



ATF15xx-DK3-U CPLD Development / Programmer Kit QUICK-START GUIDE

Introduction

The ATF15xx-DK3-U CPLD Development / Programmer Kit is a complete development system and a JTAG in-system programmer for the ATF15xx family of industry standard pin compatible CPLDs.

Kit Contents

- CPLD Development / Programmer Base Board (ATF15xx-DK3)
- 44-pin TQFP Socket Adapter Module (ATF15xxDK3-SAA44)
- ATF15xx USB-based In-system Programmer (ATDH1150USB-K)
- Two ATF15xx 44-pin TQFP CPLD Sample Devices



A power supply producing a 9V DC output at 500mA or higher with a 2.1mm / 5.5mm (ID / OD) output connector (female, center positive) is required to power this kit.

Software Tools

Various development and programming software tools are available from Microchip to support different design flows. More details are contained in the “PLD Design Resources” available on the Microchip website at:

<https://www.microchip.com/design-centers/fpgas-and-plds/splds-cplds/pld-design-resources>

ATMISP (required)

The ATMISP JTAG ISP utility is used in conjunction with the ATDH1150USB-K cable to program the ATF15xx CPLDs through the JTAG port.

WinCUPL (optional)

WinCUPL is a complete, easy-to-use, Windows® OS-based design software for all Microchip SPLDs and CPLDs. It supports CUPL design entry and functional simulation and includes the latest fitter technologies. It is a free download but you will need the serial number shown on download page during installation.

ProChip Designer (optional)

ProChip Designer is a full-featured EDA suite with state-of-the-art Mentor Graphics (Precision Synthesis RTL for Verilog and VHDL) tools integrated into a user-friendly design environment. This suite also includes a JTAG in-system programming utility and fitter technologies to enable logic doubling in ATF15xx CPLDs. Optional add-on tools support schematic and CUPL design flows. Precision Synthesis RTL tool requires an approved license, which you can apply for online.



ProChip Designer uses Mentor Graphics Precision Synthesis for VHDL and Verilog synthesis and a license from Microchip is required to use this synthesis software.

POF2JED (optional)

The POF2JED utility converts the programming output files (.POF) for the industry standard CPLDs to JEDEC programming files (.JED) for the comparable ATF15xx CPLDs.

Hardware Tools

ATF15xx-DK3 Board Setup:

1. Set the VccIO Selector and VccINT Selector jumpers to the appropriate positions.



When changing the position of the VccIO or VccINT Selector jumper, the power to the ATF15xx-DK3 board must be turned OFF.

2. Make sure the IccIO and IccINT jumpers are inserted.
3. Make sure the JP-TDO jumper (next to the 10-pin JTAG header) is set to the “TO ISP CABLE” position.
4. Insert the socket adapter module (i.e. ATF15xxDK3-SAA44) onto the ATF15xx-DK3 base board.
5. Insert an ATF15xx CPLD into the socket on the socket adapter module.
6. Connect the ribbon cable provided to the “JTAG-A” port of the ATDH1150USB-K programmer.
7. Connect the ATDH1150USB-K programmer to the host PC using the USB cable provided and the JTAG-IN header on the ATF15xx-DK3 base board using the ribbon cable provided.
8. Connect a 9V DC power supply (not provided with kit) to the JPower connector (center positive).
9. Turn the POWER SWITCH to the ON position to turn on the system.

More details are available online at:

<https://www.microchip.com/developmenttools/ProductDetails/ATF15XX-DK3-U>

Technical Support

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