# PIC32 mTouch™ Capacitive Touch Evaluation Board Information Sheet

The PIC32 mTouch™ Capacitive Touch Evaluation Board is designed to facilitate the development of capacitive touch-based applications using PIC32-series microcontrollers. This evaluation board includes an on-board PICkit™ serial interface, an ICSP™ header, a USB connector (for power only) and a 16-bit LED display. The board also includes a 24-pin header that can be used to interface the 2-channel and 4-channel slider plug-in boards, the 12-matrix key plug-in board and the 8-direct key plug-in board. The plug-in boards are included in the mTouch™ Capacitive Touch Evaluation Kit (purchased separately, PN: DM183026-2).

## Getting Started

Everything you need to get started can be found at http://www.microchip.com/mtouch. From the *Related Pages* menu, click **Buttons, Keys & Sliders** and click the **Getting Started** tab. From the resulting page, click **Featured mTouch™ Evaluation Kit**.

## Installing MPLAB® IDE and C Compilers

MPLAB® Integrated Development Environment (IDE) should be installed prior to using the PIC32 mTouch™ Capacitive Touch Evaluation Board. While MPLAB provides the assembler tools for development, most of the code examples are written in C language and require a C compiler to be installed. Microchip's MPLAB C compiler seamlessly integrates into MPLAB IDE. Both the MPLAB IDE and C Compiler are free (see the note below) and are available for download at http://www.microchip.com/MPLAB and http://www.microchip.com/compilers, respectively.

> **Note:** Standard Evaluation (Free) – All optimization levels are enabled for 60 days, but then revert to optimization level 1 only.

## Code Examples and More Information

For code examples and more information, please visit the Enhanced mTouch Capacitive Touch Evaluation Kit page at: http://www.microchip.com/mtouch. From the *Related Pages* menu, click **Buttons, Keys & Sliders** and click the **Getting Started** tab. From the resulting page, click **Featured mTouch™ Evaluation Kit**. In the downloads section, select **PIC32 Capacitive Touch Evaluation Kit Software**.

## Running and Debugging Applications

After downloading the code example and installing the development tools, please use the following procedure to build, run, and debug your software:

1. Load the desired code example into MPLAB by double-clicking the *.mcp project file.
2. Connect the appropriate plug-in board to the 24-pin connector of the evaluation board. Make sure that the pin numbers of the plug-in board are aligned with the pin numbers on the evaluation board.
3. Connect the evaluation board ICSP header to a MPLAB In-Circuit Debugger/Emulator. Alternatively, a PICkit™ 3 may be connected to the PICkit serial port on the evaluation board. An adapter (PN: AC164110), will be required to interface the ICSP header on the evaluation board with a MPLAB In-Circuit Debugger/Emulator. This adapter can be purchased from microchipDIRECT at: www.microchipdirect.com.
4. Connect the USB port on the evaluation board to a USB port on the development computer using a USB cable.
5. Choose the appropriate debugger/emulator tool in MPLAB IDE by selecting *Debugger > Select Tool*.
6. Build the project by selecting *Project > Build All*.
7. Download your code into the evaluation board microcontroller by selecting *Debugger > Program*.
8. Run the application previously downloaded by selecting *Debugger > Run*.
9. Touching the appropriate keys on the plug-in board will cause the LEDs on the evaluation board to respond as previously programmed.