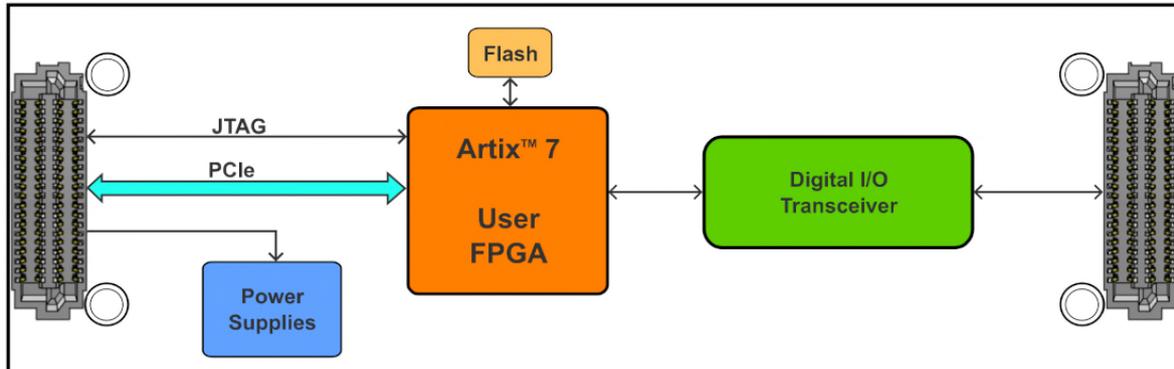


TQMC600 Reconfigurable FPGA with Digital I/O



TQMC600 Block Diagram

Application Information

The TQMC600 is a VITA 93.0 compatible single-width QMC offering a user programmable FPGA AMD Artix™ 7 XC7A50T.

Depending on the order option the TQMC600 offers 32 ESD-protected 5V-tolerant TTL lines or 16 differential I/O lines using ESD-protected EIA-422 / EIA-485 compatible line transceivers or Multipoint-LVDS transceivers.

All I/O lines are individually programmable as input or output. TTL I/O lines can be set to high, low, or tristate. Differential I/O lines are terminated, EIA-422 / EIA-485 lines with 120 Ω , M-LVDS lines with 100 Ω .

The User FPGA is configured by a SPI flash. An in-circuit debugging option is available via the QMC's JTAG interface for read back and real-time debugging of the FPGA design (using the AMD Vivado™ ILA).

User applications for the TQMC600 can be developed using the AMD design tools, which can be downloaded free of charge from www.amd.com.

TEWS offers a well-documented Board Reference Design (BRD) that illustrates how to make use of the TQMC600

main functionalities. It implements a PCIe interface including register mapping and basic I/O. It comes as a Vivado Design Suite project with source code and as a ready-to-download bit stream.

The TQMC600 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
- Artix 7 User programmable FPGA
 - XC7A50T-2
 - PCIe endpoint in FPGA
- 128 Mbit SPI-EEPROM for FPGA configuration and User Data
- Digital I/O
 - 32 ESD-protected 5 V-tolerant TTL lines (-10R)
 - 16 differential EIA-422 / EIA-485 lines (-11R)
 - 16 differential M-LVDS lines (-12R)
 - Direction individually programmable
- Operating temperature -40 °C to +85 °C

Order Information

RoHS Compliant

TQMC600-10R-A	32 TTL I/O, Artix 7 XC7A50T FPGA, air cooled
TQMC600-10R-H	32 TTL I/O, Artix 7 XC7A50T FPGA, conduction cooled
TQMC600-11R-A	16 differential EIA-422 / EIA-485 I/O, Artix 7 XC7A50T FPGA, air cooled
TQMC600-11R-H	16 differential EIA-422 / EIA-485 I/O, Artix 7 XC7A50T FPGA, conduction cooled
TQMC600-12R-A	16 differential M-LVDS I/O, Artix 7 XC7A50T FPGA, air cooled
TQMC600-12R-H	16 differential M-LVDS I/O, Artix 7 XC7A50T FPGA, conduction cooled

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

Software

TDRV020-SW-25	Integrity Software Support
TDRV020-SW-42	VxWorks Software Support
TDRV020-SW-65	Windows Software Support
TDRV020-SW-82	Linux Software Support
TDRV020-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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