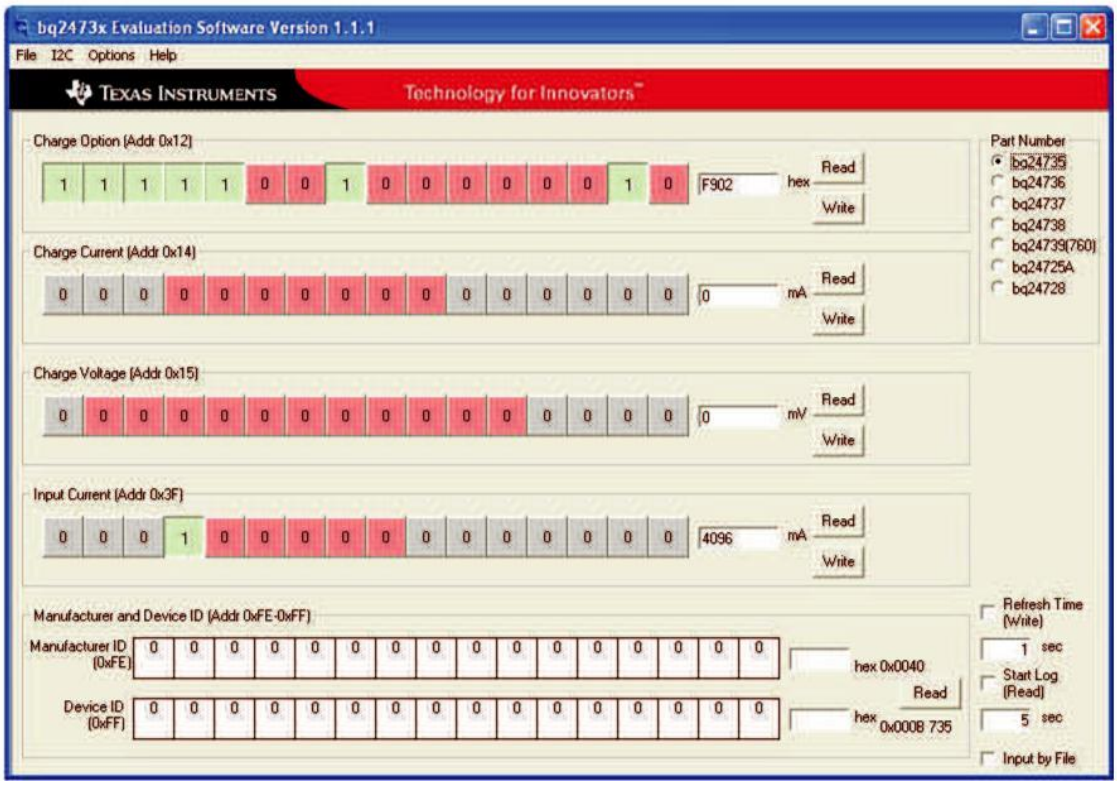


**Figure 3. Main Window of bq24725A/735 Evaluation Software**

## 2.4 Procedure

### 2.4.1 AC Adapter Detection Threshold

1. Ensure that Section 2.3 steps are followed. Turn on PS#2.
   Note: Load #1 and Load #2 are not connected during this step.
2. Turn on PS#1.
3. Increase the output voltage of PS#1 to 19.5 V.

| | | Board Voltage |
|---|---|---|
| *Measure* → V(TP(ACDET)) = 2.6 V ± 0.1 V | - | 2.6V |
| *Measure* → V(TP(ACOK)) = 3.3 V ± 0.1 V | - | 3.3V |
| *Measure* → V(J2(SYS)) = 19.5 V ± 0.5 V | - | 2.5V |
| *Measure* → V(TP(REGN)) = 6 V ± 0.5 V | - | 6.0V |
| *Measure* → V(TP(ACDRV, CMSRC)) = 6 V ± 0.5 V | - | 0.0V |
| *Measure* → V(J2(BAT, GND)) = 2 V ± 2 V | - | 1.5V to 2.0V(varying) |

### 2.4.2 Charger Parameters Setting

1. In the software main window, click all the Read buttons. Ensure that no error information is generated.
2. If the error information window pops up and you see *USB Error. Insure USB cable is connected and Driver is working.*, do the following steps.
   a) Click *OK*. Then, close main window, as shown in Figure 3, and disconnect USB cable.
   b) Check 3.3-V power supply (PS#2) and power supply #1 (PS#1) voltage on the EVM board.

c) Disconnect any other unsure SMBus connection. Plug USB cable back to the original EVM2300 installation USB port.

d) Open the bq24725A/735 evaluation software. The main window of the software is shown in Figure 3.

3. In the software main window, click all the Read buttons.
   a) Type in *512* (mA) in the Charge Current DAC, and click *Write*. This sets the battery charge current regulation threshold.
   b) Type in *12592* (mV) in the Charge Voltage DAC, and click *Write*. This sets the battery voltage regulation threshold.
   c) Measure → V(J2(BAT)) = 12.6 V ± 200 mV

### 2.4.3 Charge Current and ac Current Regulation, DPM

1. Type in *7801* in the Charge Option, and click *Write*; this disable charging.
2. Connect the Load #2 in series with a current meter (multimeter) to J2 (BAT, GND). Ensure that a voltage meter is connected across J2 (BAT, GND). Turn on the Load #2. Use the constant voltage mode. Set the output voltage to 10.5 V.
3. Connect the output of the Load #1 in series with a current meter (multimeter) to J2 (SYS, GND). Ensure that a voltage meter is connected across J2 (SYS, GND). Turn on the power of the Load #1. Set the load current to 3 A ± 50 mA but disable the output. The setup is now like Figure 4 for HPA710. Ensure that Ibat = 0 A ± 10 mA and Isys = 0 A ± 10 mA.

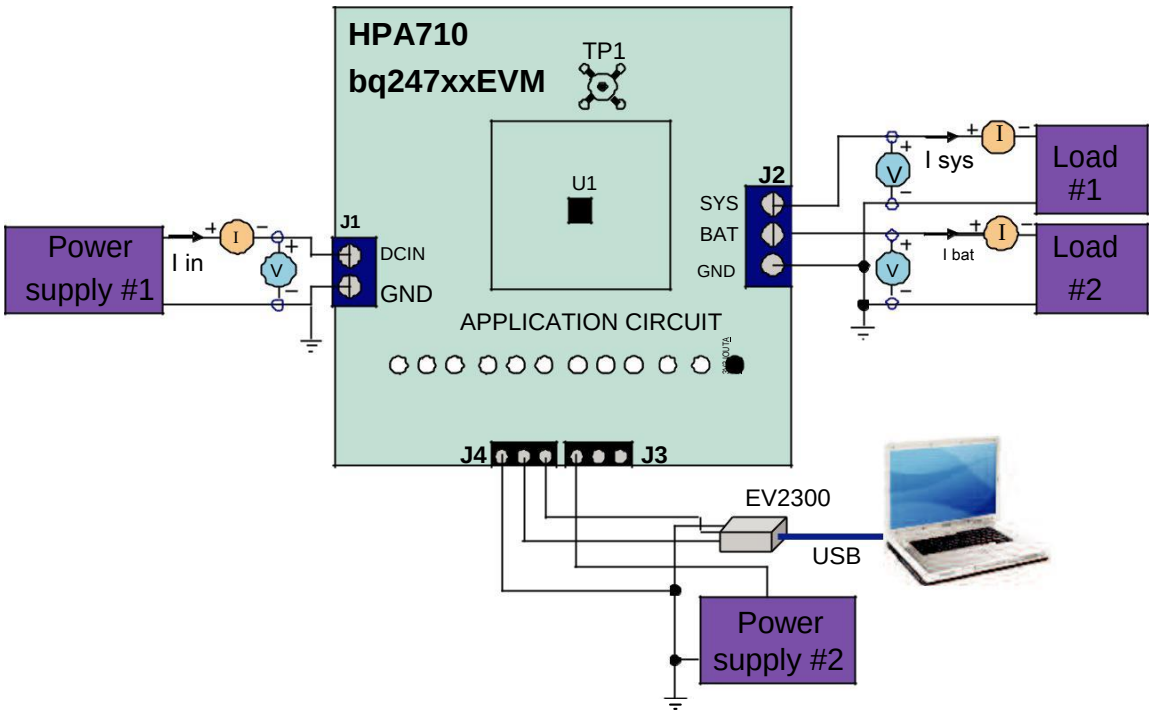


**Figure 4. Test Setup for HPA710**

4. Type in *7800* in the Charge Option, and click *Write*, this enable charging.

   Measure → Ibat = 500 mA ± 100 mA