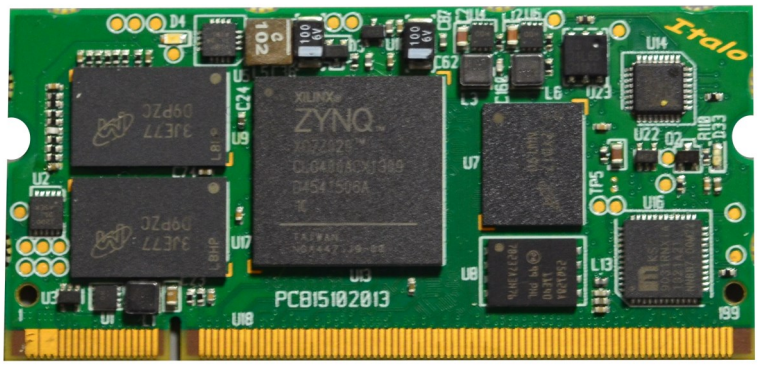
IT.A.LO SoC Zynq module

info@kairos-ed.it



Introduction

IT.A.LO module combines Xilinx Zynq 7020 SOC with fast DDR3 SDRAM, NAND and QSPI flash, a Gigabit Ethernet Phy and USB Phy, SHA-1 EEPROM and thus to form a complete and powerful embedded processing module.

IT.A.LO also integrates the controller's DC/DC power supply and can be powered by a simple 5V power supply.

The using of Sodimm form factor allows space saving hardware design and simple integration of the module into the target application.

The big advantage of using this integrated processing module, with all complex components already integrated, allows to simplify the base board architecture. This way the base board could be built with only 4 layer PCB.

Processing system

The central processor on the IT.A.LO SoM is the Zynq™-7000 AP SoC. The Zynq represents a new class of processor product, which combines an industry-standard ARM® dual-core Cortex™-A9 MPCore™ processing system, with Xilinx 28nm programmable logic. The Zynq SoC includes the following set of features:

Processing System PS:

- Xilinx® ZynqTM7020
- Dual ARM® CortexTM A9 MPCoreTM up to 800MHz
- NEONTM / FPU Engine
- 32KB I/D L1 Cache, 512KB L" Cache 256KB On-Chip Memory
- Hard Coded Peripherals: SPI, I2C, CAN, UART, GPIO, USB, GBit EMAC

Programmable Logic PL:

- 85K Logic Cells (1.3M Approximate ASIC Gates)
- 220 Programmable DSP Slices
- 560KB of Internal Block RAM

Som specification

SoM Technical information	
PLATFORM	Zynq 7020,Zynq 7010,Zynq 7014,Zynq 7007
RAM	Up to 1GByte DDR3
ROM	Up to 512Mbit QSPI and 4GByte Nand
Ethernet	10/100/1000 Ethenet Phy
USB	USB 2.0 OTG Phy
I/o	108 user I/o and up to 50 differential pair
Power Supply	Single 5V power supply
On board voltage	3.3V@600mA, 1.8V@600mA for user use
Bank Voltage	separate Power Supply for each I/O Bank
Dimensions	68mm X 32mm sodimm module

Software

Operating Systems:

- Linux BSP
- FreeRTOS
- U-Boot Boot Loaders

Development services

In addition to the module as offered, the following services are provvided :

- Baseboard development :Schematics, Layout, Prototypes
- Design In: Customer specific implementation of FPGA IP
- Operating System Portings (BSPs)
- Driver development for different operating systems
- Embedded Application Software Development
- Signal and Image processing algorithm developing