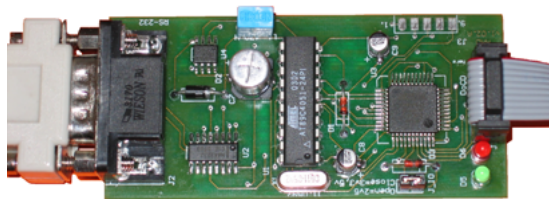# DoCD Kit
v1.01

1. OVERVIEW

The main purpose of DoCD Kit is to allow easy and smoothly start with DCD's 8051/80390/PIC IP Cores as a real hardware components. DoCD Kit provides fast way to begin 8051/80390/PIC application development and focuses users on the software development and debugging, saving their time. DoCD Kit is consisted of the following main parts:

- Hardware parts including
  - *FPGA PCB board with 1MB of FLASH, 512 kB of SRAM, APEX 20k160E chip, programmable clock oscillator, on-board power suppliers, switches, LED displays, and I/O headers*
  - *HAD PCB communication board*
  - *JTAG programming cables*
- Software parts including
  - *DoCD Debug software*
  - *DoCD target driver for Keil uVision2 tool*
- Project files and tutorials ready to use with
  - *DoCD Debug software*
  - *Keil uVision2 tool*
  - *QUARTUS II FPGA design software*
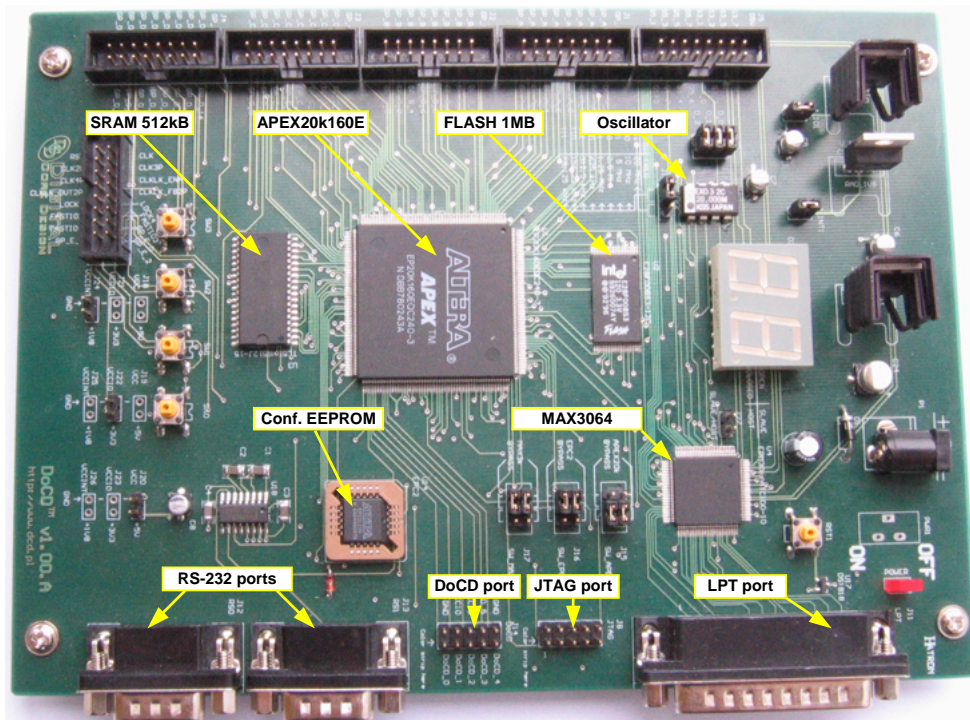- Printed documentation

2. PACKAGE CONTENT

Delivered package is consisted of two PCB boards, connector cables, programming cables, CD-ROM, and printed documentation. A CD-ROM contains DoCD Debug Software, documentation files, hardware & software applications.

- Hardware Assisted Debugger communication board - so called HAD Kit

The HAD Kit is designed to be used in conjunction with DoCD Debug Software to communicate with 8051/80390/PIC microcontrollers equipped with DoCD Debug IP. Such core can be run with any FPGA, ASIC chip user may have, so the HAD Kit can be delivered, as standalone package.

http://www.DigitalCoreDesign.com
http://www.dcd.pl

- APEX 20k160E FPGA board - so called <u>FPGA Kit</u>

Complete package comes with set of hardware and software applications, as well as with preprogrammed 8051/80390/PIC IP Core inside EPC2 configuration memory. This memory configures FPGA chip during power-up, and allows DoCD Debug Software or Keil-uVision2 debugger instant access to 8051/80390/PIC through HAD board.

Example set of 8051/80390/PIC software applications shows how to use DoCD debug system to execute and debug user program within DoCD Debug software or Keil-uVision2 environments.

Reference set of FPGA design files, provides user with 8051/80390/PIC APEX20kE Netlists. It allows user to start its own hardware design, by extending project about additional logic, modules, compiling them using QUARTUS II tool, and finally uploading programming object file into FPGA board.

3. REFERENCES

The following software packages can be downloaded form the internet.
1. DoCD debug software can be downloaded free of charge from DCD's web-site at http://www.dcd.pl/asoft.php.
2. Keil 8051 uVision2 tool suite can be also used. It can be obtained from Keil GmbH at http://www.keil.com. Evaluation version is free of charge downloadable online at http://www.keil.com/demo/eval/c51.htm.
3. QUARTUS II FPGA development software details can be found at ALTERA http://www.altera.com/support/software/sof-index.html location. It is available free of charge. The FREE license must be obtained from ALTERA web site, to allow work with FPGA design - http://www.altera.com/support/licensing/lic-index.html.

The customers should have DCD's 8051/80390/PIC IP Core equipped with DoCD on chip debugger, and HAD communication board. Information about DoCD debug system is available at http://www.dcd.pl, and can be also directly requested emailing to info@dcd.pl.

4. CONTACTS

For any questions or comments please contact DCD.

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