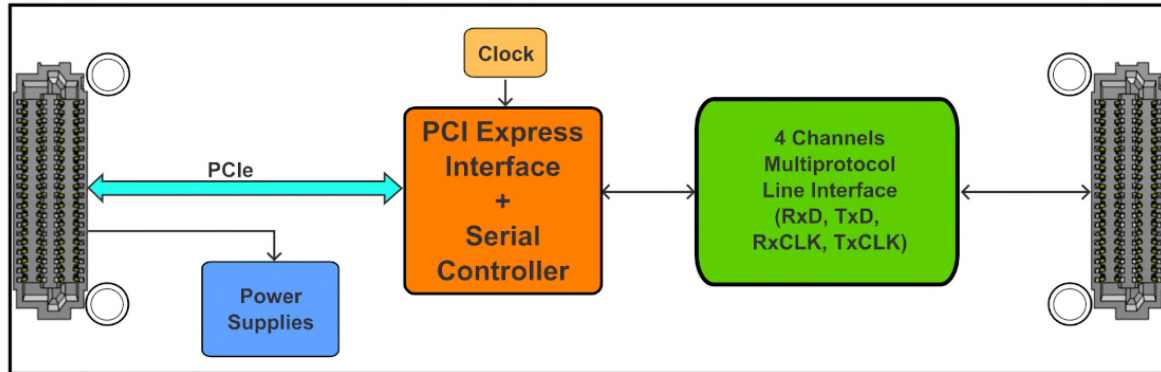## TQMC401 4 Channel High Speed Sync/Async Serial Interface

TQMC401 Block Diagram

Application Information

The TQMC401 is a VITA 93.0 compatible single-width QMC providing four high speed serial data communication channels.

The serial communication controller is implemented in FPGA logic along with the bus master capable PCIe interface, guaranteeing long term availability and having the option to implement additional functions in the future.

Data transfer to and from host memory is handled via TQMC401 initiated DMA cycles for minimum host/CPU intervention.

Each channel has a receive and transmit FIFO of 512 long words (32 bit) per channel for high data throughput.

Several serial communication protocols are supported for each channel, such as asynchronous (with oversampling), isochronous, synchronous and HDLC mode.
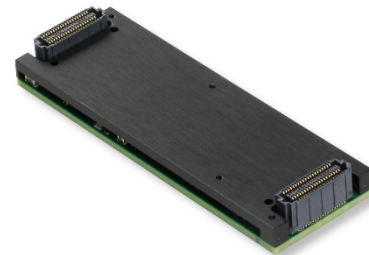
Available signal encodings for synchronous data communication are NRZ, NRZI, FM0, FM1 and Manchester.

Available clock sources are 14.7456 MHz for standard asynchronous baud rates, 10 MHz for the 10 Mbit/s synchronous data rate and 24 MHz for other baud or data rates.

Each channel provides various interrupt sources which can be enabled or disabled individually.

The Differential I/O lines for EIA-422, EIA-485 Full-Duplex are terminated with 120 Ω on-board.

The TQMC401 is available as air cooled and conduction cooled variant.

Conduction Cooled QMC

Technical Information

- Form Factor: Standard single QMC conforming to VITA 93.0
  - Board size: 78.25 mm x 26 mm
- PCI Express 2.1 compliant interface
- FPGA based PCIe endpoint
- Four high speed synchronous / asynchronous serial interface channels
- Support of differential RXD, RXCLK, TXD, TXCLK per channel

- ESD protected I/O lines for EIA-422, EIA-485 FD (Full-Duplex)
- Maximum Data Rate: 10 Mbit/s Synchronous, 2 Mbit/s Asynchronous
- Operating temperature -40 °C to +85 °C

Order Information

RoHS Compliant
TQMC401-10R-A   Four Channel High Speed Sync/Async Serial Interface, air cooled
TQMC401-10R-H   Four Channel High Speed Sync/Async Serial Interface, conduction cooled

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

Software
TDRV009-SW-25   Integrity Software Support
TDRV009-SW-42   VxWorks Software Support
TDRV009-SW-65   Windows Software Support
TDRV009-SW-82   Linux Software Support
TDRV009-SW-95   QNX Software Support

For other operating systems please contact TEWS.

Related Products
TPCE210   2 Site QMC Carrier, PCIe x4, Gen2, low-profile, VHDCI-68 I/O

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TEWS Technologies GmbH
Eggerstedter Weg 14, 25421 Pinneberg, Germany
Phone: +49 (0) 4101 4058 0
info@tews.com   www.tews.com