# FPGA

Tl;dr

# What is it

- Field-programmable gate array
- Integrated Circuit
- Consist of Logic Cells
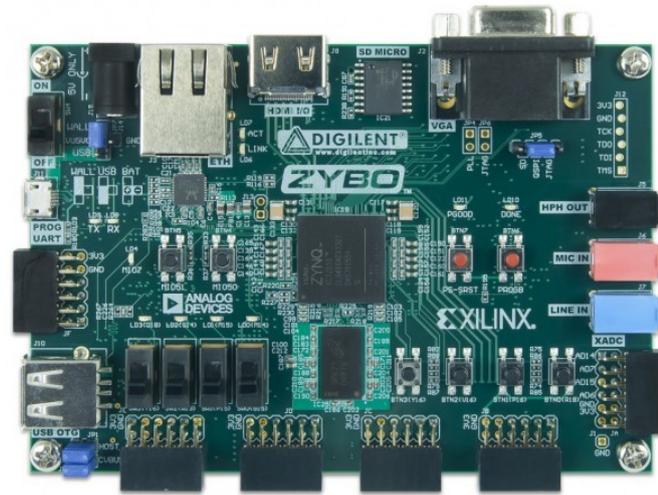- Different from a Processor
- Programmed in HDL

# What is there

- Two big vendors
  - Xilinx and Altera (bought by Intel)
- Lattice, Microsemi
- Various development boards

# Development boards

ICEstick, 20€

Zynq dev board, 120€ (stud.)

Xilinx Artix-7
1200€

# Where is it used

- Signal Processing (FritzBox)
- Interface
- „Rapid" Prototyping

# HACKING with FPGA

- Vintage computing / gaming
- SDR
- Bus interfacing while hacking something else

# HACKING FPGA

- Open Source Toolchain for Lattice FPGA (yosys)

- Free VHDL analyzer (ghdl)