

Titanium Ti180 J484 Development Kit

The Titanium Ti180 J484 Development Kit has everything users need to develop and prototype designs for the Ti180 FPGA. This kit showcases the Ti180's hardened MIPI D-PHY, supporting up to 2.5 Gbps per lane, and hardened LPDDR4 and LPDDR4x controllers. Users can stream video on a HDMI monitor from the Raspberry Pi v2 camera module which stores the video data in the development board's LPDDR4/4x SDRAM, with supporting speed up to 3.0 Gbps in x16 or x32 data width. Two IMX477 Camera Connector Daughter Cards and a Coral Camera Connector Daughter Card let users process video data from the 12.3 megapixel IMX477 camera modules and the 5.0 megapixel Coral camera module.⁽¹⁾ The development board also has two Macronix high-performance 256 Mb SPI NOR flash chips so users can store additional user data such as RISC-V software.

This kit includes an FPGA Mezzanine Card (FMC) with additional multi-purpose QSE connectors to expand the development kit's connection capabilities. Additionally, the Ethernet and HDMI connector daughter cards are also included in the kit so users can process the data in the FPGA and send it to a display or another system.

The Ti180 J484 development board, included in the kit, has these components:

- Efinix Ti180J484C4⁽²⁾ FPGA in a 484-ball FineLine BGA package
- 8 Gbit (256 Mbit x 16 x 2 channels) LPDDR4 or LPDDR4x SDRAM:
 - Supports x32 data width
 - Read/Write speed up to 3.0 Gbps
- 2 x 256 Mbit SPI NOR flash memories
 - Supports Single, Dual and Quad mode for each SPI flash
 - Supports x8 with both SPI Flash in Quad mode
- 4 x QSE connectors
 - 2.5 Gbps Tx/RX hardened MIPI interfaces
- Micro-SD card slot
- FPGA mezzanine card (FMC) with low pin-count connector (LPC)
- USB Type-C connector to configure the development board
- 25, 33.33, 50, and 74.25 MHz oscillators for Ti180 PLL input
- User LEDs and switches:
 - 6 LEDs
 - 2 pushbutton switches
- Power:
 - 12.0 V power supply connector
 - On-board regulator sources: 0.62 V, 0.85 V, 0.95 V, 1.1 V, 1.2 V, 1.8 V, 3.3 V, 5.0 V
- Power good and Ti180 configuration done LEDs

What's In the Box?

- Titanium Ti180 J484 development board preloaded with a demonstration design
- Raspberry Pi v2 camera module (with 15-pin flat cable)
- Dual Raspberry Pi Camera Connector Daughter Card
- 2 IMX477 Camera Connector Daughter Cards
- Coral Camera Connector Daughter Card
- FMC-to-QSE Adapter Card
- HDMI Connector Daughter Card
- Ethernet Connector Daughter Card
- MIPI and LVDS Expansion Daughter Card
- 2 22-pin flat cables
- USB type C cable
- 12 V, 5 A universal power adapter
- Heat sink
- 14 standoffs, 10 screws, and 14 nuts



⁽¹⁾ IMX477 camera module and Coral camera module are not included in the kit.

⁽²⁾ The FPGA speed grade may vary and is subject to availability.

Titanium Ti180 J484 Development Kit Overview

Figure 1 Titanium Ti180 J484 Development Kit Block Diagram

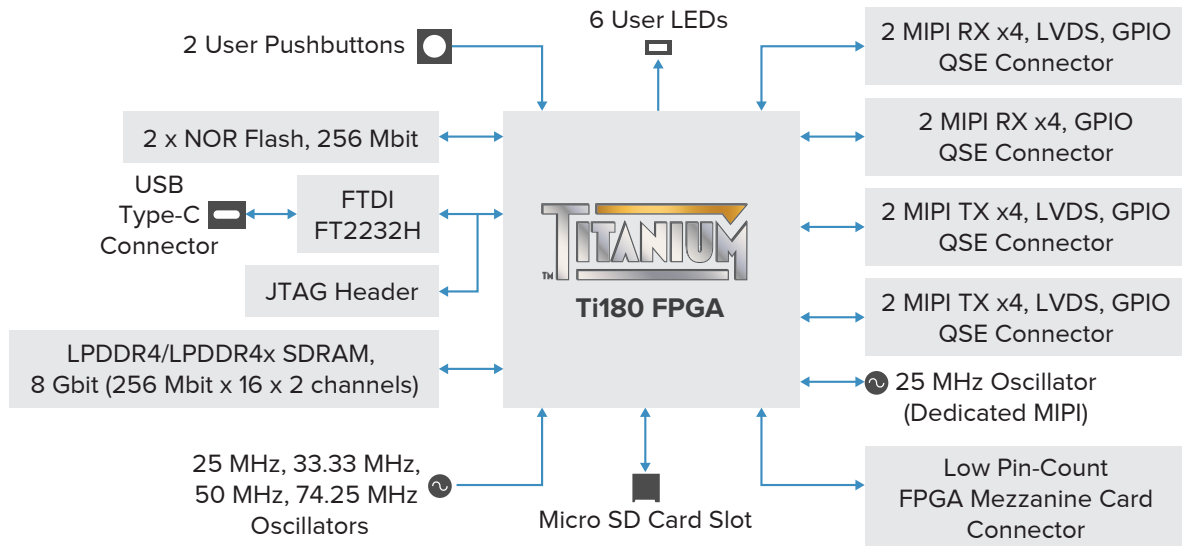
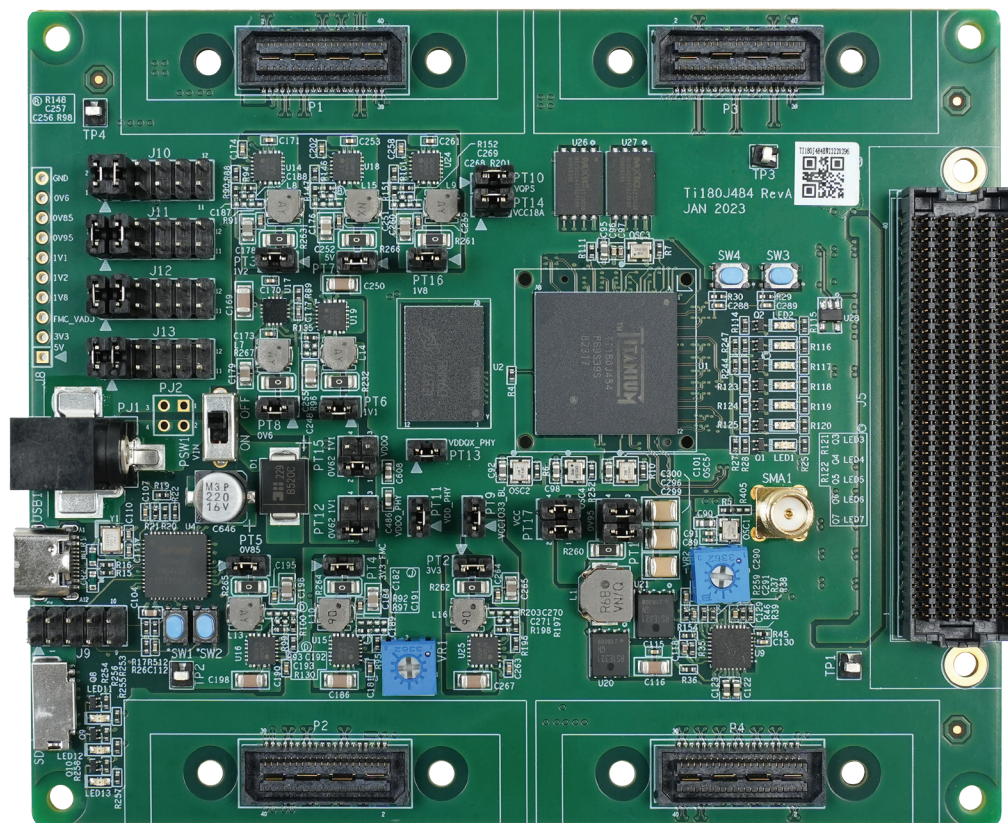


Figure 2 Titanium Ti180 J484 Development Board



Availability

The Titanium Ti180 J484 Development Kit is available for purchase. Visit www.efinixinc.com for a listing of distributors and sales representatives to pre-order your kit today.

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