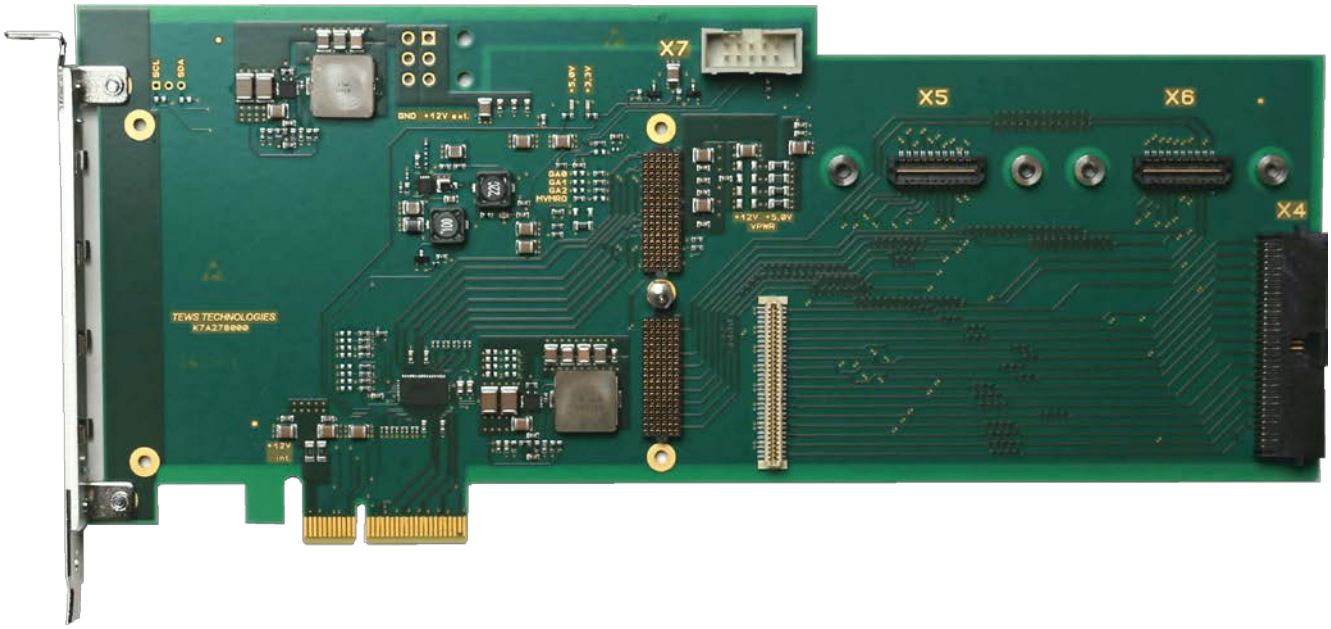
TPCE278 PCI Express x4, Gen3 XMC Carrier



TPCE278-11R

Application Information

The TPCE278 is a standard height PCI Express Revision 3.0 compatible module that provides one slot for a single-width XMC module used to build modular, flexible and cost effective I/O solutions for all kinds of applications like process control, medical systems, telecommunication and traffic control.

The TPCE278 is a versatile solution to upgrade well known XMC I/O solutions to the PCI Express signalling standard.

The PCI Express x4 link from the host board to the XMC module is enhanced by a PCIe Gen3 Redriver, allowing safe operation of XMC modules on PCIe mainboards.

VPWR is selectable via order option. The TPCE278-x0R variants provide 12V VPWR and the TPCE278-x1R order options provide 5V VPWR.

The TPCE278 supports XMC front panel I/O, and also P14 and P16 rear I/O independently.

XMC P14 rear I/O is provided through a Tyco AMPMODU System 50 0.050x0.100 flat ribbon cable connector. The I/O lines are routed differentially.

XMC P16 rear I/O is implemented through two Samtec QTH-DP 0.50mm Q Pairs® High Speed Ground Plane Socket Strip, Differential Pair connector providing access to all P16 I/O lines.

The PCIe edge card connector provides +12V and +3.3V. The TPCE278-1xR uses the +12V of the PCIe edge card connector to generate all power supply voltages for the XMC slot (+3.3V, VPWR and +12V).

According to the PCIe specification, a PCIe x4 card is allowed to use 25W on the +12V which allows to operate most of the available XMC modules on the TPCE278-1xR. For increased power requirements of an XMC module, the TPCE278-2xR offer a PCIe Graphics Power Connector to supply the +12V for generating all the power supply voltages for the XMC slot providing power of up to 75W.

A 10-pin JTAG header is available for XMC module debugging purposes. All five JTAG signals are routed directly to the XMC slot.

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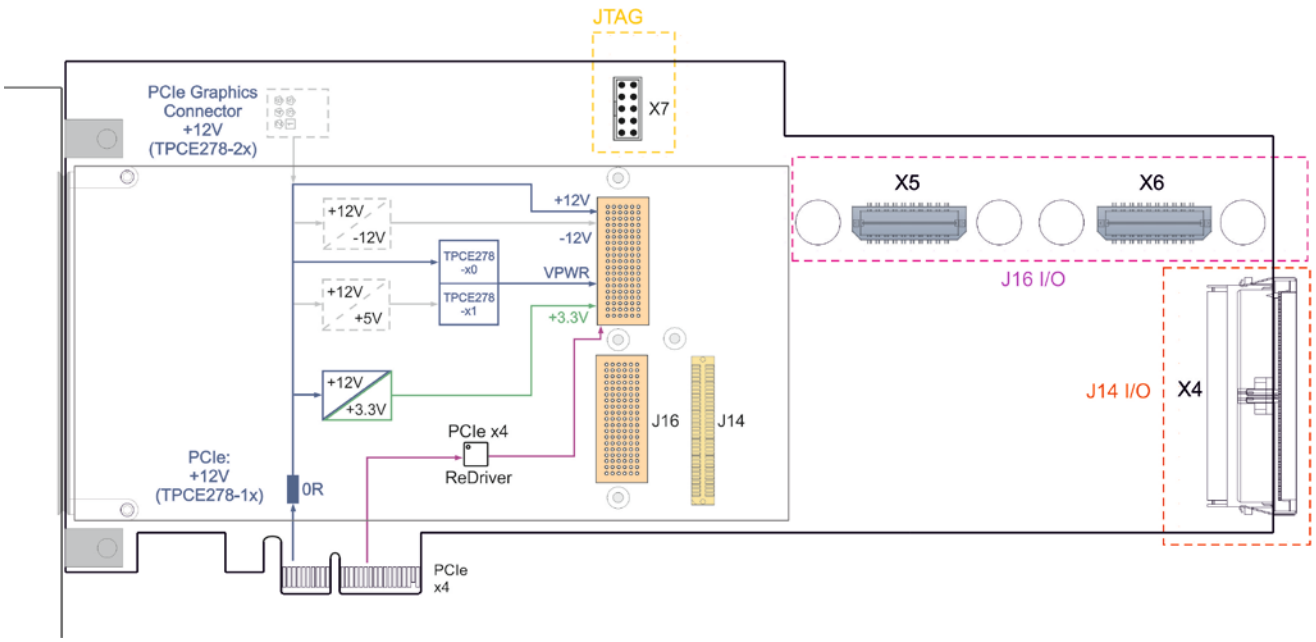
Technical Information

- Form Factor: PCI Express x4, Revision 3.0
  - Board size: approx. 257mm x 111mm
- One XMC Slot:
  - PCIe Interface: x4, Rev. 3.0
  - XMC Front Panel I/O
  - XMC P14 I/O connected to Tyco AMPMODU System 50 0.050x0.100 connector
  - XMC P16 I/O connected to two Samtec QTH-DP 0.50mm Q Pairs® High Speed Ground Plane Socket Strip, Differential Pair connectors
- All XMC Power Supplies generated from +12V
  - TPCE278-1xR: +12V from PCIe edge card connector
  - TPCE278-2xR: +12V from PCIe Graphics Power Connector
- JTAG:
  - 10-pin header with all five JTAG signals routed to XMC connector
- Operating temperature: -40°C to +85°C
- MTBF (MIL-HDBK217F/FN2 G_B 20°C):
  TPCE278-10R: 564000h
  TPCE278-11R: 551000h
  TPCE278-20R: 505000h
  TPCE278-21R: 494000h



Order Information

RoHS Compliant

TPCE278-10R 1 Slot XMC Carrier, PCIe x4, VPWR = 12V, 12V from PCIe connector
TPCE278-11R 1 Slot XMC Carrier, PCIe x4, VPWR = 5V, 12V from PCIe connector
TPCE278-20R 1 Slot XMC Carrier, PCIe x4, VPWR = 12V, 12V from PCIe Graphics connector
TPCE278-21R 1 Slot XMC Carrier, PCIe x4, VPWR = 5V, 12V from PCIe Graphics connector

For the availability of non-RoHS compliant (leaded solder) products please contact TEWS.

Documentation

TPCE278-DOC User Manual

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