 44.4 years

## The Power to Outperform

Would you like to find out more? Be sure to speak to our on-stand team or contact us via the details here and we would be happy to help.

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