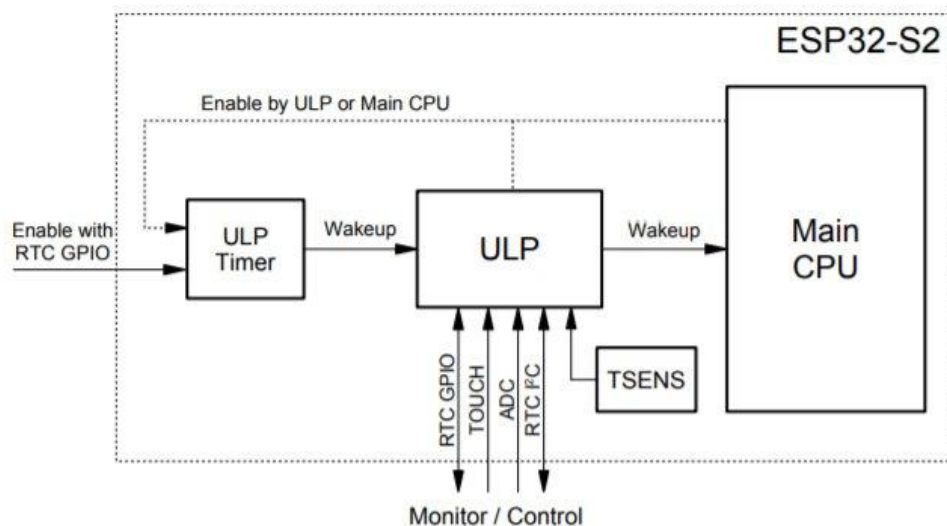


SGP41 I2C Drivers for ULP of ESP32

The SGP41 I2C Drivers project aimed to develop and implement efficient I2C drivers for the SGP41 sensor within the ultra-low power (ULP) context of ESP32 microcontrollers.

- Developed assembly language drivers to enable I2C communication and facilitate measurements with the SGP41 sensor in an ultra-low power environment.
- Implemented assisting subroutines for SGP41-specific I2C commands, including write and read operations, and handling 16-bit commands and addresses.
- Implemented specific I2C commands for the SGP41 sensor, such as **sgp41_execute_conditioning**, **sgp41_measure_raw_signals**, and **sgp41_turn_heater_off**.
- Developed a low-power algorithm for measurements, optimizing power consumption by controlling the heater activation and utilizing RTC memory for storing measurements.



Technologies Used:

- Visual Studio Code
- Languages: Assembly, C
- ESP32