# VC709 Power Bus Reprogramming

Contents

> **Caution!**

> **Xilinx VC709 Board**

> **Hardware & Software Requirements**

> **Setup**

> **TI Fusion Digital Power Manufacturing Tool Tutorial**

© Copyright 2015 Xilinx

XILINX > ALL PROGRAMMABLE.

Caution!

> **The Texas Instruments software used in this presentation can adjust the power supply outputs on the VC709**

> **If used improperly, it can seriously damage your VC709**

> **Before making any adjustments not specifically covered in this presentation:**

– Understand the power requirements for Virtex-7 Devices

– Understand the consequences of the change you are making

© Copyright 2015 Xilinx

Xilinx VC709 Board

EX XILINX > ALL PROGRAMMABLE.
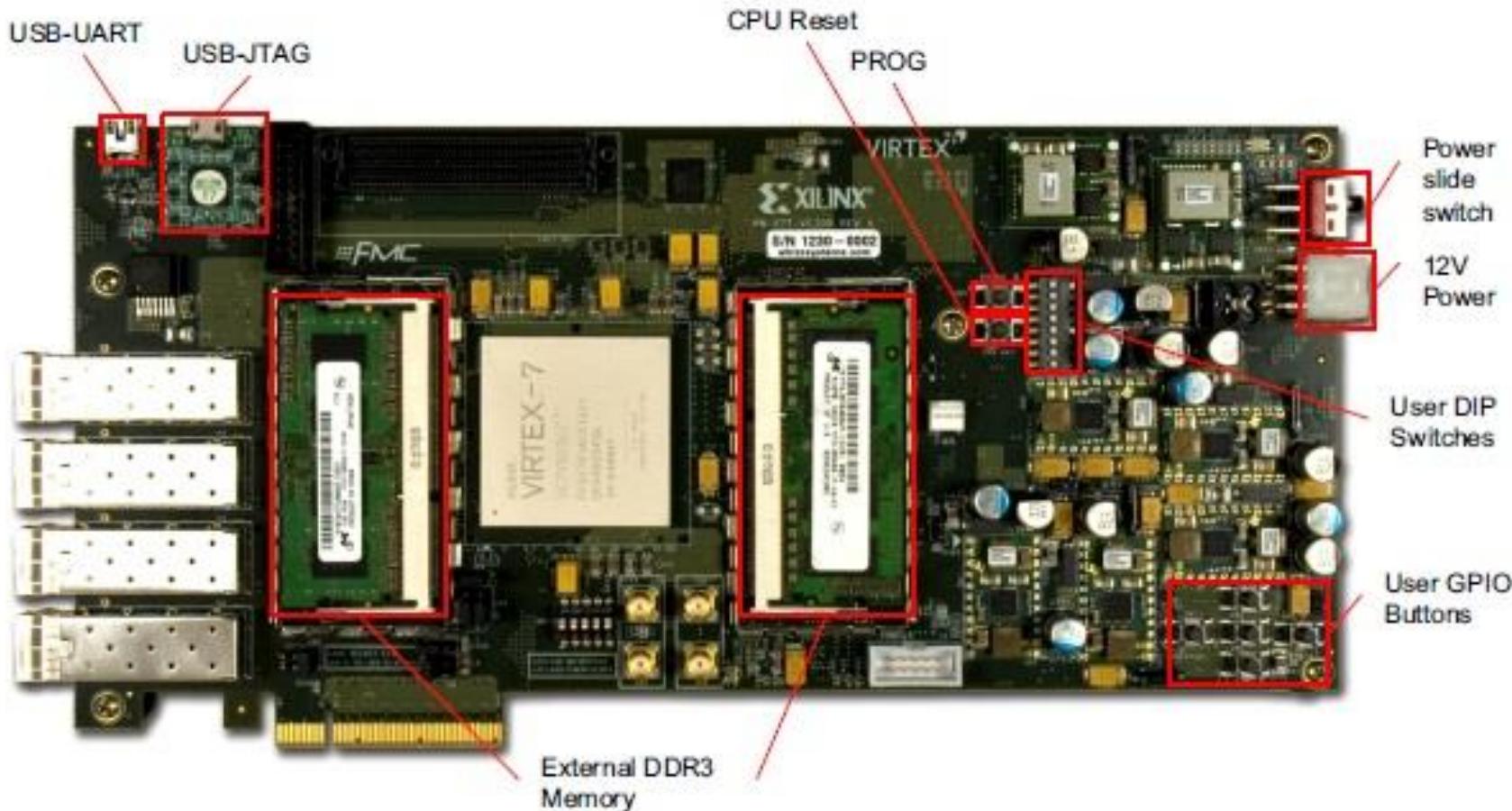
Hardware Requirements

❯ **Texas Instruments USB Interface Adapter EVM**

– TI Part Number: USB-TO-GPIO

© Copyright 2015 Xilinx

XILINX ❯ ALL PROGRAMMABLE™

Software Requirements

‣ Texas Instruments Power Software

- TI Part Number: FUSION_DIGITAL_POWER_DESIGNER
- Download Latest Release at http://www.ti.com/tool/fusion_digital_power_designer

Note: Splash screen included for reference – may not be latest version of TI Digital Power Designer GUI

Software Setup

❯ **Install the TI Fusion Digital Power Designer Software**

© Copyright 2015 Xilinx
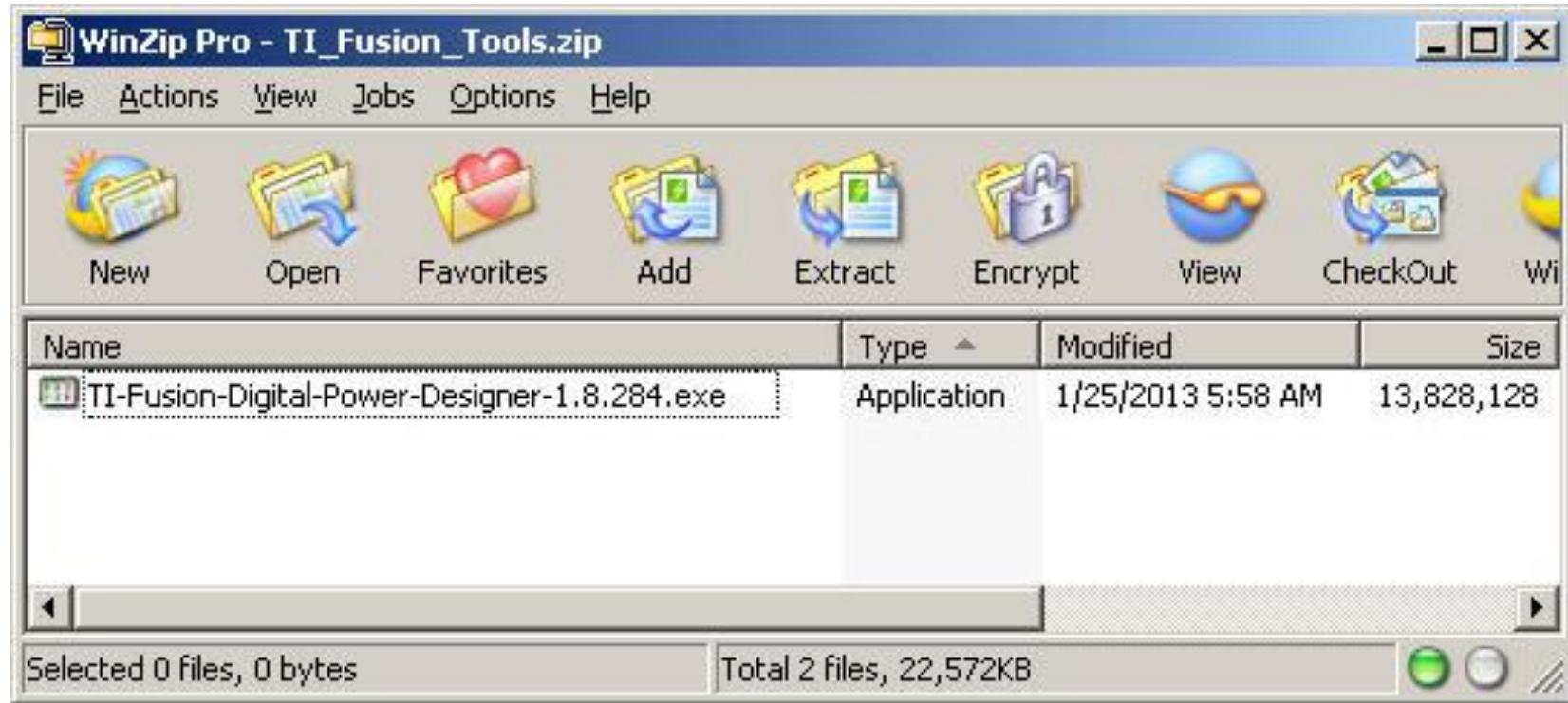
Connect TI USB Interface Adapter

❯ **On the TI USB Adapter**
- – Connect the Ribbon Cable
- – Connect the USB Cable

© Copyright 2015 Xilinx
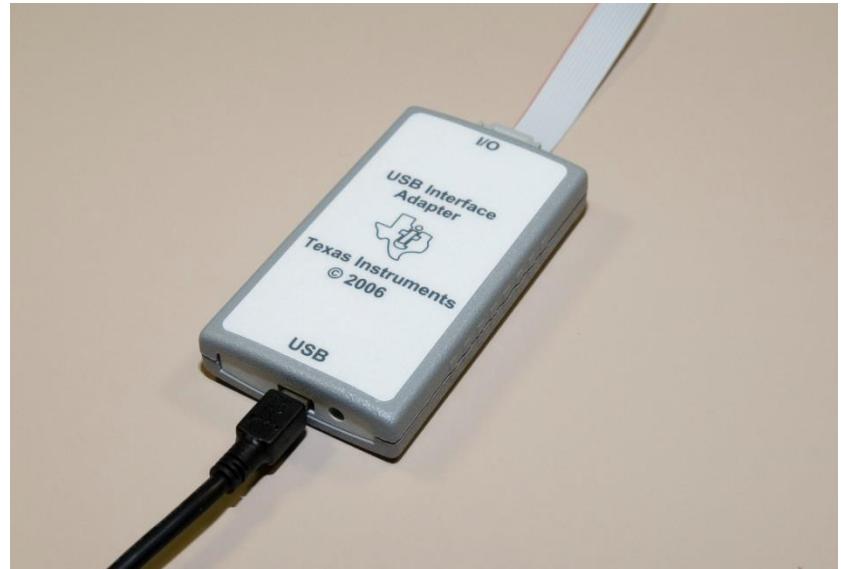
Connect TI USB Interface Adapter (2)

➤ **Connect the USB cable to your PC**

➤ **Connect the Ribbon Cable to the VC709**

   – Red Stripe towards pin 1
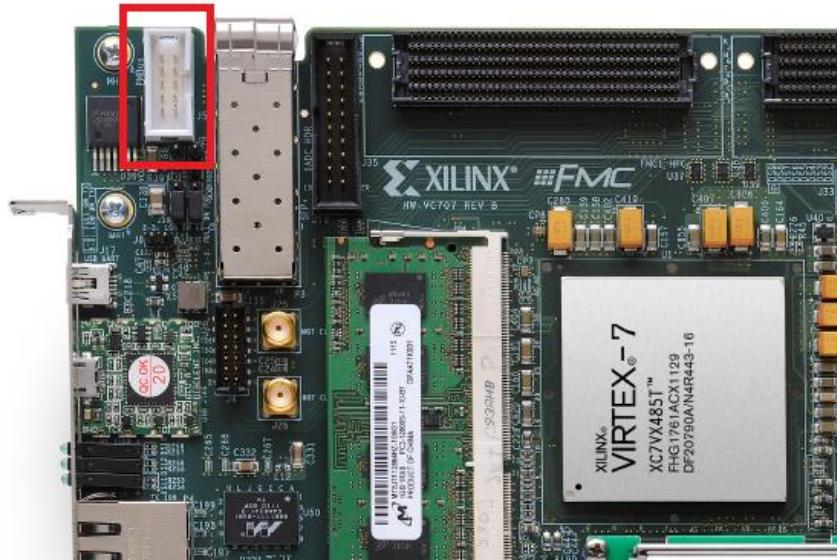
   – Insert the "A" end of the USB cable into a PC USB port (do not use a docking station or USB hub port)

   – Turn on the VC709 board

XILINX ➤ ALL PROGRAMMABLE.

Restoring Power Levels

> **Unzip included file: VC709_TI_XML.zip**

© Copyright 2015 Xilinx
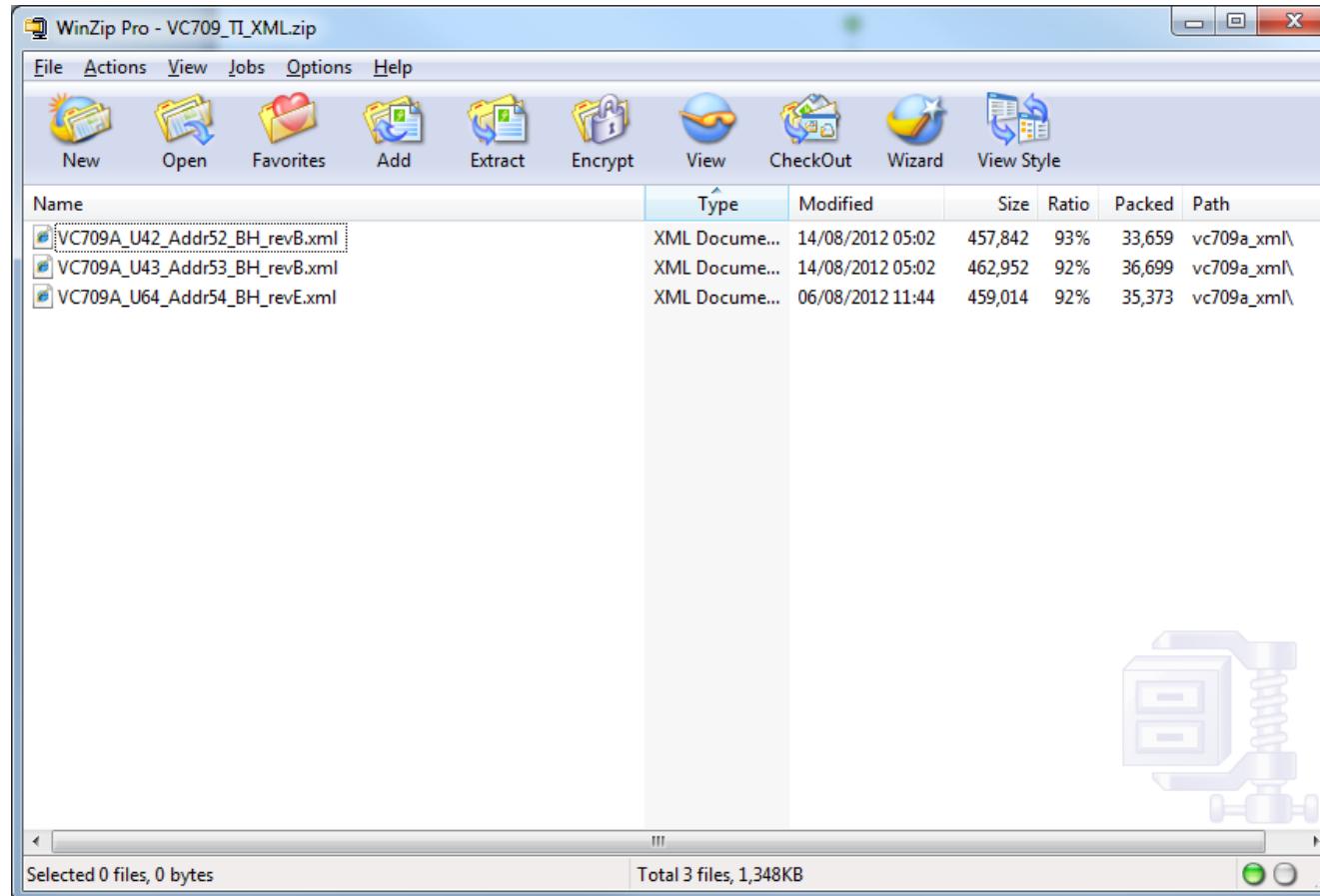
TI Fusion Digital Power Designer Tool

➤ **Power up the VC709**

➤ **Go to Texas Instruments Fusion Digital Power Designer > Tools > Firmware & Configuration Download Tool:**

© Copyright 2015 Xilinx
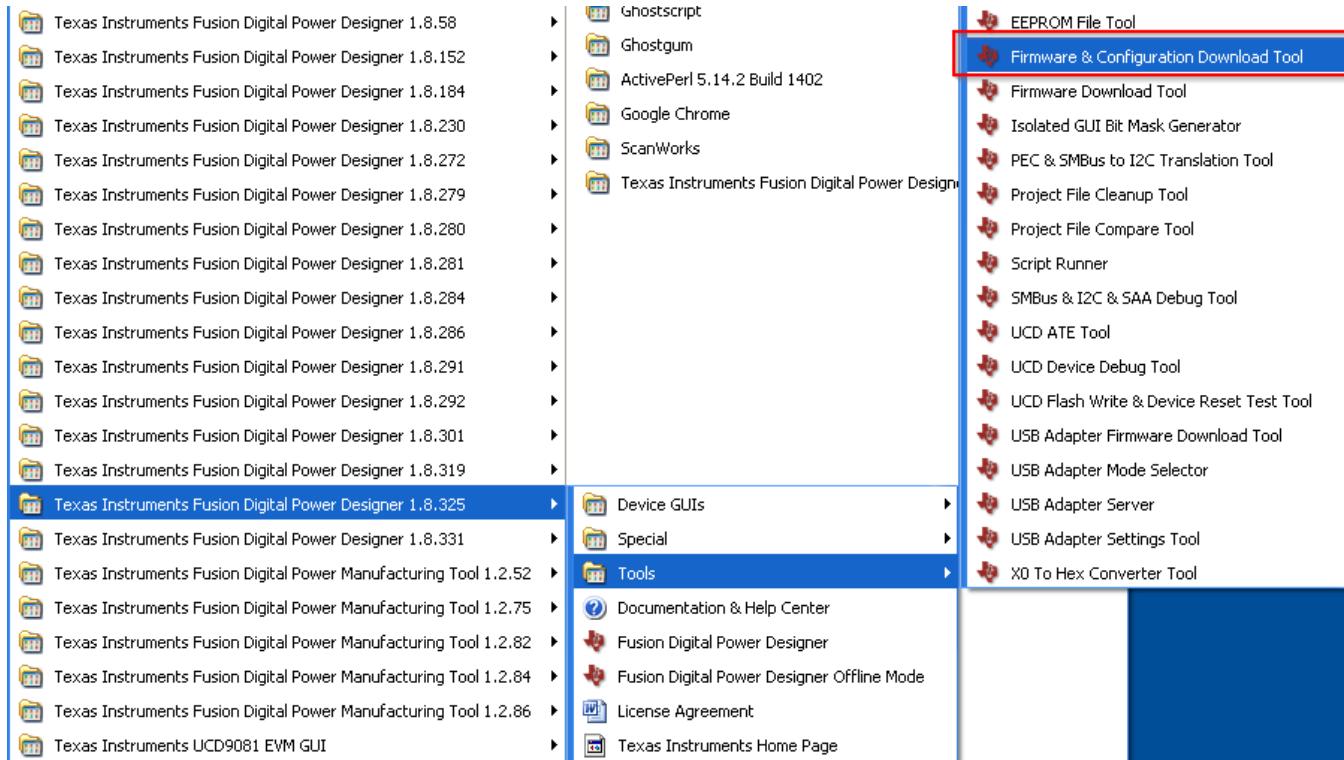
TI Fusion Digital Power
Firmware & Configuration Download Tool

> **When the Fusion Digital Power Firmware & Configuration Download Tool window opens the following fields need to be completed:**

- IC Family: UCD3xxx / UCD92xx / UCD90xx

- Project File Write Options (Used for All Devices):
  Ignore write read back mismatch warnings (NACKs will still abort programming)
  Force write of all parameters (normally only differences are written)

- Address of controller you wish to write to

- Project File (radio button)

- Navigate to the location of .xml configuration file for this controller and select

> **Once configuration section is complete, click Start**

> **Up to 4 devices can be written from one instance**

> **See next slide for GUI representation**

XILINX ➤ ALL PROGRAMMABLE.

TI Fusion Digital Power
Firmware & Configuration Download Tool

© Copyright 2015 Xilinx
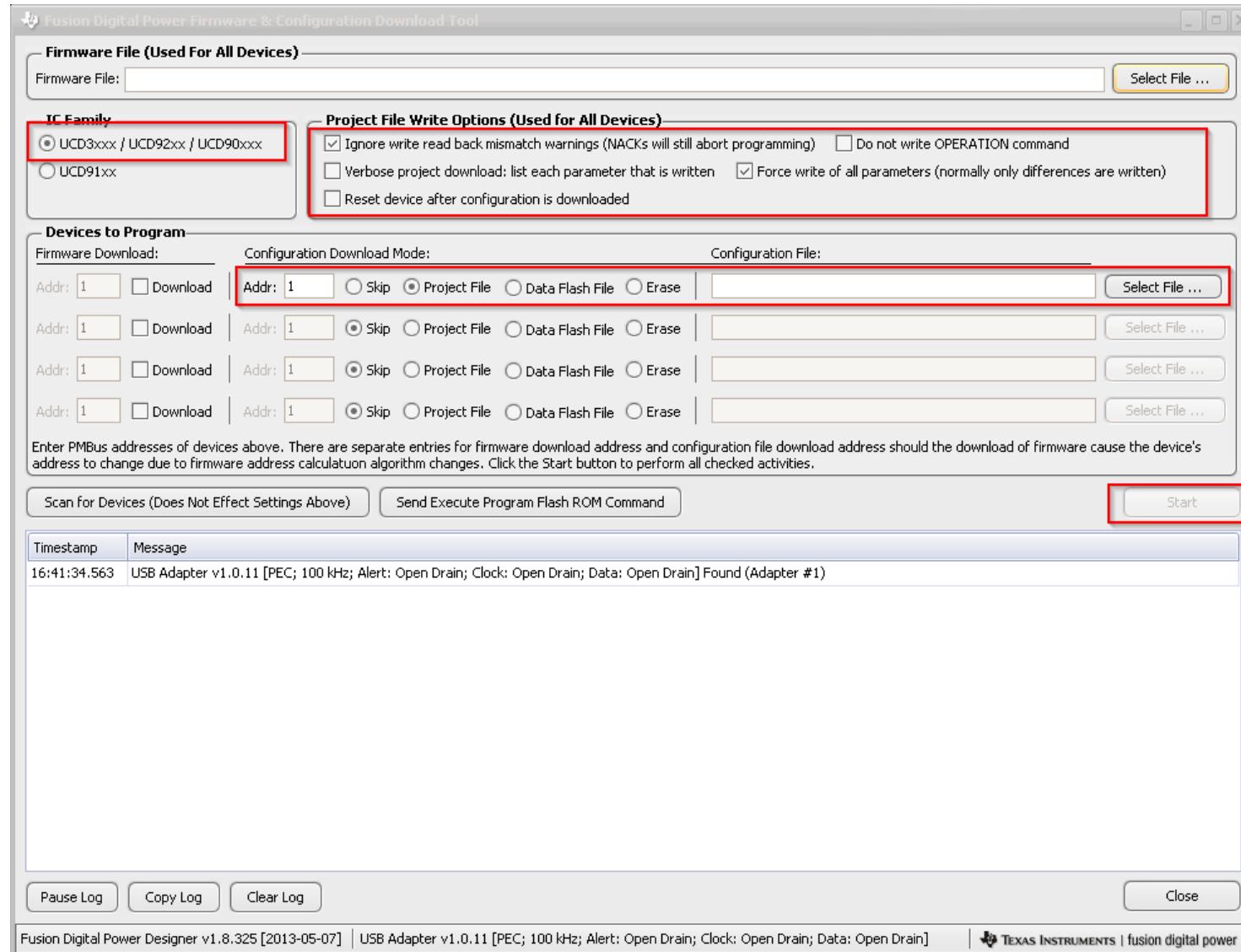
TI Fusion Digital Power
Firmware & Configuration Download Tool - Example

➤ **VC709 U42**

➤ **Addr52**

© Copyright 2015 Xilinx