AFE ALS (4-3)

Welcome back to Cypress Academy, PSoC 6 101. In this chapter we’re going to take a look at how you can use the analog functionality inside a PSoC 6 MCU to interface to various sensors, this time an ambient light sensor. Again, we’re going to use the xxx AFE board we looked at in the previous videos.

[How an ambient light sensor works]

[What we’re going to play with and see]

Let’s start by cloning the previous AFE Shield OLED project and let’s rename it to “AFE Shield LightSensor”.

[Setup PSoC Creator schematic]

Double click on the pins file under the design wide resources and assign the signals for the light sensor signals as xxx.

We’re going to use the Cortex-M4 to interface to the light sensor. To keep this simple, we’re just going to write the values measured to the OLED display. So, in the M4 main application file let’s start by xxx. [Firmware design]

And that’s it, now time to build, program and test it.

If everything is working, then you should now see two values on the OLED display, the potentiometer and light sensor values. Pretty easy right? In the next video, we’ll wrap up this short intermission from our robotic arm project with a tutorial on how to interface a PSoC 4 sensor hub application to a PSoC 6 MCU over I2C to collect and report all of this data—freeing up the PSoC 6 to go off and do more important tasks in your end application.

You can post your comments and questions in our PSoC 6 community or as always you are welcome to email me at alan\_hawse@cypress.com or tweet me at @askioexpert with your comments, suggestions, criticisms and questions.