

## AD7746 Humidity Demo Test Procedure

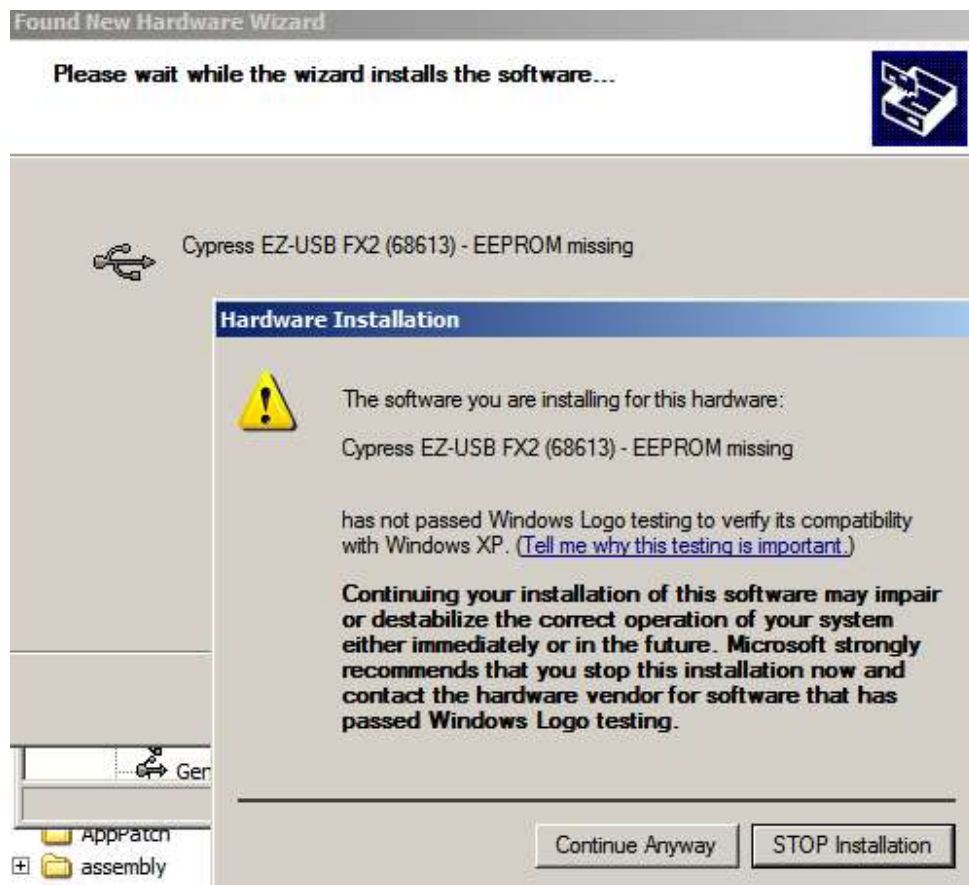
### Software setup

**Install the AD7746 Humidity Demo software before connecting the AD7745/46 Evaluation board to the PC**

- Place the AD7746 Humidity Demo CD ROM in the CD-ROM drive of the PC and follow the instructions that appear automatically.

### Setting up the board

- Connect the board to the USB port of the PC via the USB Cable.
- The PC will detect that the board has been connected. (This may take a few seconds). A message should appear stating that a Cypress device has been found, then click 'next'
- During the installation, if the following window appears:



- Click 'Continue Anyway'. And then click Finish.

**Note:** this procedure will only be present the first time you connect the board to your PC, this will not occur for any subsequent board tests.

# Test Procedure

- Connect the evaluation board to the PC using a USB cable
- Run the evaluation software from windows start menu -> All Programs -> Analog Devices -> AD7746 Humidity Demo -> AD7746 Humidity Demo Software
  - When first opening the program whatever message appears click ok
- Connect the Humidity Demo board to the evaluation board using the Ribbon cable
- Click on the Setup tab and the following setup window should appear.

AD7746\_Humidity\_Demo.vi

**ANALOG DEVICES** **AD7746 Humidity Demo SW V4.2**

**Graph Setup START**

**Cin1 (pF)** =  $\frac{\text{Cin1 (hex code)} - \text{Cin1 offset}}{\text{FFFFFFF}} \times \text{Cin1 range (pF)}$

0.0000 =  $\frac{000000 - 000000}{\text{FFFFFFF}} \times 228.466$

**RH (%)** =  $\frac{\text{Ref. humidity} - \text{Sensor temp constant} \times (\text{Temp (}^{\circ}\text{C)} - \text{Ref. temp})}{\frac{\text{Cnorm}}{\text{Cin1 (pF)}} - 1} \times \text{Sensor calibration constant}$

0.00000 =  $\frac{30 - 0.085 \times (0.00 - 23)}{\frac{150.0000}{0.0000} - 1} \times 0.00166$

**Cin1 CALIBRATION**

Offset Calibration (disconnect sensor)

CAPDACA 9C

**RH CALIBRATION**

30 Humidity

Measured 23.00 Temperature

Manual 150.0000 Capacitance

Calibrate Cnorm

Restore Defaults

Save to File

Load from File

Save to EEPROM

Load from EEPROM

(Test can be repeated for another board from this point)

1. Click on the "Restore Defaults" button
2. Click on the green "Start" button  
The field "RH\_%" will indicate a value around 30-40% (not critical)
3. A breath on the sensor element should result in an increase of this reading
4. Click on the red "Stop" button
5. Change humidity demoboard and continue with step 1