READ ME FIRST

MSP-FET430 Flash Emulation Tool (FET)

Thank you for purchasing a Texas Instruments MSP-FET430 Flash Emulation Tool for our MSP430 ultra-low power microcontroller.

This tool contains the most up-to-date materials available at the time of packaging. For the latest materials (data sheets, software, applications, etc.), please visit our MSP430 web site at www.ti.com/sc/msp430, or contact your local TI sales office.

This document is applicable to the following tools: MSP-FET430X110 (for the MSP430F11x/11x1 device), the MSP-FET430P120 (for the MSP430F12x device), the MSP-FETP140 (for the MSP430F13x/14x device), and the MSP-FET430P410 (for the MSP430F41x device).

1.1 Kit Contents, MSP-FET430X110:

1. One READ ME FIRST document (this document).
2. One MSP430 CD-ROM.
3. One MSP-FET430X110 FLASH Emulation Tool. This is the PCB on which is mounted a ZIF socket for the MSP430F1121. A 25-conductor cable originates from the FET.
4. One small, black box containing two MSP430F1121DW devices.

1.2 Kit Contents, MSP-FET430Pxx0:

1. **MSP-FET430P120 only**: One Product Disclaimer document.
2. One READ ME FIRST document (this document).
3. One MSP430 CD-ROM.
4. One MSP-FETP430IF FET Interface module. This is the unit that has a 25-pin male D-Sub connector on one end of the case, and a 2x7 pin male connector on the other end of the case.
5. **MSP-FET430P120**: One MSP-TS430DW28 Target Socket module. This is the PCB on which is mounted a ZIF socket for the MSP430F123. A 2x7 pin male connector is also present on the PCB.
   MSP-FET430P140: One MSP-TS430PM64 Target Socket module. This is the PCB on which is mounted a clam-shell-style socket for the MSP430F149. A 2x7 pin male connector is also present on the PCB.
   MSP-FET430P410: One MSP-TS430PM64 Target Socket module. This is the PCB on which is mounted a clam-shell-style socket for the MSP430F413. A 2x7 pin male connector is also present on the PCB.
6. One 25-conductor cable.
7. One 14-conductor cable.
8. **MSP-FET430P120:** Four PCB 1x14 pin connectors (Two male and two female).
   MSP-FET430P140: Eight PCB 1x16 pin connectors (Four male and four female).
   MSP-FET430P410: Eight PCB 1x16 pin connectors (Four male and four female).
9. One small, black box containing two devices.
   MSP-FET430P120: PMS430F123DW
   MSP-FET430P140: MSP430F149PM
   MSP-FET430P410: MSP430F413PM
   PMS devices are preliminary devices.
   Please consult the data sheet for device specifications. A list of device errata can be found at
   http://www.ti.com/sc/cgi-bin/buglist.cgi

2. Install the software.

1. Insert the MSP430 CD-ROM into the CD-ROM drive of the computer. It should start automatically. A setup routine will check if you have an HTML browser installed on your computer. The MSP430 start page will then be displayed. (Alternatively, use a browser to open the file "index.htm" that is located in the root directory of the MSP430 CD-ROM. The MSP430 start page will then be displayed.)
2. Select "Tool Software".
3. Select "Flash Emulation Tool".
4. Select "Save this program to disk". A "Save As" dialog will be displayed.

5. Use the Save As dialog to save "FET_R301.exe" to the computer. Note the directory path to this saved file.

6. Navigate to this saved file (FET_R301.exe), and execute it. A welcoming message will be displayed.

7. Respond to the prompts to install the FET software. The installation procedure will install the IAR files and the TI files. Finish the installation.

3. Read and follow the "Get Started Now!" section of the User's Guide.

The MSP-FET430 User's Guide (and all tool documentation) can be accessed with: START->PROGRAMS->IAR SYSTEMS->IAR EMBEDDED WORKBENCH FOR MSP430 KICKSTART->FET DOCUMENTATION. The User's Guide can also be located in the installed folder: <IAR_INSTALLATION_DIRECTORY>\Ew23\430\doc

4. Notes.

1. Declaration of CE-Conformity is included on the CDROM.

5.1 Significant Known Problems, MSP-FET430X110

1. None.

5.2 Significant Known Problems, MSP-FET430Pxxx

1. Revisions 1.0, 1.1, and 1.2 of the FET Interface module (MSP-FETP430IF) require a hardware modification; a 0.1uF capacitor needs to be installed between U1 pin 1 (signal VCC_MSP) and ground. A convenient (electrically equivalent) installation point for this capacitor is between pins 4 and 5 of U1. Refer to the diagram following. The case of the FET Interface module can be opened by carefully inserting a knife blade between the two case halves, and then twisting the knife so as to pry the case halves apart. Note: The hardware modification may have already been performed during manufacturing.

5.3 Significant Known Problems, MSP-FET430P120

1. C-SPY cannot be used to debug programs that execute in RAM. A work around to this limitation is to debug programs in FLASH.

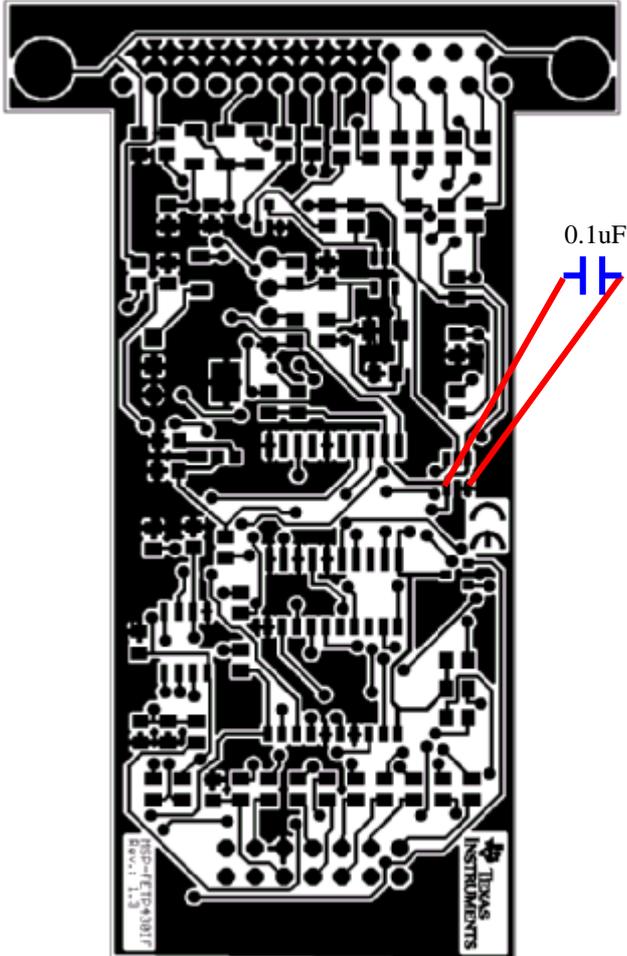## 5.4 Significant Known Problems, MSP-FET430P140

1. Revisions 0.1 and 1.0 of the Target Socket module (MSP-TS430PM64) requires a hardware modification; the PCB trace connecting pin 6 of the JTAG connector to pin 9 of the MSP430 (signal XOUT) needs to be severed. Refer to the diagram following. Version 1.10 or greater of the PRGS software must then be used if the PRGS is used in conjunction with the modified Target Socket module. Note: The hardware modification may have already been performed during manufacturing.

5.5 Significant Known Problems, MSP-FET430P410

1. C-SPY cannot be used to debug programs that execute in RAM. A work around to this limitation is to debug programs in FLASH.

2. Revision 1.0 of the Target Socket module (MSP-TS430PM64) requires a hardware modification; the PCB trace connecting pin 6 of the JTAG connector to pin 9 of the MSP430 (signal XOUT) needs to be severed. Refer to the diagram following. Version 1.10 or greater of the PRGS software must then be used if the PRGS is used in conjunction with the modified Target Socket module. Note: The hardware modification may have already been performed during manufacturing.

For revisions 1.0, 1.1, and 1.2 of the FET Interface module (MSP-FET430IF) included with tools MSP430FETPxxx, install a 0.1uF between the indicated points (pins 4 and 5 of U1).

For revisions 0.1 and 1.0 of the Target Socket module (MSP-TS430PM64) included with tools MSP-FET430P140 and MSP-FET430P410, severe the trace at the indicated point. Note: The following image depicts the back side of the PCB **when viewed from the component side of the PCB.**