

Introduction

Thank you for evaluating Lite-On sensor solution.

Demo Kits consist of a **Master board** and an **Evaluation Board** (with sensor mounted on top), together with a **Micro B USB cable**.

This is a master user guide for demo programs of below part numbers:

- 3-in-1 sensor solution (Standard package)
 - LTR-559ALS
 - LTR-556ALS
- 3-in-1 sensor with small window solution
 - LTR-578ALS
 - LTR-579ALS
- 4-in-1 sensors (ALS+PS+IRLED+UV or RGB)
 - LTR-590UV
 - LTR-580RGB
 - LTR-588RGB

This demo program demonstrates the capability of the sensor products, which is an integrated I2C digital Ambient light sensor [ALS], proximity sensor [PS] with built in emitter, and/ or with RGB Color Sensor [CS], or UV sensor.

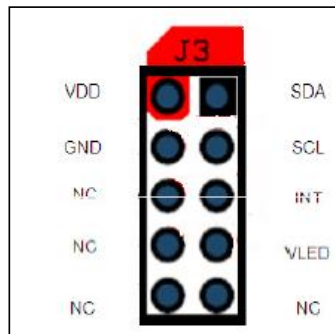
Below listed what the demo program can do.

- **User selectable settings** (at SETTING tab)
- **Run or stop or exit control panel** at all tabs
- **Continues** raw data and converted data, as well as interrupt status **update** (at EXECUTE tab)
- **Visual effect** of sensor function mode (at EXECUTE tab)
- **Data logging** of real time data with file saving capability (at EXECUTE tab)
- **Real time plot** of sensor raw data (at PLOTS tab)
- **Debugging mode** with Manual read write function (at DEBUG tab)

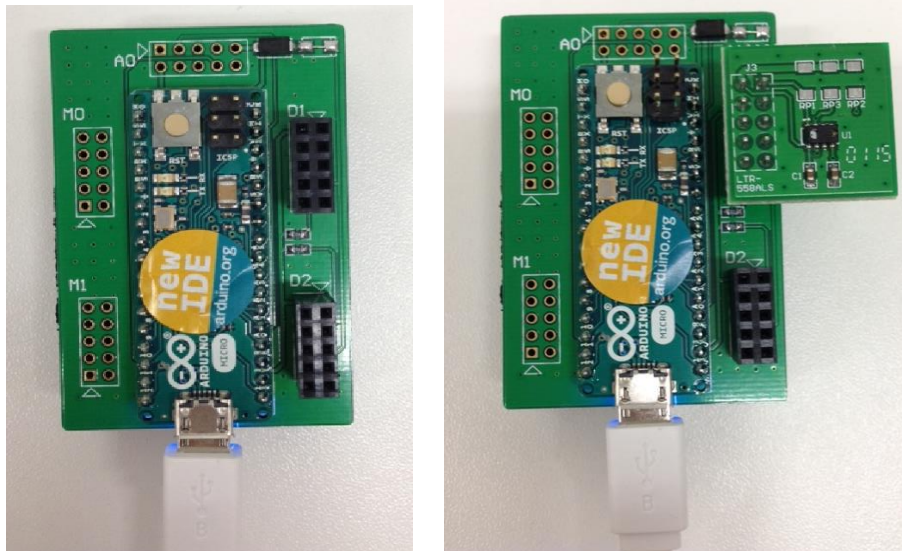
Setup Instruction

1. Hardware Setup of the Demo Kit

a. Evaluation board connector pin-out



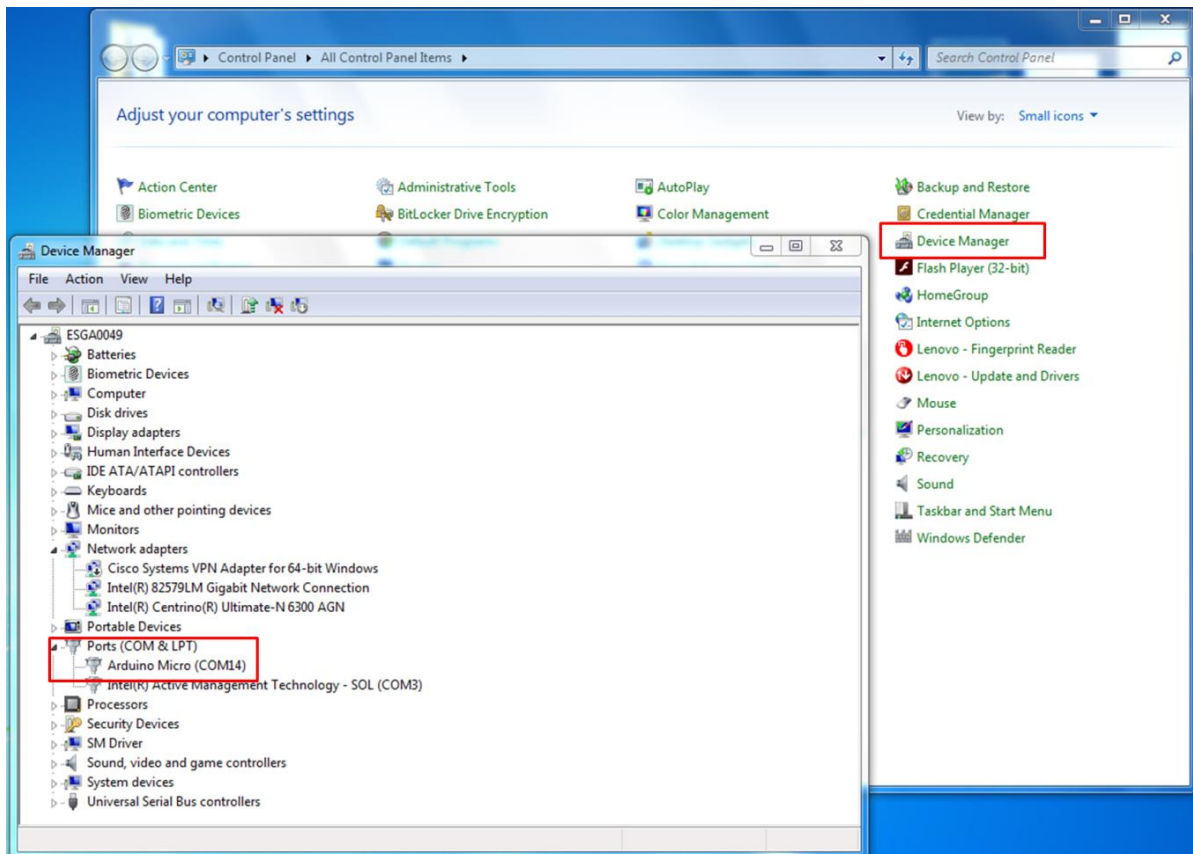
b. Connect Master board and Evaluation board as shown below. It is recommended to connect into **D1** port.



c. Connect the demo kit to any of the USB port in your computer using the USB cable provided.

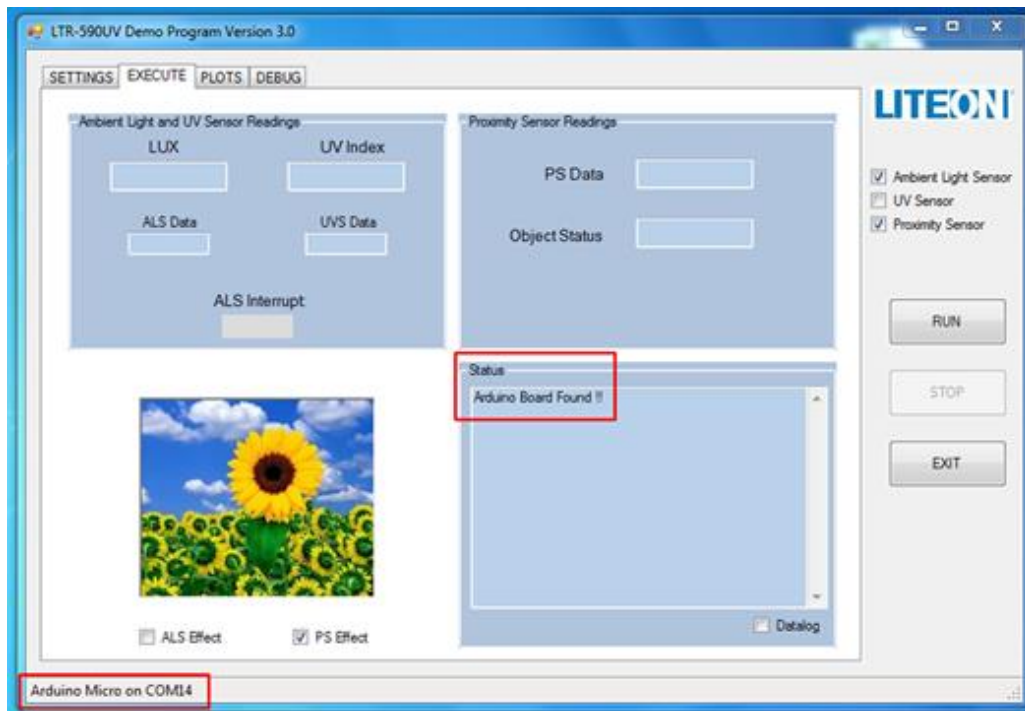
2. Install the Master Board Driver (For 1st time user)

- a. Extract all the contents of “Demo_LTR-5XX.zip” onto your computer.
- b. Connect demo master board to your computer via USB port.
- c. Install the driver “dpinst-x86.exe” or “dpinst-amd64.exe” from the zip file.
- d. To ensure the driver is successfully installed, please go to “Device Manager”, follow by “Ports (COM & LPT)”, and you should see Arduino Micro available. Refer to picture as below.



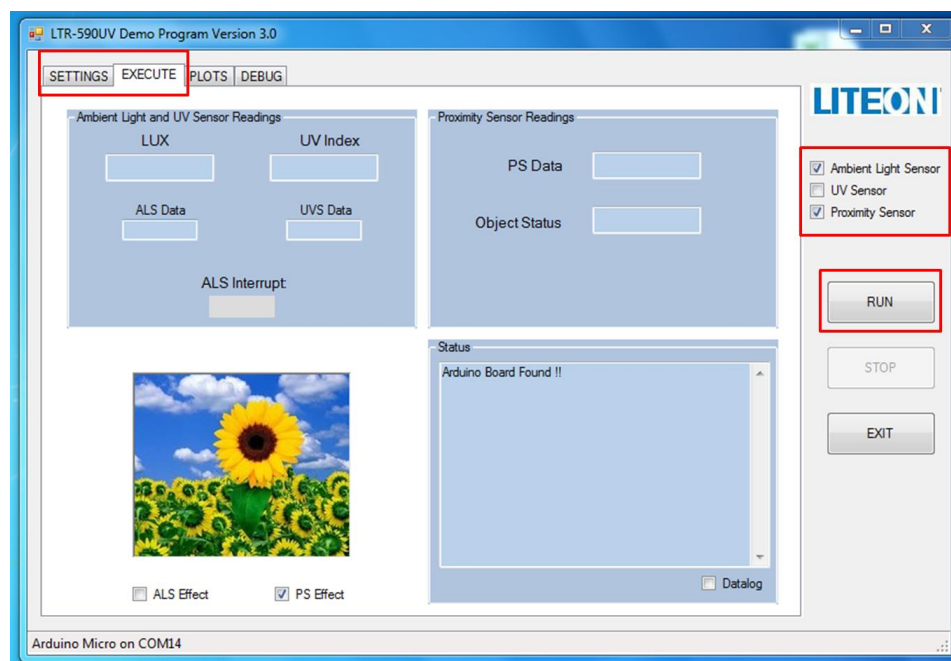
3. Starting the Demo Program

- a. Connect Evaluation board to Master board as per the orientation shown in 1(b). Wrong orientation may result in evaluation board failure.
- b. Execute “LTR5XXALS_demo.exe” application in the unzipped folder “LTR5XXALS_Demo” to start the Demo Program.
- c. You will see window below pop-up with status box showing Master Board found, and the COM information at left bottom corner.
- d. If you failed to have this, please change to other USB port, or reinstall the driver.

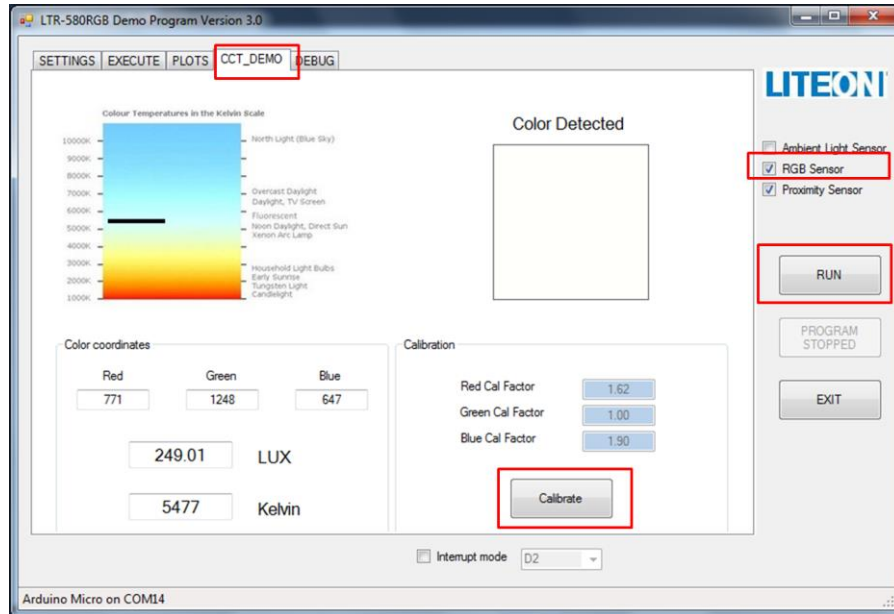


4. Running the demo program

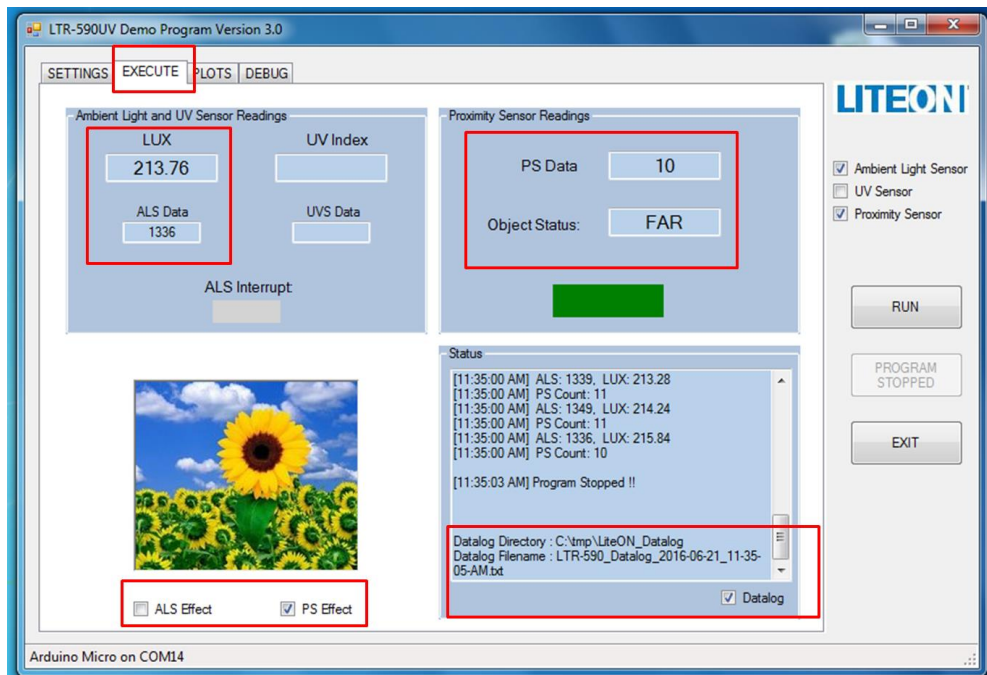
- The program will 1st shown in EXECUTE tab.
- With all the default settings in SETTING TAB, you may just check/tick the function you need from right top corner and click the RUN button.
- You may change the settings accordingly in settings tab. You need to STOP 1st before changing the settings.



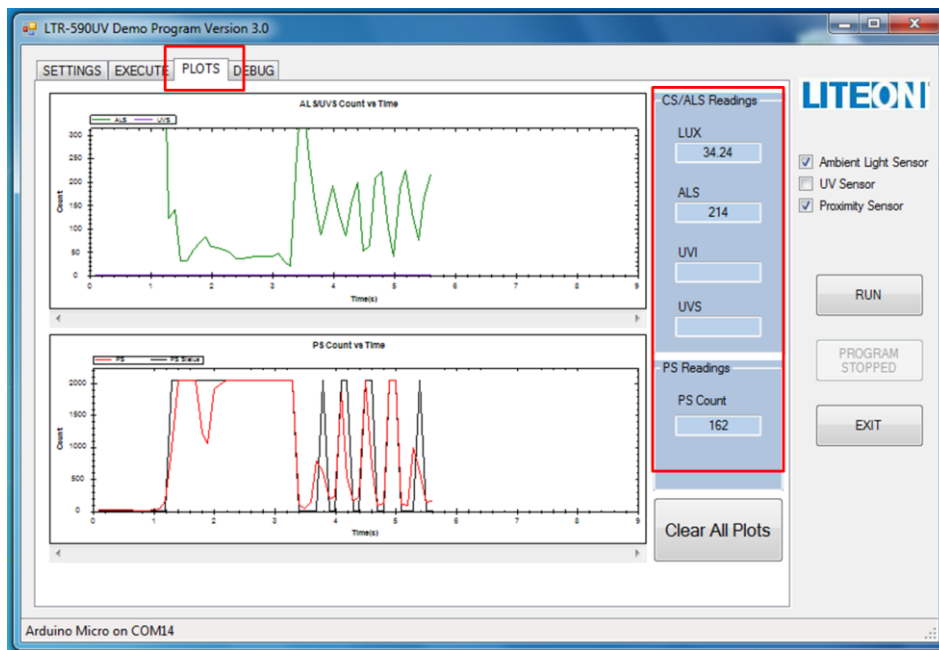
- The raw data and computed data will be displayed when the sensor is running.
- You may check/tick the visual effect selection at the left bottom. When ALS effect is selected, the brightness of the sunflower picture will change according to the light level detected by the sensor. When PS effect is selected, the size of the sunflower will change according to the object distance detect. When CS effect is selected, the color on the phone screen picture will change according to the color detected by the sensor.
- Only for LTR-580RGB & LTR-588RGB. For RGB visual effect, you may go to CCT_DEMO tab for more details information includes color temperature scale bar, color temperature (CCT) in Kelvin, Lux value and color detected.



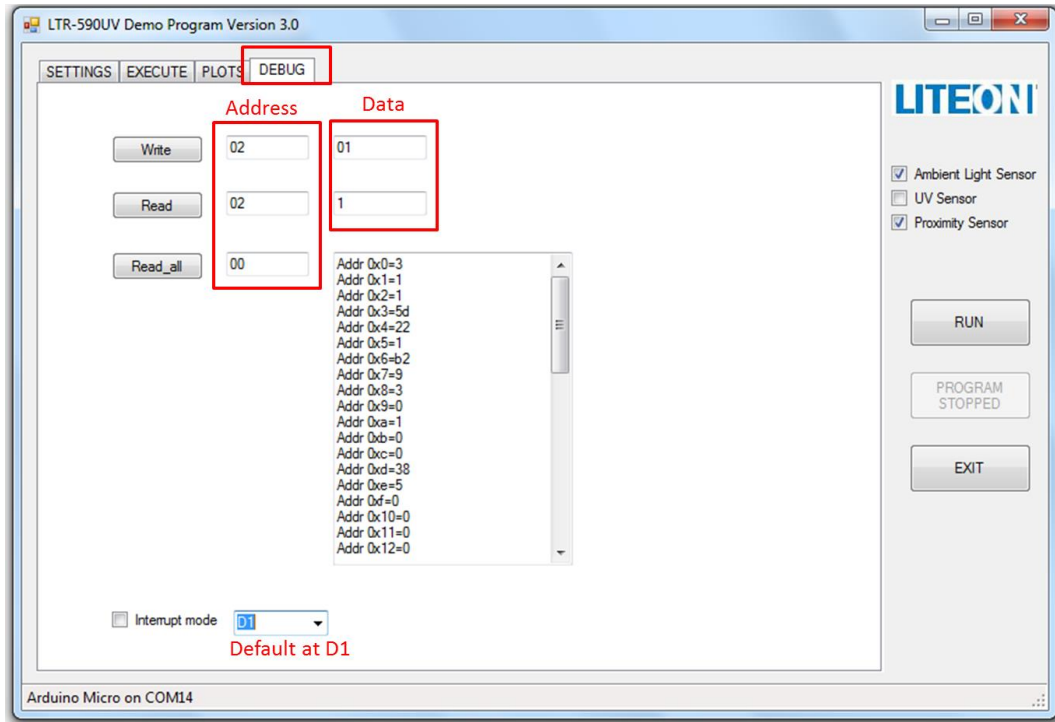
- g. For data logging, you need to check/tick the datalog box and the directory for the datalog file will be shown in Status box.



- h. You can also view the real time plot of the sensor raw data by selecting the “PLOTS” tab as shown below.



- i. For manual debugging, go to DEBUG tab and you may manual write & read single register address.



5. Exit the demo program

- You may stop and exit the program by clicking the "EXIT" button.