

Altera Cyclone III FPGA Development Kit

1. Overview



Altera's Cyclone III FPGA Development Kit combines the largest density low-cost, low-power FPGA available with a robust set of memories and user interfaces. The kit dramatically reduces the design and verification portion of your project, whether it's for automotive, consumer, wireless communications, video processing or another high-volume, cost-sensitive application.

The low-cost Cyclone III FPGA family—the industry's first family of low-cost, 60-nm devices—offers an unprecedented combination of low power, high functionality, and low cost. Cyclone III devices are ideal to complement or replace ASSPs or ASICs.

If you are an experienced FPGA designer checking out the Cyclone III architecture, you'll love building systems leveraging the 50 percent (on average) faster performance Cyclone III FPGAs offer over the competition.

2. Specification

Cyclone III development board

- Cyclone III EP3C120F780 FPGA
- Embedded USB-Blaster™ circuitry (includes an Altera MAX® II CPLD) allowing download of FPGA configuration files via the flash device or the host computer
- **Company: Terasic**
- **Tel: +886-3-5750880**
- **Fax: +886-3-5726690**
- **Add: 9F., No.176, Sec.2, Gongdao 5th Rd, East Dist, Hsinchu City, 30070. Taiwan**

Memory

- 256 megabytes (MB) of dual-channel DDR2 SDRAM with error correction code (ECC)
- 8 MB of synchronous SRAM
- 64 MB of flash memory

Communication ports

- 10/100/1000 Ethernet
- USB 2.0

Power and analog devices from Linear Technology

- Switching power supply [LTM4601](#)
- Switching and step-down regulators [LT1931](#) , [LT3481](#) , and [LTC3418](#)
- Analog-to-digital converter [LTC2402](#)
- LDO regulators [LT1963](#) and [LT1761](#)

Clocking

- 50-MHz and 125-MHz on-board oscillators
- SMA inputs/outputs
- I/Os for the two HSMC connectors
- Various buttons, switches, and indicators

Display

- 128 x 64 graphics LCD
- 2-line x 16-character LCD

Connectors

- Two HSMCs
- USB type B

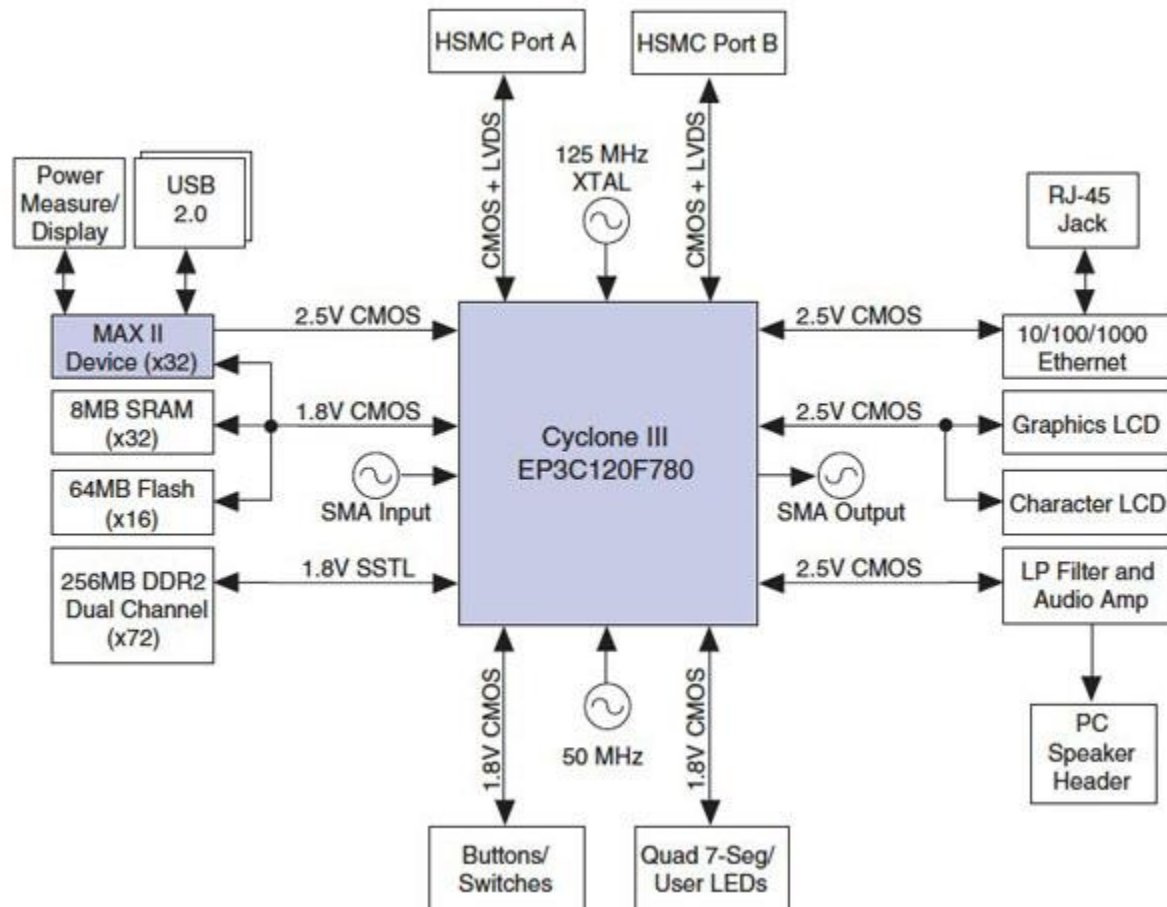
Debug tools

- Three HSMC debug cards (two loop-back and a debug header)

Cables and power/analog

- 14-V to 20-V DC input
- On-board power measurement circuitry
- 19.8 W per HSMC interface
- Power cord with plug adapters (U.S., UK, and EU)
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Altera Cyclone III Development Board Block Diagram

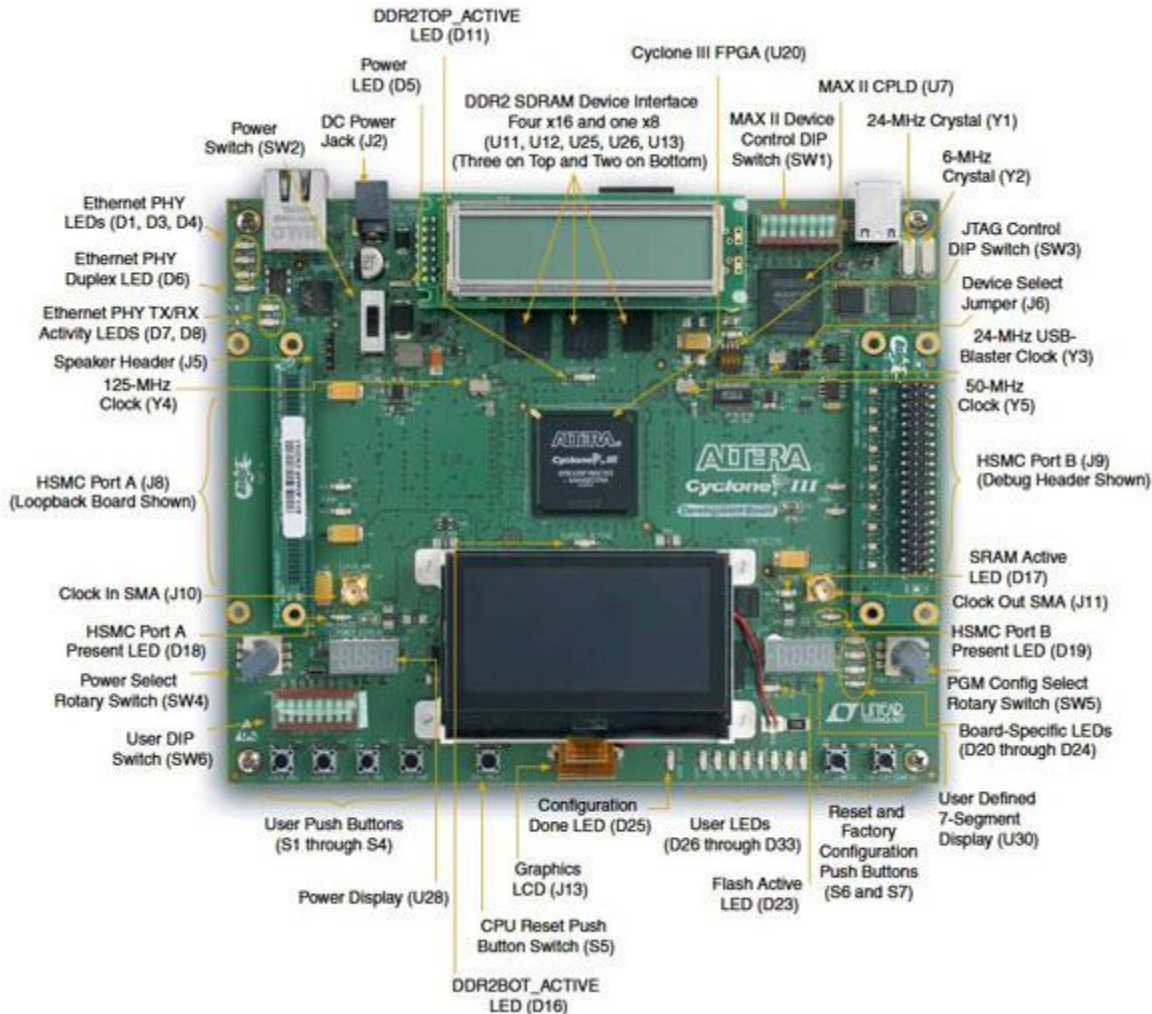


3. Kit content

- Cyclone III FPGA Development Kit, CD-ROM ([download all CD contents via FTP](#))
 - Design examples for the Cyclone III FPGA development board
 - Complete documentation
 - User guide
 - Reference manual
 - Board schematic and layout
 - Bill of materials (BOM)
 - Product and partner information
- Altera Complete Design Suite (download from [Altera Download Center](#))
 - Quartus® II design software
 - Subscription Edition (optional feature, available for purchase)
 - Web Edition (no charge, Windows only)
 - ModelSim®- Altera software
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- Altera Edition (optional feature, available for purchase)
- Web Edition (no charge, Windows only)
- MegaCore® IP Library - OpenCore Plus evaluation
 - Includes Nios II processor (evaluation license)
- Nios II Embedded Design Suite, Evaluation Edition (no charge)
- DSP Builder (optional feature and available for purchase)
- Video demos of Quartus II software and Nios II embedded processor

4. Layout



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