TEIB0006 Getting Started

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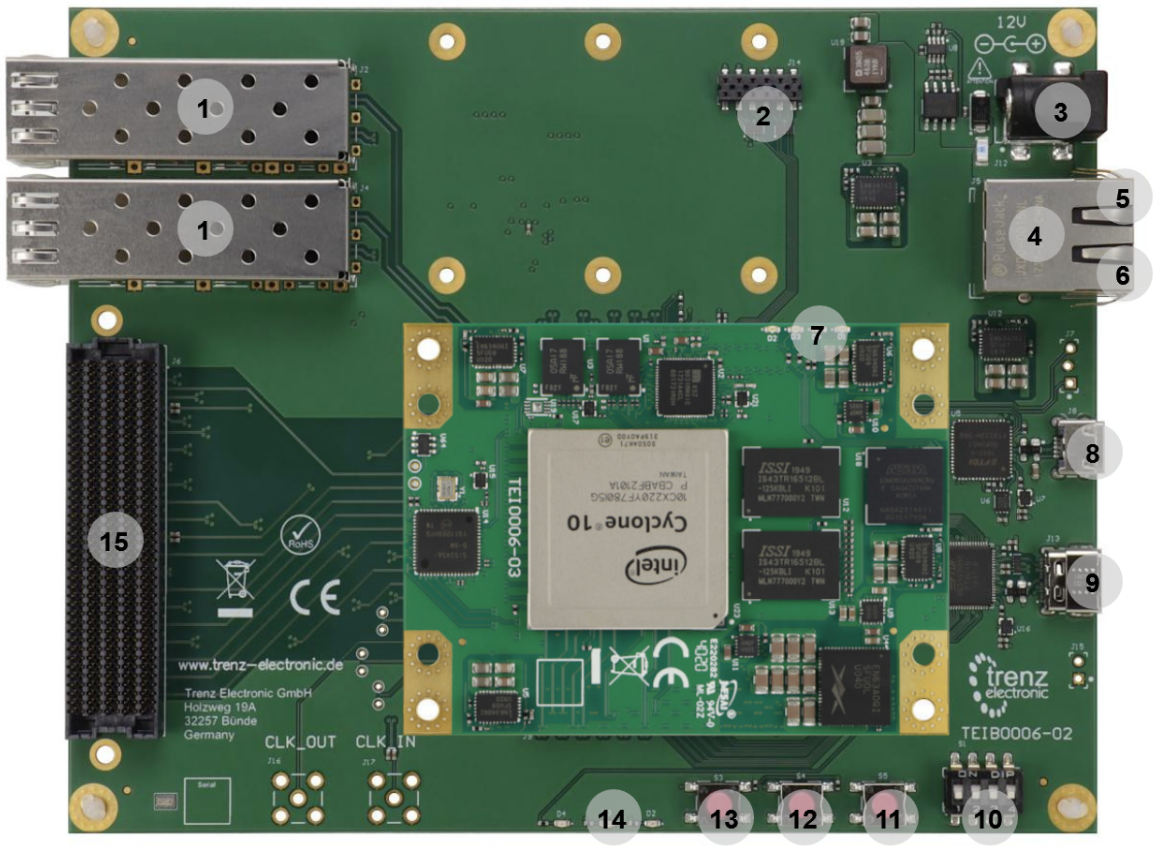
TEIB0006 with TEI0006

Overview

Basic instructions to work with TEIB0006 and TEI0006.

Functionality of buttons, DIP switches, LEDs depends on CPLD Firmware. Following description is only for newest firmware version, which is available on the download area

TEIB0006 with TEI0006



Number	Note
1	J1/3 - SFP+ connector
2	J14 - CRUVI connector
3	J12 - Power Jack, 2.0mm, DC (12V power input)
4	J5 - RJ45 Ethernet Connector
5	J5 - RJ45 Ethernet Connector LED yellow
6	J5 - RJ45 Ethernet Connector LED green
7	D1 - LED red || D2 - LED green || D3 - LED green || D4 - LED green
8	J8 - USB 2.0 Micro B Receptacle
9	J13 - USB 3.0 Micro B Receptacle
10	S1 - DIP Switch for JTAG access and write protection for EEPROM U13 on TEIB0006

11	S5 - reset button for Intel MAX 10 on TEI0006
12	S4 - user button
13	S3 - reset button for Intel Cyclone 10 GX on TEI0006
14	D2 - LED red || D3 - LED red || D4 - LED green
15	J6 - FMC HPC connector

Power supply

Label	Designator	Supply Voltage	Description
Overview - 3	J12	12V	Single 12V power supply

Current depends mainly on design and cooling solution. Use Quartus Power Analyzer Tool and/or Your Quartus Project to estimate min current. Minimum of 1A are recommanded for basic functionality.

DIP-Switches and Push Buttons

Overview 10	Default	Description
S1-1	ON	JTAGEN - ON = Intel Cyclone 10 GX, OFF = Intel MAX 10
S1-2	OFF	WP = write-protect for EEPROM U13 on TEIB0006 - ON = read and write, OFF = only read
S1-3	OFF	not connected
S1-4	OFF	not connected

DIP Switches S1

Overview 11;12;13	Default	Description
S3	High	reset button for Intel Cyclone 10 GX, connected to: • nCONFIG pin (Intel Cyclone 10 GX) • D2 - LED red (TEIB0006)
S4	High	user button, connected to: • D3 - LED red (TEIB0006) • vin_fault input of power sequencer ip in Intel MAX10
S5	High	reset button for Intel MAX 10, connected to: • nCONFIG pin (Intel MAX10)

*Note: Reset button S5 is not Firmware depended
Buttons (CPLD Firmware depended)

LEDs

Label	Designator	Color	Usage	Description
Overview - 5	J5	yellow	status	connected to Ethernet phy on TEI0006
Overview - 6	J5	green	status	connected to Ethernet phy on TEI0006
Overview - 14	D2	red	status	connected to reset button S3
Overview - 14	D3	red	---	connected to user button S4
Overview - 14	D4	green	status	connected to VOUT (5V) from power module U28 on TEIB0006

*Note: LED D4 is not Firmware depended
Carrier LEDs (CPLD Firmware depended)

Label	Designator	Color	Usage	Description
Overview - 7	D1	red	status	connected to nSTATUS pin from Intel Cyclone 10 GX
Overview - 7	D2	green	user defined	connected to nfault status of power sequencer ip in Intel MAX10
Overview - 7	D3	green	user defined	connected to DATA0 pin from Intel Cyclone 10 GX
Overview - 7	D4	green	user defined	connected to DATA0 pin from Intel Cyclone 10 GX

Module LEDs (CPLD Firmware depended)

JTAG/UART

Label	Designator	Description
Overview - 8	J8	JTAG/UART over USB, UART Speed depends on design, normally 115200

CPLD Firmware

Firmware update instruction and Firmware description are available on TEI0006 Intel MAX 10 Firmware. Source code of the firmware is available on the download area of the TEI0006.

Reference Designs

Link to different Reference Designs (Descriptions and Download)

- TEI0006 Reference Designs

It's recommended to use prebuilt *.jic file of newest Reference Design for first test. Basic Steps:

1. Power Supply over 12V power jack
2. Download Reference Design
3. Open Quartus Prime
4. Open Quartus Programmer from top menu: *Tools Programmer*
5. Select from Programmer top menu: *Edit Hardware Setup*
6. Select via the drop down menu: Arrow-USB-Blaster [USB0] (Installation of Arrow USB Programmer Driver needed) and close the window
7. Click *Add File...*
8. Select correct *.jic file and press *Open*
9. Click *Start* to program the device
10. Open Putty with correct COM port and Speed
11. Press reset button S3

12. For more details check Reference Design description

Notes

Links to all documentation and download resources:

- TEIB0006 Resources
- TEI0006 Resources