

High level design

Module description

Temperature sensor

This module is responsible for reading the ADC value and converting into to a temperature value.

The module depends on the following equation to calculate the current temperature being read by the ADC:

$$\frac{\text{Current ADC value} * \text{Sensor Max Rated Temp} * \text{ADC Reference Voltage}}{\text{ADC Max value} * \text{Sensor Max Rated Voltage}}$$

LM32 driver documentation

```
/**
 * @brief Calculate the temperature from the ADC digital value.
 */
uint8 LM35_getTemperature(void);
```

Low level Design

LM32 module

```
uint8 LM35_getTemperature(void);
```

