

MSP432P401R Launchpad External Target Mod

This guide walks through the steps of connecting to and programming an external target using the MSP432P401R LaunchPad Development Kit.

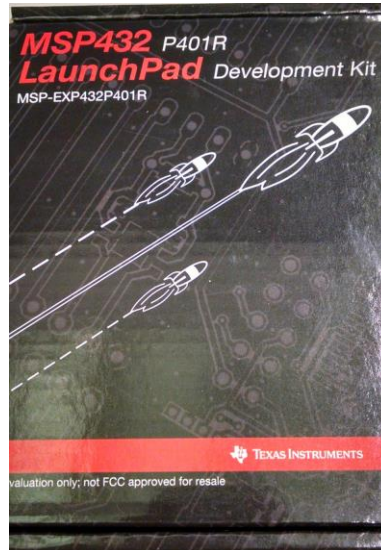


Figure 1: MSP432P401R LaunchPad Development Kit

Step 1:

Remove the board from the packaging.

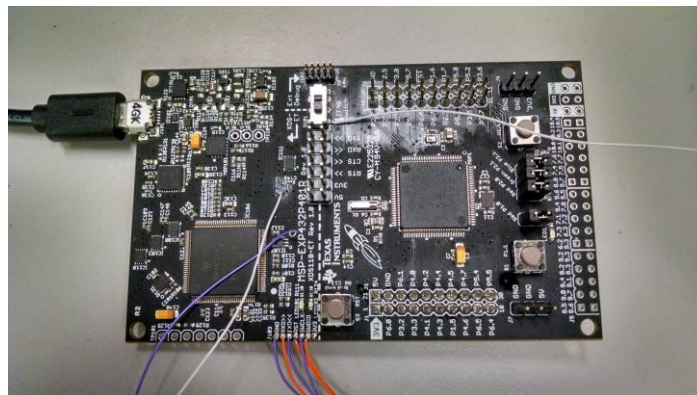


Figure 2: MSP432P401R LaunchPad out of box (with wires attached)

Step 2:

Remove the jumpers from the isolation header as well as switch S101 to the “XDS-ET” position (not the “Ext Debug” position).

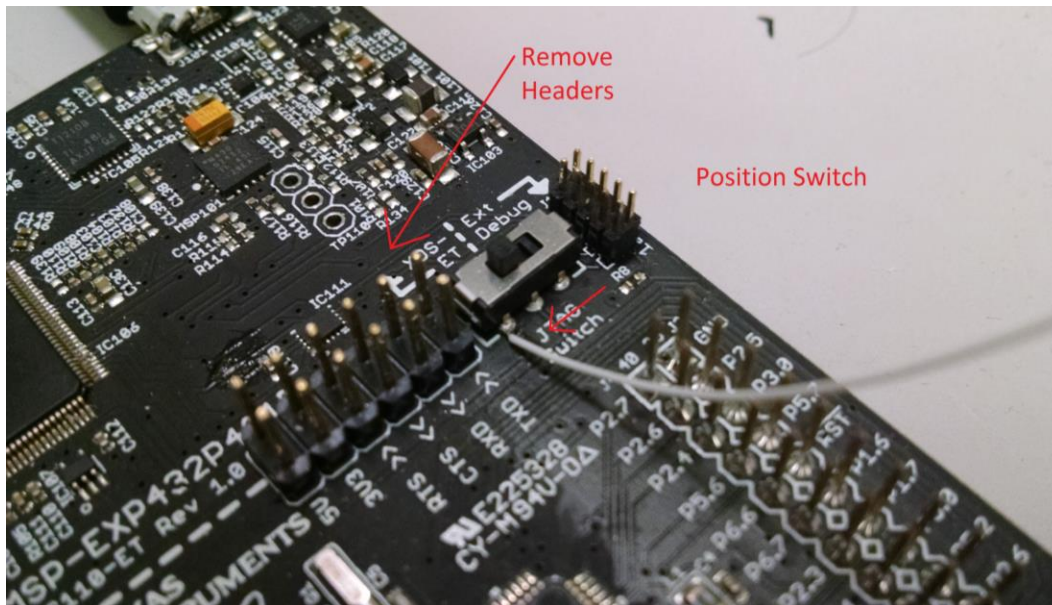


Figure 3: Headers Removed and Switch Positioned

Step 3:

Attach wires to each of the positions in J103 on the side of the board near the reset button.

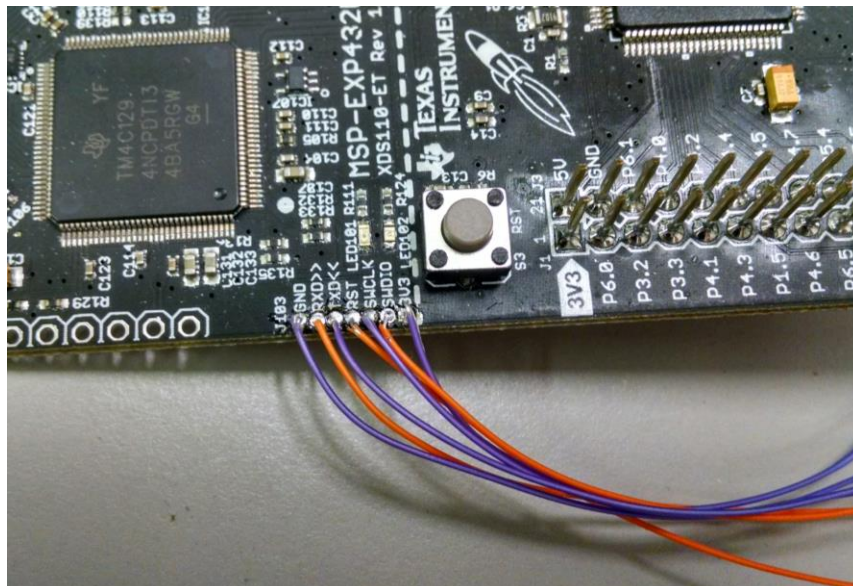


Figure 4: Jumper wires soldered into J103 on the LaunchPad

Step 4:

Attach a wire for the “TDI” signal by soldering a wire into pin 6 of the debug select switch (S101) as shown in the figure below. Ensure that the switch remains in the “XDS-ET” position.

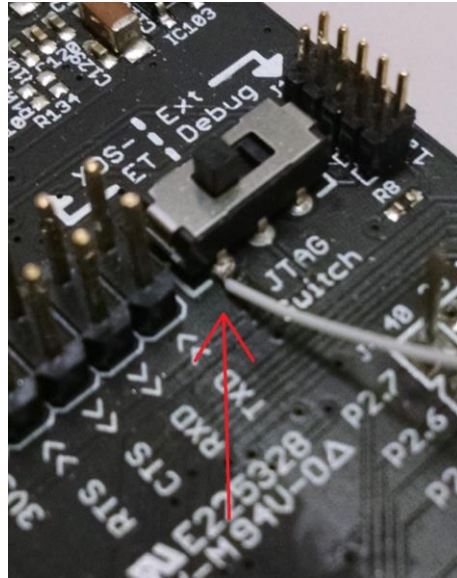


Figure 5: Wire Soldered to "TDI" Signal on S101

Step 5:

Attach a wire for the “SWO” signal by soldering a wire to pin 12 of IC111. Since the traces are small on that component, it is easiest to attach the wire directly to the trace.

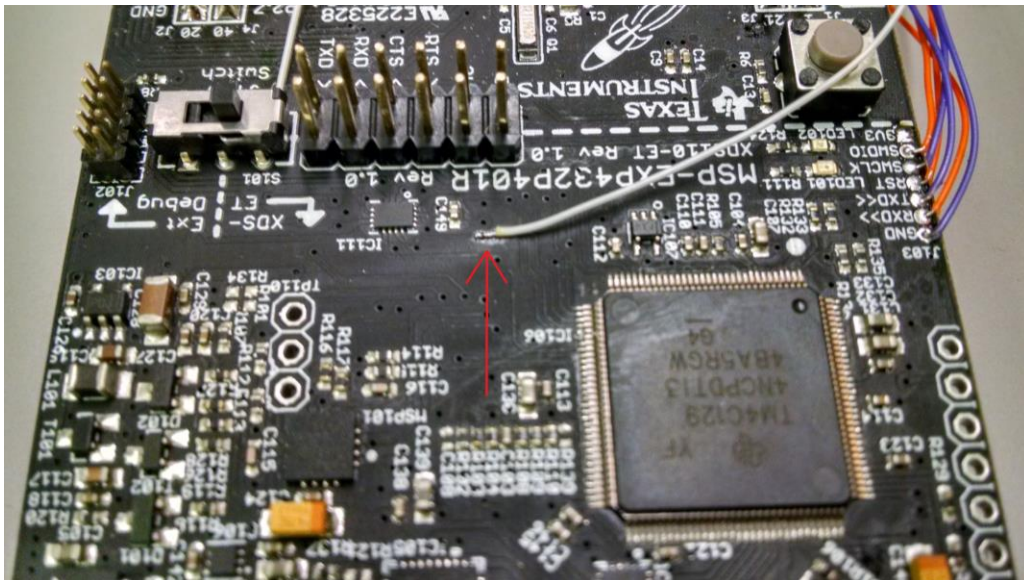


Figure 6: Wire Soldered to "SWO" Signal from Pin 12 on IC111

Carefully scratch off the soldermask from the trace leading to pin 12 on IC111. This will allow for more space to solder a wire.

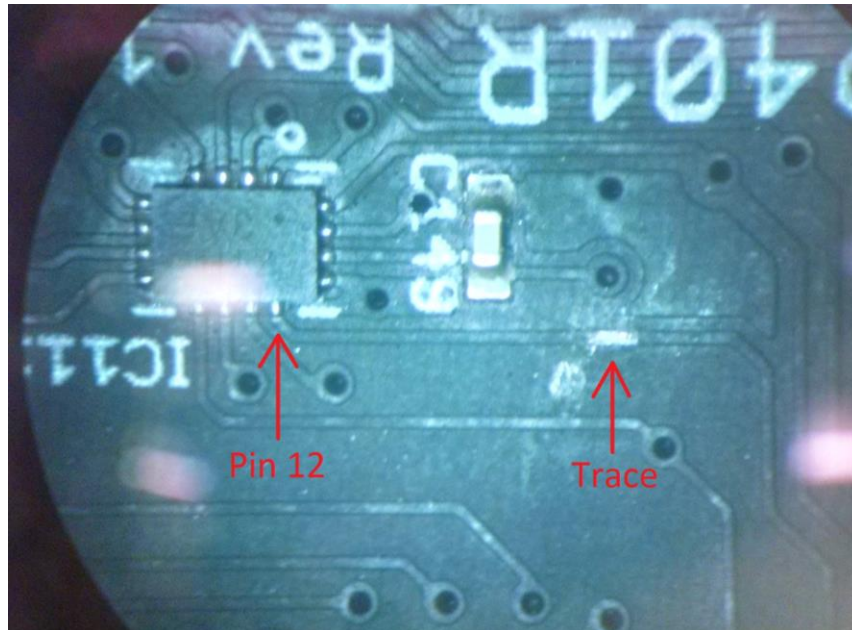


Figure 7: Close-up of IC111 and the Soldering Location for the "SWO" Signal

Solder a wire to the exposed copper of the trace and be careful to not strain the wire as it may damage the board.

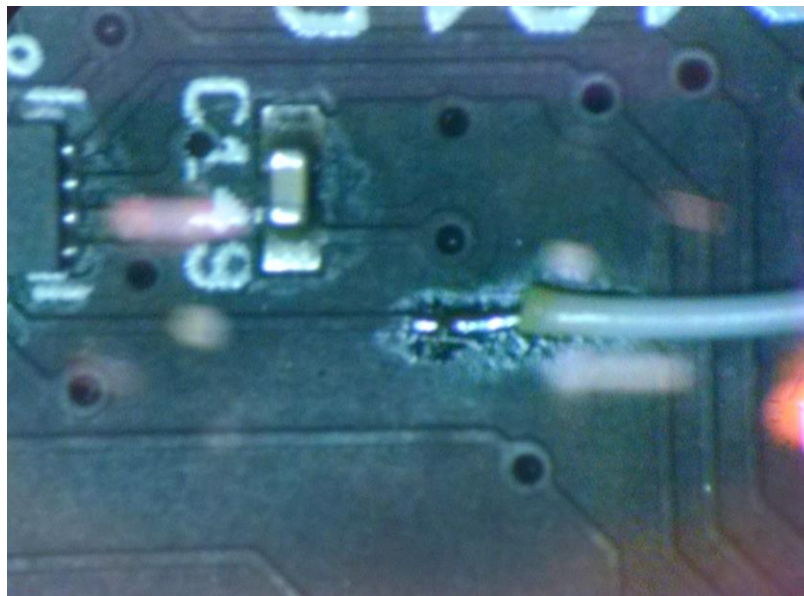


Figure 8: Wire Soldered to the "SWO" Signal

Step 6:

Attach the wires from J103 on the LaunchPad to their corresponding positions on whatever target board you want to program. Not all signals are required from J103.

Step 7:

Attach the “TDI” and “SWO” wires to their corresponding positions on the target board.

Step 8:

Connect the MSP432P401R LaunchPad to the computer via the micro USB cable and check to see if “LED102” is illuminated green near the reset button. If the LED is not on, try cycling the power on the target board by quickly removing and replacing the +3.3V wire. Repeat with pauses in between until LED02 illuminates.

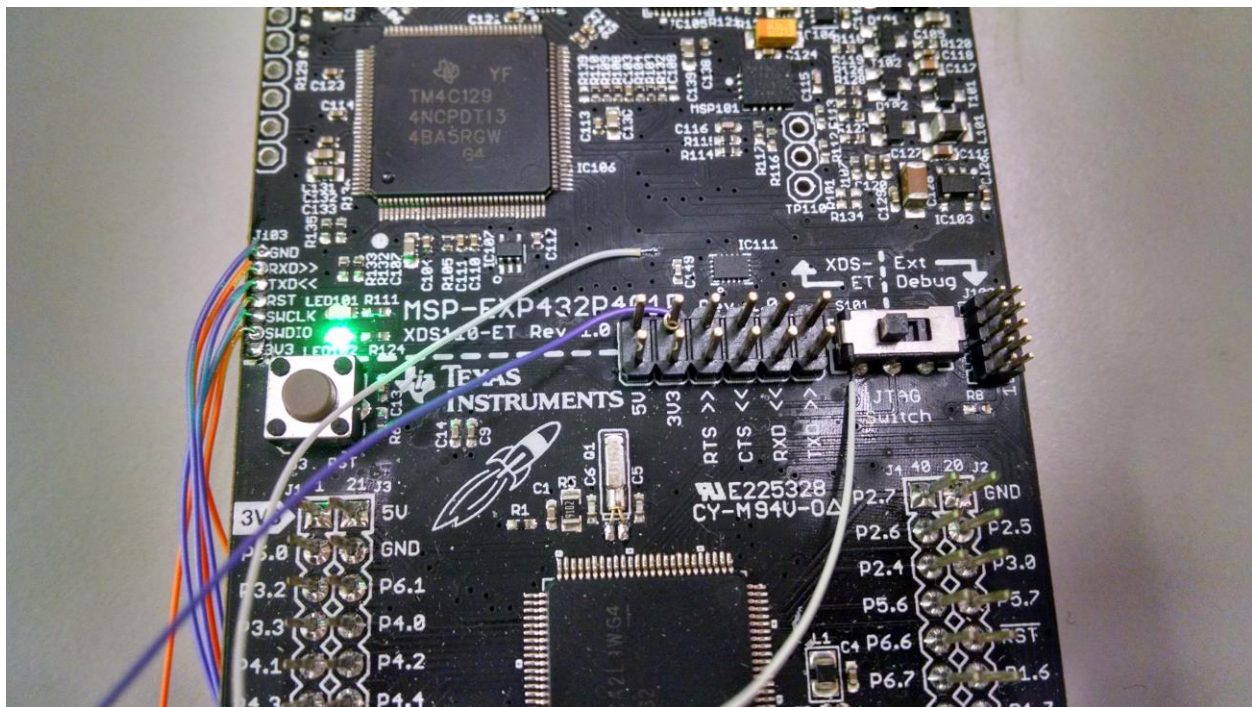


Figure 9: Launch Pad Connected to Target with LED02 Illuminated

Step 9:

Program the external target board using your preferred method. Note that I have only tried this with Code Composer Studio and Energia and it works fine but I’m assuming it should work with other IDEs. No guarantees though.