# Pynq Z2

PYNQ is an open-source project from Xilinx® that makes it easier to use Xilinx platforms. Using the Python language and libraries, designers can exploit the benefits of programmable logic and microprocessors to build more capable and exciting electronic systems.

PYNQ can create high performance applications with:
- parallel hardware execution
- high frame-rate video processing
- hardware accelerated algorithms
- real-time signal processing
- high bandwidth IO
- low latency control

PYNQ-Z2 features
- **ZYNQ XC7Z020-1CLG400C**
  - 650MHz ARM® Cortex®-A9 dual-core processor
  - Programmable logic
  - 13,300 logic slices, each with four 6-input LUTs and 8 flip-flops
  - 630 KB block RAM
  - 220 DSP slices
  - On-chip Xilinx analog-to-digital converter (XADC)
  - Programmable from JTAG, Quad-SPI flash, and MicroSD card
- **Memory and storage**
  - 512MB DDR3 with 16-bit bus @ 1050Mbps
  - 16MB Quad-SPI Flash with factory programmed 48-bit globally unique EUI-48/64™ compatible identifier
  - MicroSD slot
- **Power**
  - USB or 7V-15V external power regulator
- USB and Ethernet
  - Gigabit Ethernet PHY
  - Micro USB-JTAG Programming circuitry
  - Micro USB-UART bridge
  - USB 2.0 OTG PHY (supports host only)
- Audio and Video
  - 2x HDMI ports (input and output)
  - 24bit I2S DAC with 3.5mm TRRS jack
  - Line-in with 3.5mm jack
- Switches, Push-buttons and LEDs
  - 4 push-buttons
  - 2 slide switches
  - 4 LEDs
  - 2 RGB LEDs
- Expansion Connectors
  - 2xPmod ports

**XILINX**

- • 16 Total FPGA I/O (8 pins on Pmod A are shared with Raspberry Pi connector)
- • Arduino Shield compatible connector
  - • 24 Total FPGA I/O
  - • 6 Single-ended 0-3.3V Analog inputs to XADC
- • Raspberry Pi connector
  - • 28 Total FPGA I/O (8 pins are shared with Pmod A)