Chameleon96™: A 96Boards Consumer Edition Single Board Computer Based on Intel Cyclone V SoC

A powerful dual-core processor combined with flexible 110K LE FPGA in a small form factor SBC makes possible any custom project that requires computing capability, video processing, connectivity and artificial intelligence blocks.
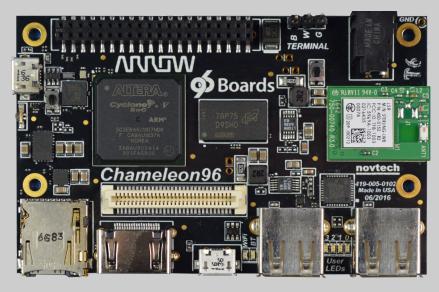
The Chameleon96™ board, based on Intel® Cyclone V SoC FPGA, is a member of 96Boards community and complies with Consumer Edition board specifications. The board meets all 96Boards mandatory specifications (excluding MIPI SDI Interface) and most optional specifications. The Chameleon96™ features Dual-core Arm® Cortex-A9 processors and a set of peripherals that allow direct interfacing and connecting to MMC/SD card, HDMI out, USB, WLAN and BLE. Two expansion connectors provide additional interfaces to cameras, USB, UARTs, I2C, SPI and GPIOs. The use of the FPGA fabric for the video processing allows development of custom IPU/GPU/VPU solutions on this platform.

Applications

- Infotainment
- Robotics
- Artificial Intelligence
- Smart buildings
- Medical Devices
- Human Machine Interface (HMI)
- Advanced Driver Assistance System (ADAS)
- Open Source Community software development

Chameleon96™

"Chameleon | cha - me - leon | : *able to change how it presents itself to the world by adapting to the environment.* "
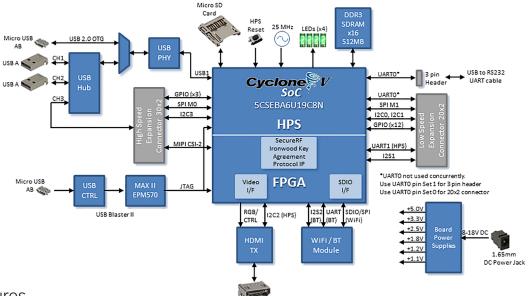
Kit Contents:

Hardware

- Chameleon96™ board (Part # Chameleon96_419-005-0201)
- Power supply
- TTL UART to USB cable
- Micro USB cable for on-board Blaster II

Software and documentation

- SD card with Linux image and example code
- Quick Start Guide
- Link to the board portal with manuals, documentation, Virtual Machine and tools

Key Features

- 96Boards Consumer Edition form-factor
  - All Consumer Edition mandatory specifications (excluding MIPI SDI Interface)
  - Most optional specifications
- Intel® Cyclone V SoC FPGA
  - Dual-core Arm® Cortex-A9
  - 110K Logic Elements FPGA fabric
- 512MB DDR3L (support to 1GByte)
- Graphics based on Intel® Video Suite for FPGA
- 1080p@60fps HD video through a HDMI interface
- MIPI CSI interface (Mobile Industry Processor Interface - Camera Serial Interface) 2× lane
- WLAN 802.11 b/g/n 2.4GHz
- Bluetooth 4.1
- One USB 2.0 OTG micro AB and two USB 2.0 (based on a DIP switch - single OTG or three USB host ports)

- Expandability
  - One 40-pin Low Speed (LS) connector
    > UART x2, SPI, I2S, I2C x2, GPIO x12 and DC power
  - One 60-pin High Speed (HS)
    > SDHC/SDIO, 2L-MIPI DSI, 2L-MIPI CSI, I2C, USB 2.0 HOST & USB 2.0 HOST HSIC
  - Expandable using 96Boards mezzanine boards
    > Can be made compatible with Arduino using an add-on card
- Power in range +5V to +42VDC (exceeding 96Boards specifications) achieved by using Power by Linear Technology.

POWER BY LINEAR™

96Boards mezzanine products let you expand the consumer edition 96Boards with new interfaces for IoT, industrial control, and other embedded applications. Expand Chameleon96™ using various mezzanine expansion boards that are available on 96boards.org website.

Customization Services

The Chameleon96™ is meant for pre-production purposes and can be used for proof-of-concept testing. NovTech Design Services can help with customized production-ready systems with the following services:

- Design modification, both schematic and PCB, to meet requirements of end-application
- Enhance HDL
- Operational mode usage of crypto function for running a secure application
- Optimize Linux drivers and software
- Customize enclosure to match environmental requirements
- Help with regulatory requirements

Ordering Information

Chameleon96™ can be ordered from Arrow.

- Part# for a board only is Chameleon96_419-005-0201
- Part# for a kit is Chameleon96_419-005-0201_KIT.

Chat live and in real time on arrow.com or connect with a Customer Support team:

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ARROW
Five Years Out

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