**HARDWARE SPECIFICATION**

AC POWER MONITORING SYSTEM

* Control board:
  + Power supply (buck converter):
    - Input: 9-20V
    - Output: +5V-12V (relay), +3V3 (MCU)
  + Process MCU: STM32F0xx / STM32F4xx / …
  + Module wifi: ESP01 / ESP32 / …
  + Input: wifi, ADC (2 channel: voltage, current), temparature (optional)
  + Output:
    - Wifi, led, relay (on/off base on current/voltage)
    - LCD (1602…)
    - Web, App
* Sensor board:
  + Current measurement:
    - IC: TMCS1100A1
  + Voltage measurement:
    - Transformers: 220V 🡪 12/24V
    - Full-Bridge Rectifier: supply power to “Control board”
    - Half-Bridge Rectifier: for measure voltage