CAP1xxx Evaluation Board Quick Start Guide

1 Installation

Note: The CAP1xxx evaluation board only needs to be powered through the USB connector to view functionality. Connecting to the CAP1xxx GUI is optional, and allows the user to modify configuration settings and view live data.

1. Install the CAP1xxx Evaluation Board GUI by running **setup.exe** on the CD provided with the evaulation board.
2. Connect the USB mini connector to the evaluation board and the standard USB connector to any available USB port on the computer.
3. If the MCHP USB Bridge driver has not previously been installed on the selected USB port, the “Find New Hardware” wizard will pop up on the screen. Follow the on-screen instructions to complete the installation process. If it asks for the location of the driver, it is located under the /driver folder of the CD.
4. As soon as the CAP1xxx GUI detects the presence of the evaluation board, the labels on the CAP1xxx GUI will be updated to show which specific CAP device is connected.

2 Touch Demonstration

If the CAP1xxx GUI has been stopped due to a disconnected board or because the user pressed the red 'STOP' button, pressing the right arrow button in the upper left of the window will restart the application. This is shown in Figure 2.1.

The starting screen of the GUI is the Quick Start tab which has been selected in the upper left corner of the window. When the evaluation board is connected, the CAP1xxx GUI automatically configures the device for a demonstration. Move your fingers along the buttons on the evaluation board and observe the Sensor Delta Counts and the Sensor Status indicators, as shown in Figure 2.1.

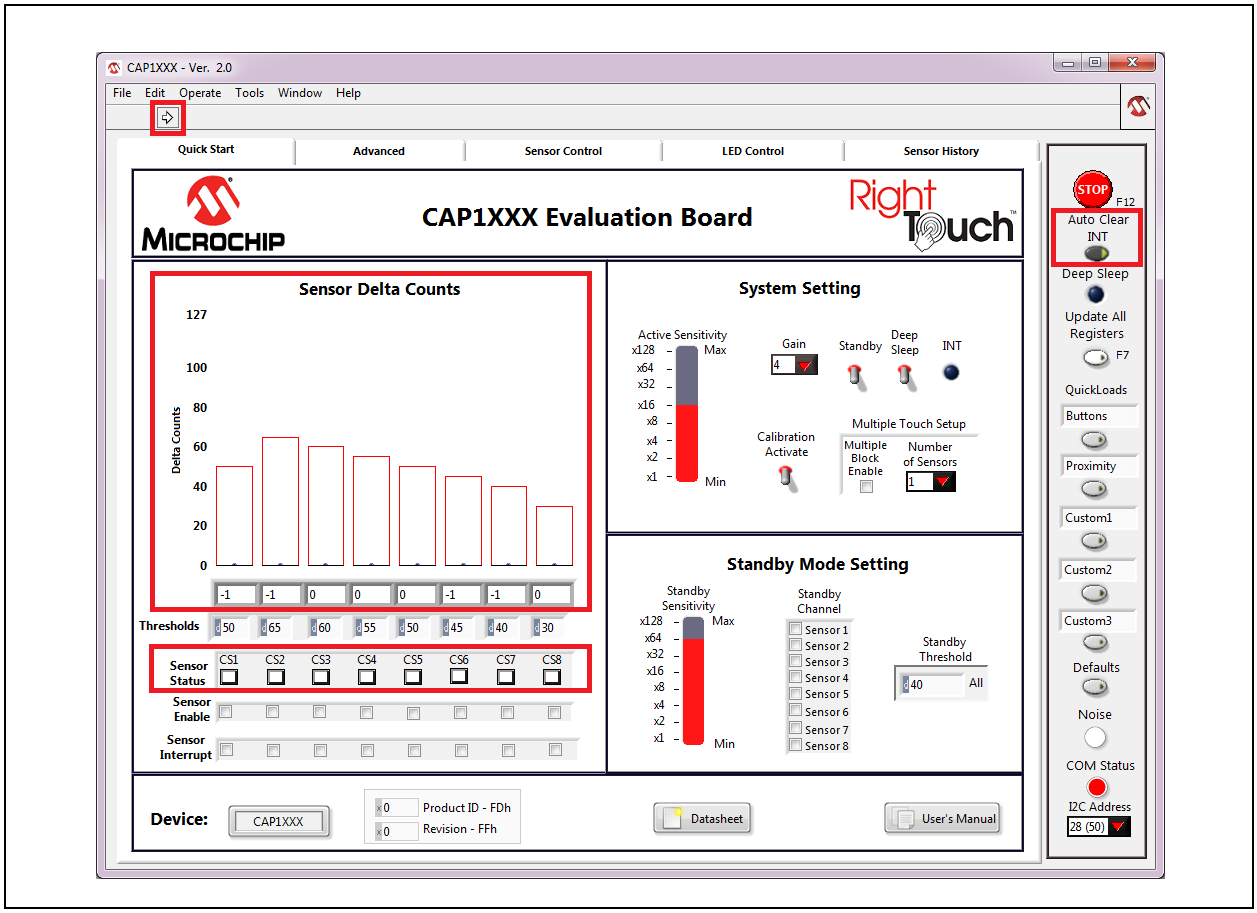

Figure 2.1 CAP1xxx GUI Quick Start Panel with Status Indicators and Controls Highlighted

The thin red boxes in the Sensor Delta Counts section provide a visual indication of the individual sensor thresholds. When the delta counts for a sensor are greater than or equal to the threshold, a touch is detected. The sensor status indicator will be enabled, and an interrupt is generated causing the INT indicator to change colors.

While on the Quick Start tab, interrupts will be cleared automatically once the touch is no longer detected. This option can be toggled by clicking the Auto Clear INT button in the upper right, as shown in Figure 2.1. Dark gray is activated. Light gray is deactivated.

Thresholds can be edited underneath the Sensor Delta Counts bar graph, as well as enabling the sensors and determining which sensors generate an interrupt when pressed. This is shown in Figure 2.2.

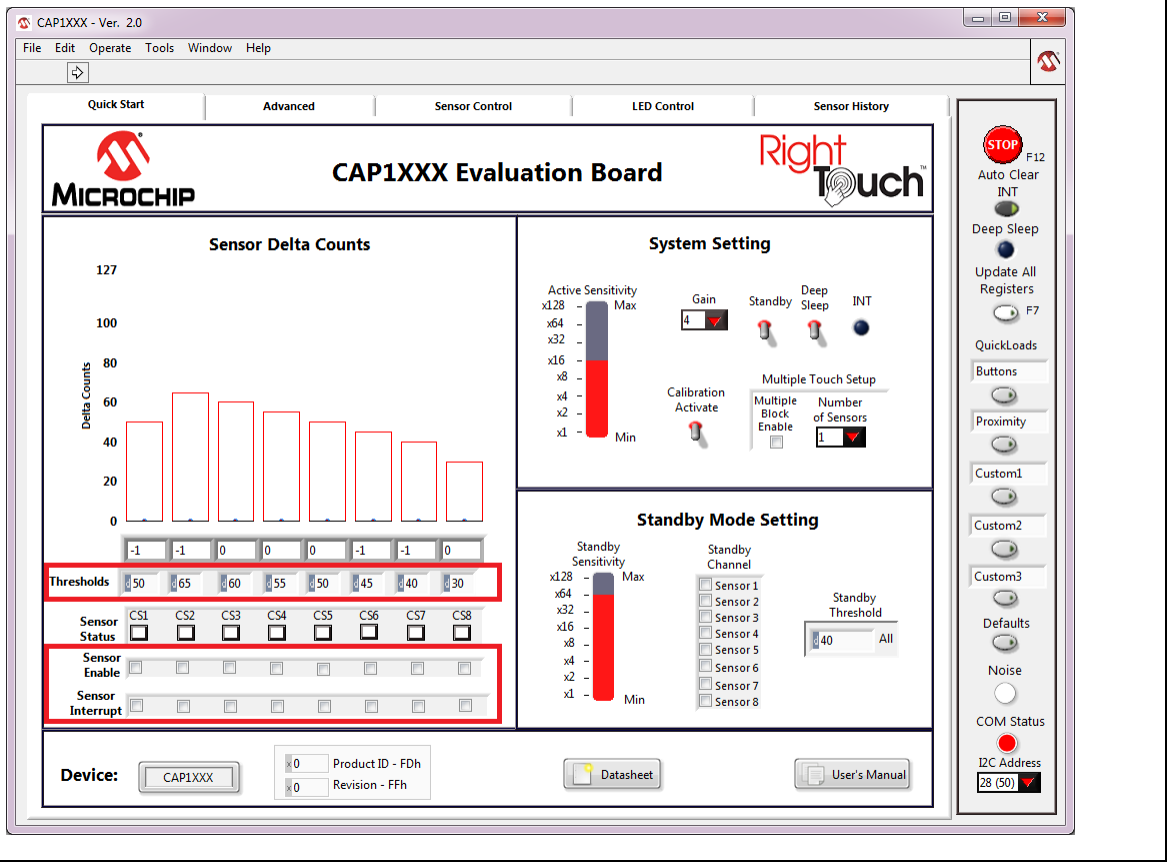

Figure 2.2 CAP1xxx GUI Quick Start Panel with Sensor Enable and Thresholds Highlighted

Two sensitivity settings are provided. One is for active mode, and one is for standby mode. To enter Standby mode, toggle the Standby switch as shown in Figure 2.3 Which sensors are scanned in Standby mode can be chosen with the Standby Channel list. When in Standby mode, all sensors share one threshold.

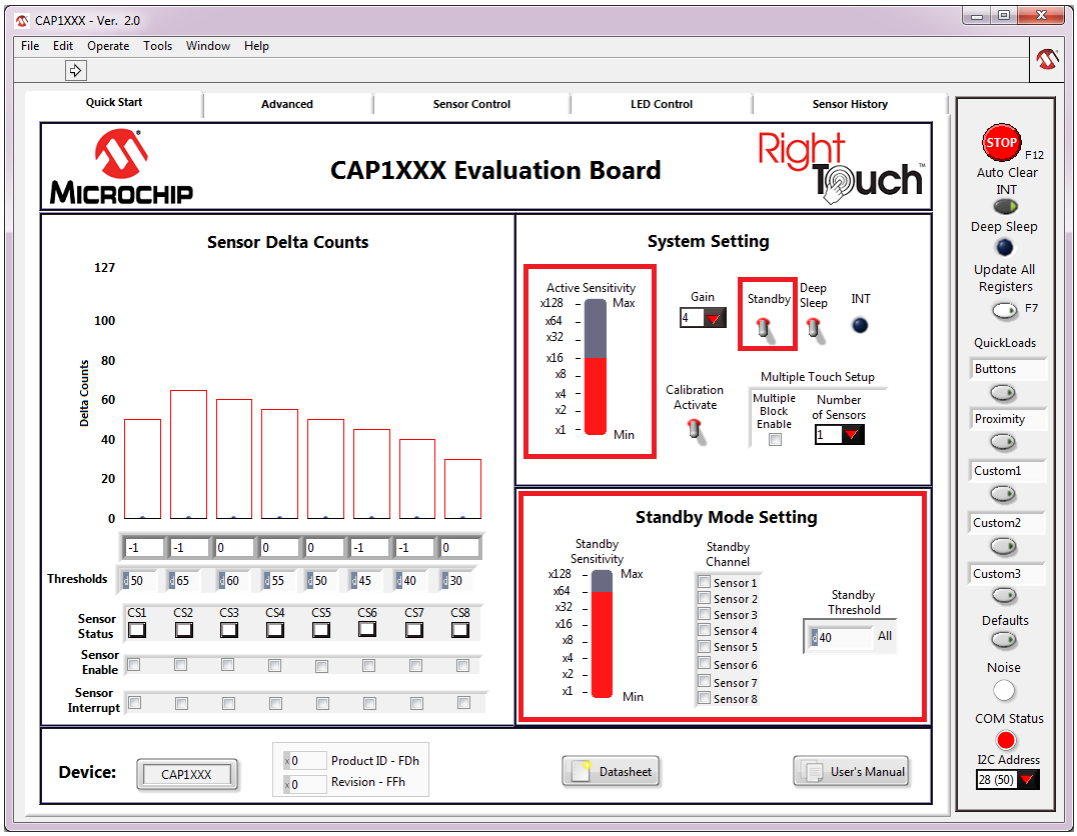

Figure 2.3 CAP1xxx GUI Quick Start Panel with Sensitivity and Standby Options Highlighted

Figure 2.4 shows three different features. First, additional sensitivity can be achieved by changing the Gain setting. This will affect both Standby and Active modes. Second, to change the number of sensors able to be pressed at one time, enable the Multiple Block Enable option and select the maximum number of pressed sensors. Finally, sensors can be forced to recalibrate by toggling the Calibration Activate switch.

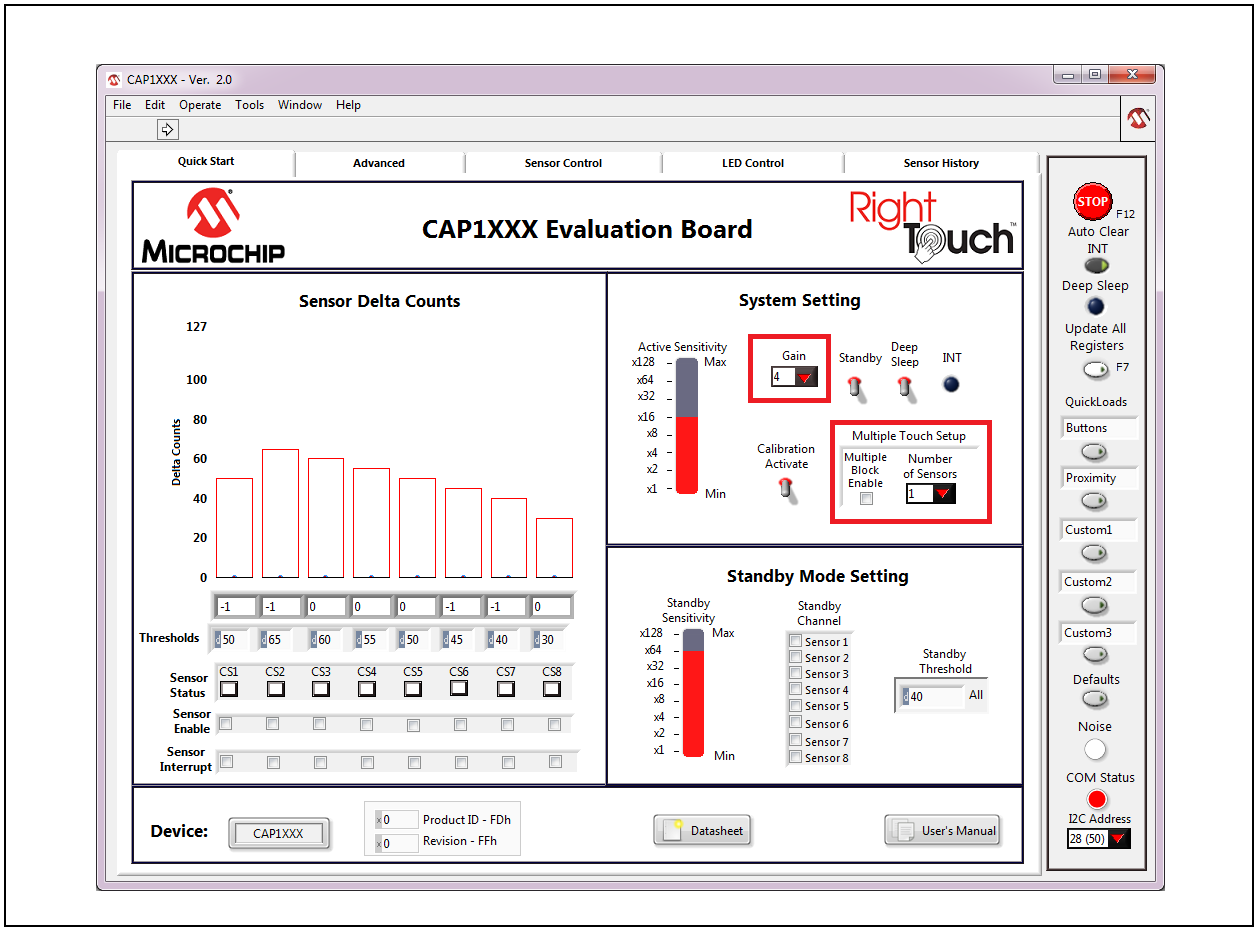

Figure 2.4 CAP1xxx GUI Quick Start Panel with Gain, Multiple Block, and Recalibration Options Highlighted

Three configurations have been provided by default with the GUI to implement different levels of sensitivity for applications. 'Buttons' configures the evaluation board to behave like touch buttons. This is a typical configuration. 'Proximity' sets CS1 to act like a proximity sensor. This configuration has increase sensitivity, gain, and the amount of averaging. These options can be quickly implemented by selecting them from the Quick Load menu as shown in Figure 2.5.

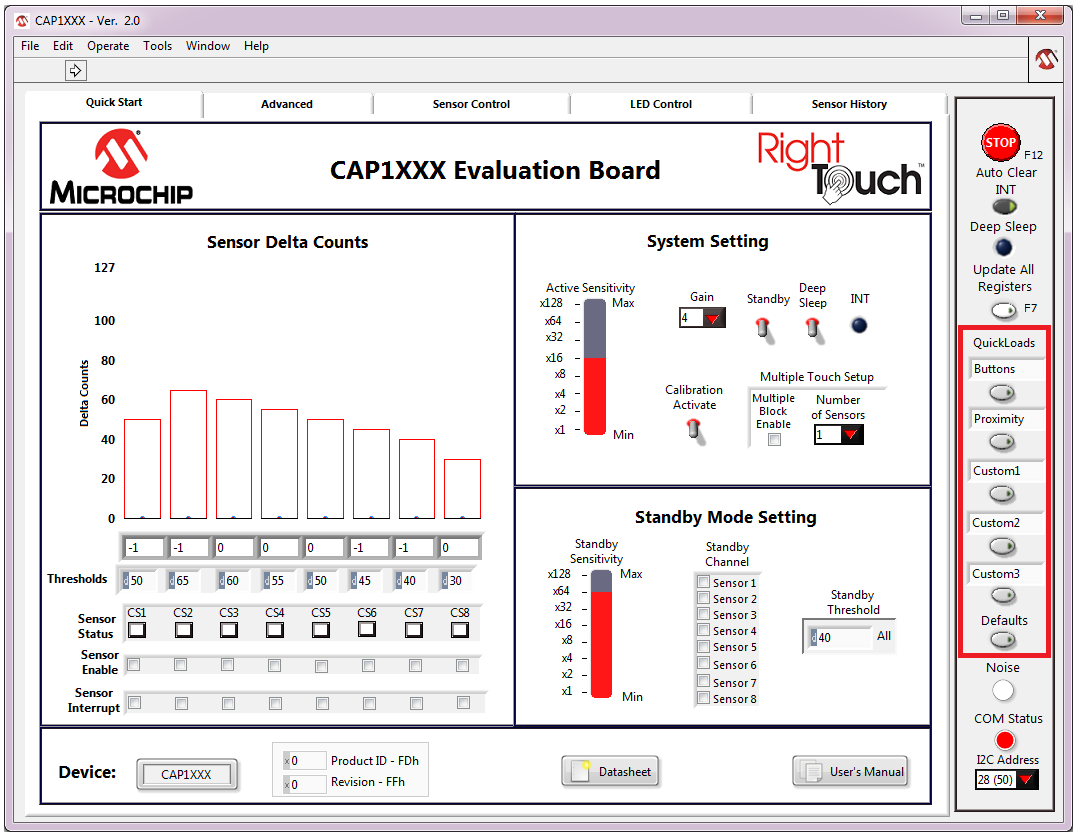

Figure 2.5 CAP1xxx GUI Quick Start Panel with QuickLoad Options Highlighted

3 Changing the Configuration

Controls that are enabled for the device on the evaluation board can be changed at any time.

To use the device defaults, click the Defaults button as shown in Figure 2.5, or press F6 on the keyboard.

To use the default demonstration, click the “Buttons” Quick Load option, press F1 on the keyboard, or unplug and replug the evaluation board.

4 Additional Information

For more details about using the evaluation board, see the CAP1xxx Evaluation Board User's Guide.

5 Revision History

Table 5.1 Revision History

REVISION LEVEL & DATE	SECTION/FIGURE/ENTRY	CORRECTION
CAP1xxx Evaluation Board Quick Start Guide, Revision A replaces the previous SMSC document CAP1188 Family EVB Quick Start Guide, Revision 1.0		

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