CoreEP4CE10, ALTERA Core Board

Overview

CoreEP4CE10 is an FPGA core board that features an EP4CE10F17C8N device onboard, supports further expansion.

- onboard Serial Configuration Device EPCS16SI8N
- integrated FPGA basic circuit, such as clock circuit
- onboard nCONFIG button, RESET button, 4 x LEDs
- all the I/O ports are accessible on the pin headers
- onboard JTAG debugging/programming interface
- 2.00mm header pitch design, suitable for being plugged-in your application system

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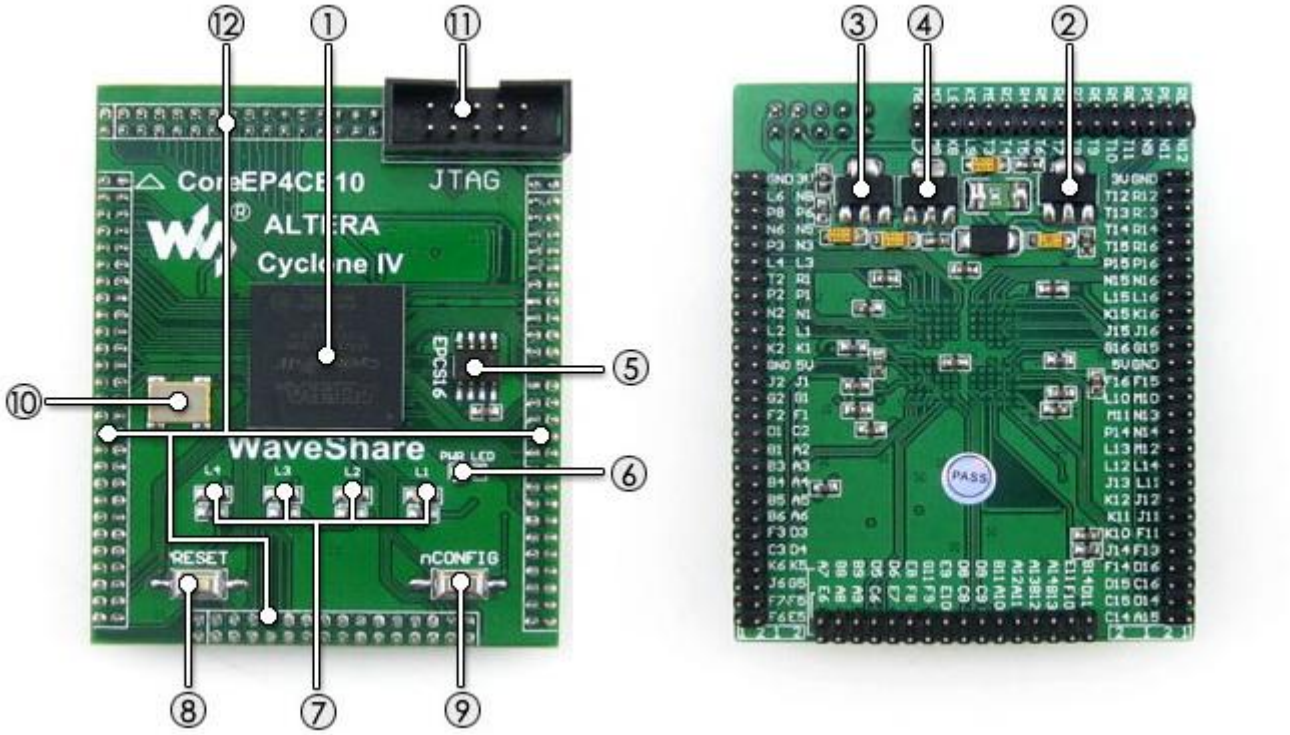
What's On Board



1. EP4CE10F17C8N:the ALTERA Cyclone IV FPGA device which features:

    - **Operating Frequency:** 50MHz
    - **Operating Voltage:** 1.15V～3.465V
    - **Package:** BGA256
    - **I/Os:** 164
    - **LEs:** 10K
    - **RAM:** 414kb
    - **PLLs:** 2
    - **Debugging/Programming:** supports JTAG
2. AMS1117-3.3 (on bottom side), 3.3V voltage regulator
3. AMS1117-2.5 (on bottom side), 2.5V voltage regulator
4. AMS1117-1.2 (on bottom side), 1.2V voltage regulator
5. EPCS16, onboard serial FLASH memory, for storing code
6. Power indicator
7. LEDs
8. Reset button
9. nCONFIG button: for re-configuring the FPGA chip, the equivalent of power reseting
10. 50M active crystal
11. JTAG interface: for debugging/programming
12. FPGA pins expander, VCC, GND and all the I/O ports are accessible on expansion connectors for further expansion

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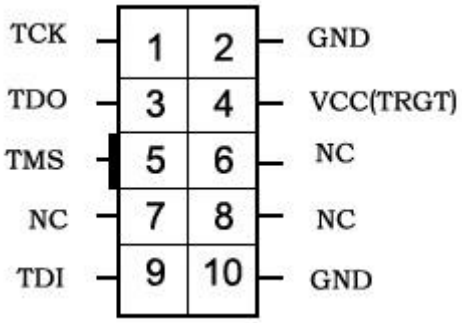
Photos

Note:
CoreEP4CE10 provides JTAG debugging interface, yet does NOT integrate any debugging function, a debugger is required.
Mother board and programmer/debugger in the photos are NOT included in the price.

JTAG Interface

The figure below shows the header pinout of JTAG

Figure 1. JTAG Header Pinout



Development Resources

CoreEP4CE10 FPGA core board comes with a User Guide CD including development resources listed as below:

- Related software (Quaters II, NIOS II etc.)
- Demo code (Verilog, VHDL, NIOS II C)
- Schematic (PDF)
- FPGA development documentations

Wiki: www.waveshare.com/wiki/CoreEP4CE10