Quick Start Guide

Texas Instruments Board MSP-EXP432P401R LaunchPad



Install Keil MDK Version 5

www.keil.com/mdk5/install • **Download** and install the MDK Core from

Add Software Pack using the Pack Installer

• TexasInstruments::MSP432P4xx_DFP – Device Family Pack for Texas Instruments MSP432 Series

Power up the board

• Connect a USB power supply to the **Power / XDSII0-ET Micro USB Connector**

Verify Installation

- Copy an example using the Pack Installer. Compile, download to Flash, and debug the application. The provided examples are ready to run. Trace settings might have to be adapted.
- Or download examples for this board
 - www.keil.com/dd2/texasinstruments/msp432p401r/

More Information

- **Evaluation Board Description** •
- **TI XDS** Debugger Description •

Related Information

- MDK Version 5
- Getting Started User's Guide •
- MDK-Professional Middleware •
- Learning Platform •

www.ti.com/tool/MSP-EXP432P401R www.keil.com/support/man/docs/xds110

www.keil.com/mdk5 www.keil.com/gsg www.keil.com/middleware www.keil.com/learn

Microcontroller Tools

Debug and Trace Configuration

Texas Instruments Board MSP-EXP432P401R LaunchPad

ARM[®]KEIL[®] Microcontroller Tools

Debug with TI XDS Debugger

In μ Vision, open the dialog **Project – Options for Target – Debug** and enable **Use** and select **TI XDS Debugger**. Click on **Settings**.

Settings.	⊙ <u>U</u> se	TI XDS	Debugger	✓ Settings				
	▼ Loa	id Applicati	ion at Startup	Run to main()				
Debug Trace Rash Download								
Debug Adapter		SW Dev	rice					
Unit:	-		IDCODE	Device Name				
Serial Number:	-	SWDIO	0x00000000	ARM Core Sight SW-DP				
Firmware Version:	_	C Aut	omatic Detection	ID CODE:				
SWJ Port: SW 💌	C Manual Configuration Device Name:							
Max Clock: 10MHz	Add Delete Update IR len:							

Linker Debug Utilities

Debug and Trace with ULINKpro

In the **Debug** dialog, set the connection for Serial Wire Debug (SWD) by selecting the **Port** SW and verify the connection in the **SW Device** section.

Remove the jumpers as indicated in the picture. Connect ULINK*pro* to the marked on-board **10-pin Debug Connector**.

Select **ULINK PRO Cortex Debugger** as your debug adapter. Click on **Settings**.

Ensure you have enabled the Debug Description on the **Pack** tab.

Analog to the setting for the **TI XDS Debugger**, click on the **Debug** tab and set the debug **Port** to SW. Verify the connection.

Trace Configuration

Click on **Trace** tab and enter the correct CPU **Core Clock** speed as specified in your project.

Check the **Trace Enable** box. Set the **Trace Port** to Serial Wire Output – Manchester.

Linker	Debug	Utilities				
⊙ <u>U</u> s	e: ULIN	K Pro Cortex Debu	ugger	•	Settings	
I Load Application at Startup I Run to main()						

Debug Tra	ice Flash Download Pack
Debug De	scription
Pack: Tex	asInstruments.MSP432P4xx_DFP.2.1.0
🔽 Enable	•

Debug Trace Flash Download Pack				
Core Clock: 48.000000 MHz	🔽 Trace Enable			
- Trace Port Serial Wire Output - Manchester ▼	Timestamps Enable Pre			
SWO Clock Prescaler: 1 Autodetect	PC Sampling Prescale			
SWO Clock: 48.000000 MHz	✓ Periodic Period ✓ On Data R/W S			