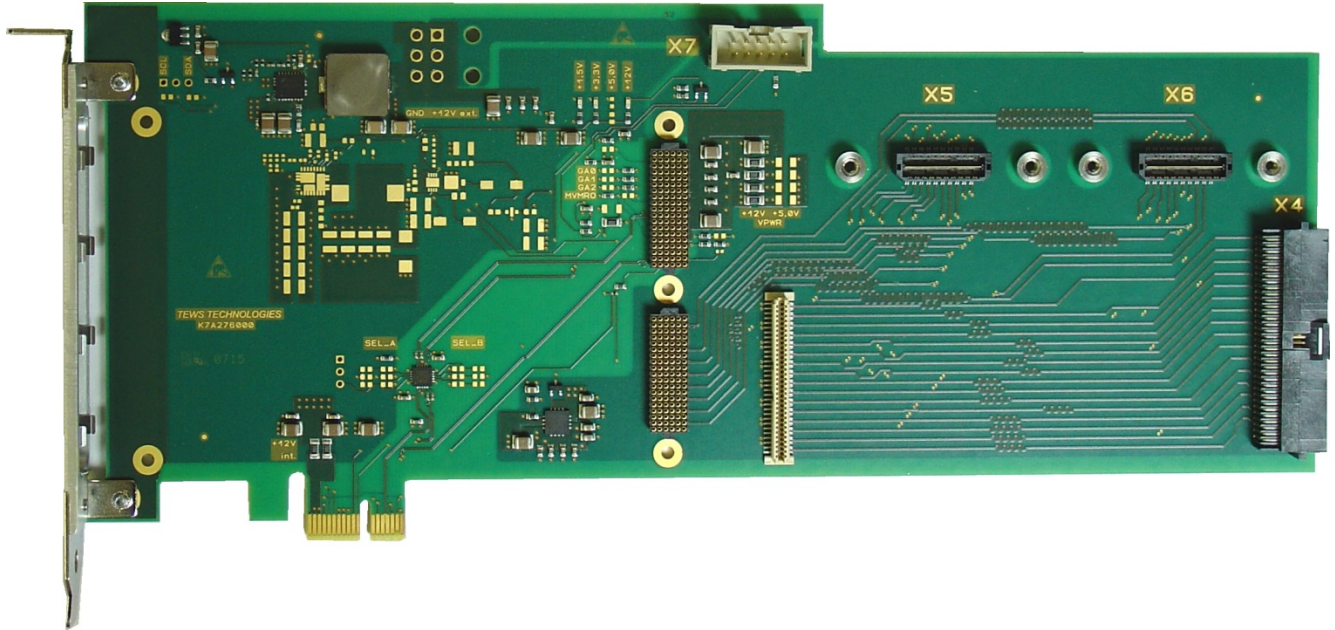


## TPCE276 PCI Express x1, Gen2 XMC Carrier



TPCE276-10R

### Application Information

The TPCE276 is a standard height PCI Express Revision 2.0 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 TPCE276 is a versatile solution to upgrade well known XMC I/O solutions to the PCI Express signalling standard.

The PCI Express x1 link from the host board to the XMC module is enhanced by a PCIe Gen2 Redriver, allowing safe operation of XMC modules on PCIe mainboards.

VPWR is selectable via order option. The TPCE276-x0R variants provide for 12V VPWR and the TPCE276-x1R order options provide 5V VPWR.

The TPCE276 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 differential.

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.

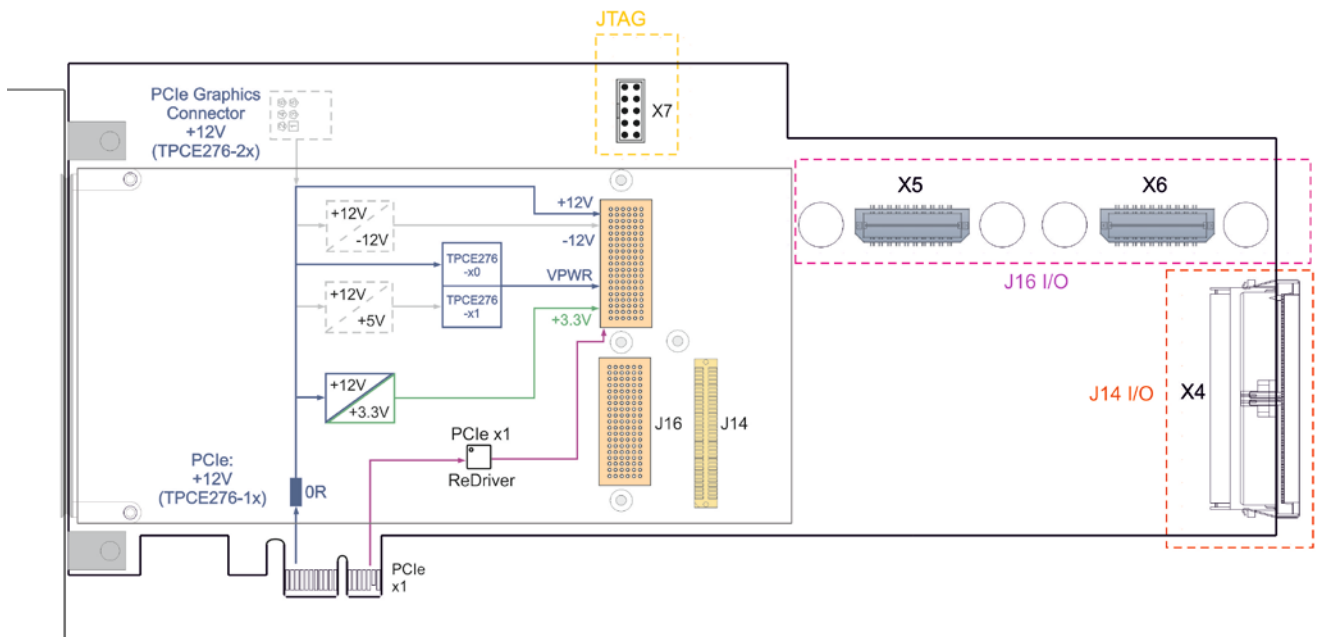
The PCIe edge card connector provides +12V and +3.3V. The TPCE276-1xR uses the +12V of the PCIe edge card connector to generate all power supply voltages for the XMC slot (+3.3V, VPWR and +12V).

According to the PCIe specification, a PCIe x1 card is limited to 6W on the +12V which allows to operate many of the available XMC modules on the TPCE276-1xR. For increased power requirements of an XMC module, the TPCE276-2xR 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 25W.

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

### Technical Information

- Form Factor: PCI Express x1, Revision 2.0
  - Board size: approx. 257mm x 111mm
- One XMC Slot:
  - PCIe Interface: x1, Rev. 2.0
  - 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
  - TPCE276-1xR: +12V from PCIe edge card connector
  - TPCE276-2xR: +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<sub>B</sub> 20°C):
  - TPCE276-10R: 603000h
  - TPCE276-11R: 603000h
  - TPCE276-20R: 535000h
  - TPCE276-21R: 535000h



### Order Information

#### RoHS Compliant

- |                    |   |
|--------------------|---|
| <b>TPCE276-10R</b> | 1 Slot XMC Carrier, PCIe x1, VPWR = 12V, 12V from PCIe connector          |
| <b>TPCE276-11R</b> | 1 Slot XMC Carrier, PCIe x1, VPWR = 5V, 12V from PCIe connector           |
| <b>TPCE276-20R</b> | 1 Slot XMC Carrier, PCIe x1, VPWR = 12V, 12V from PCIe Graphics connector |
| <b>TPCE276-21R</b> | 1 Slot XMC Carrier, PCIe x1, VPWR = 5V, 12V from PCIe Graphics connector  |

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

#### Documentation

**TPCE276-DOC** User Manual