Trion® T20 MIPI Development Kit Overview

featuring T20 FPGA with hardened CSI-2 and D-PHY interfaces

Video is everywhere, particularly in mobile and mobile-influenced devices like machine vision, drones, robotics, automotive, and surveillance cameras. To support innovative applications, a design needs to do more than simply take video from a camera or sensor and send it to an end processor or monitor. The video needs to be manipulated, intepreted, or analyzed in between.

The MIPI CSI-2 interface, which defines a simple, high-speed protocol, is the most widely used camera interface for mobile (source: MIPI Alliance). Adding a MIPI interface to an FPGA creates a powerful bridge to transmit or receive high-speed video data easily to/from an application processor.

易灵思© Trion© FPGAs are more than simple MIPI bridges. With multiple MIPI TX and RX interfaces and 13K to 120K logic elements, 易灵思® MIPI-enabled Trion® FPGAs are flexible, programable platforms that can perform complex video manipulation. Bring your video application to market quickly today, and change it tomorrow to meet the next challenge.

The Trion T20 MIPI development kit, which is based on the T20 FPGA, lets you explore the features of this easy-to-use, I/O-rich FPGA. The kit includes a Trion T20 MIPI Development Board (preloaded with a demonstration design), a MIPI and LVDS Expansion Daughter Card, 2 Raspberry PI Camera Connector Daughter Cards, a USB cable, standoffs, nuts, and screws.
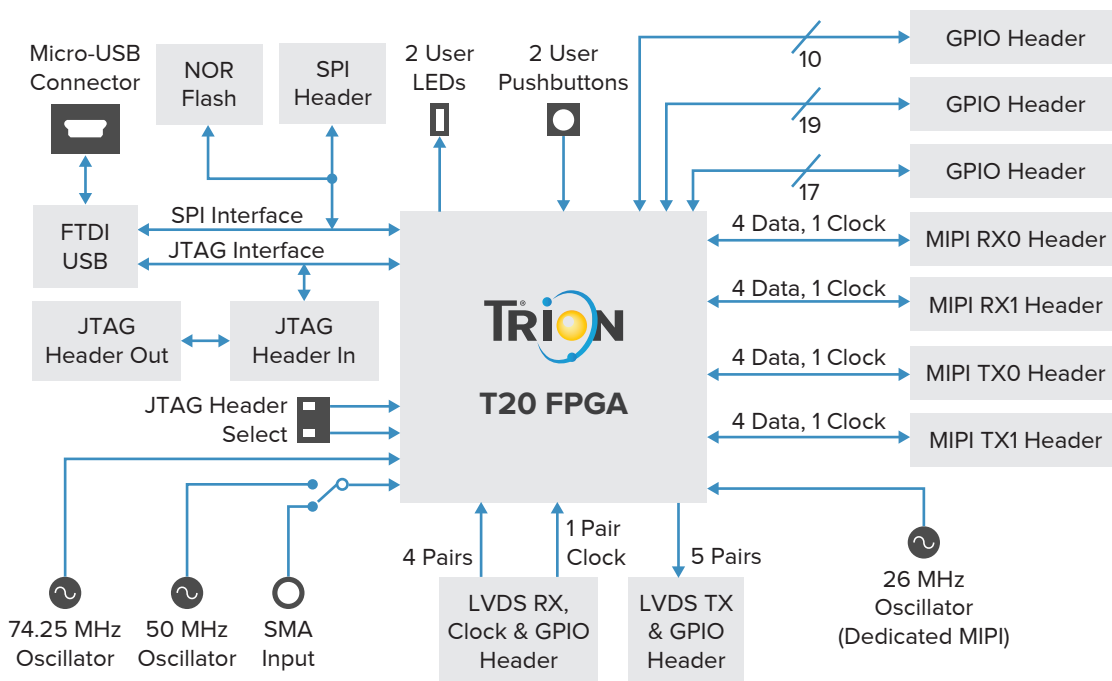
mipi® member

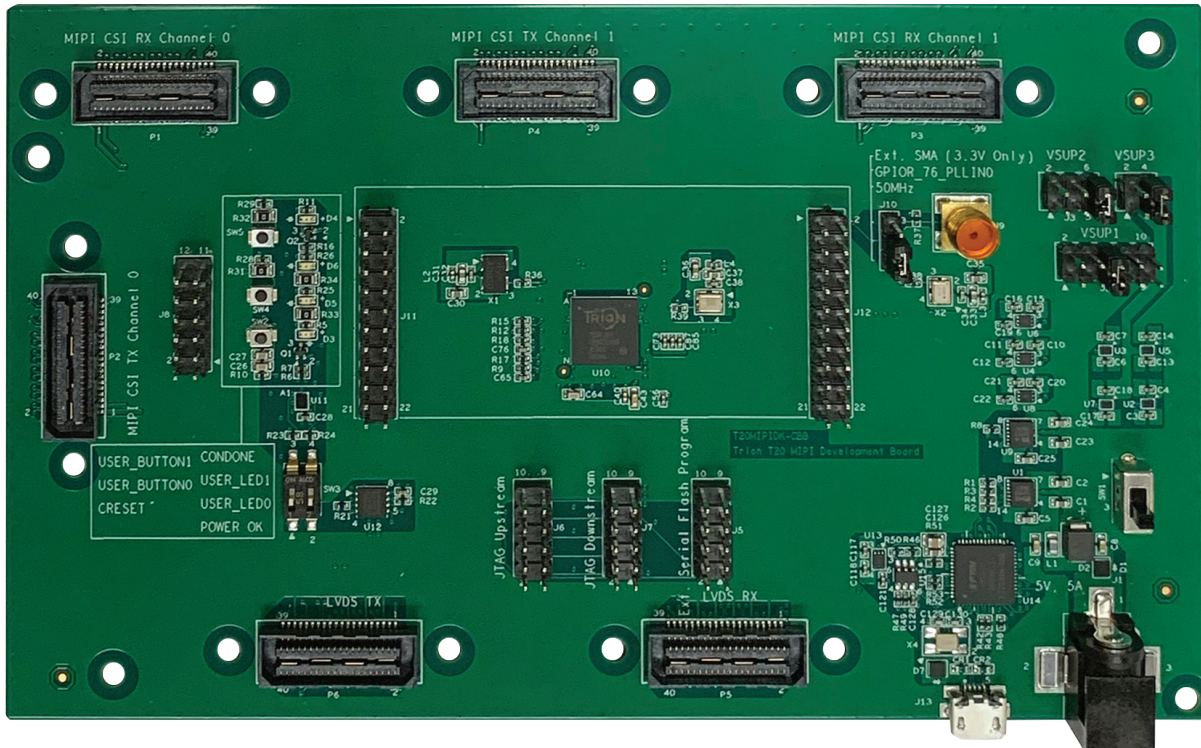**Figure 1   Trion T20 MIPI Development Board Block Diagram**

Figure 2   Trion T20 MIPI Development Board

The Trion T20 MIPI development board features:

- T20 FPGA in a 169-ball BGA package
- 2 user LEDs
- 2 user pushbutton switches
- Micro-USB port
- SPI and JTAG headers to facilitate configuration
- MIPI headers (2 TX and 2 RX)
- LVDS headers
- GPIO headers that also connect with an SDRAM (B) board
- 50 and 74.25 MHz oscillators, optional SMA clock input

Efinity Software Support

You can create designs for the Trion development kit using the 易灵思 Efinity© software. The Efinity software provides a complete tool flow from RTL design to bitstream generation, including synthesis, place-and-route, and timing analysis. The software has a graphical user interface (GUI) that provides a visual way to set up projects, run the tool flow, and view results. The software also has a command-line flow and Tcl command console. The software-generated bitstream file configures Trion devices. The software supports the Verilog HDL and VHDL languages.

Available Now

The Trion T20 MIPI Development Kit is available now in our online store. Visit us online to register for store access at www.elitestek.com/shop.