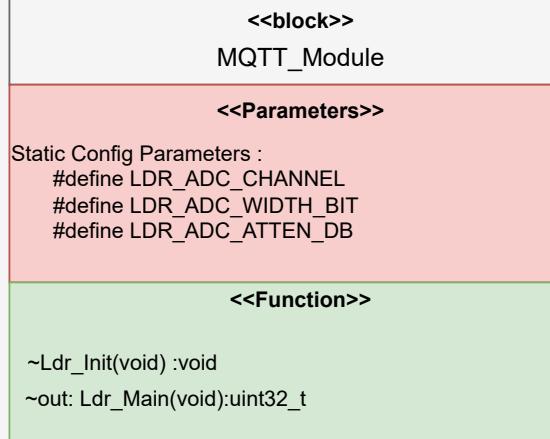# LDR_Module

Module Responsibility :

- acquiring raw analog light intensity readings

- converting them into a normalized light level representation

- Provide reading to the application layer

Output :

- Light Percentage :

  - Mini_value = 0
  - Max_value = 100

Module Design

<<block>>
MQTT_Module
<<Parameters>>

Static Config Parameters :
    #define LDR_ADC_CHANNEL
    #define LDR_ADC_WIDTH_BIT
    #define LDR_ADC_ATTEN_DB

<<Function>>
~Ldr_Init(void) :void ~out: Ldr_Main(void):uint32_t

Module Flowchart

```
                    ┌─────────┐
                    │  Start  │
                    └────┬────┘
                         │
                    ┌────▼────┐
                    │ LDR_Init│
                    └────┬────┘
                         │
                    ┌────▼─────┐
                    │Read value│
                    └────┬─────┘
                         │
              ┌──────────▼──────────┐
              │ Convert Raw Value to │
              │ to Light Percentage  │
              └──────────┬──────────┘
                         │
        Yes       ┌──────▼──────┐      No
       ┌──────────┤Is value>100%?├──────────┐
       │          └─────────────┘          │
  ┌────▼─────────┐                          │
  │Set value=100%│                          │
  └────┬─────────┘                          │
       │          ┌─────────────┐          │
       └─────────►│ Return Light│◄─────────┘
                  └──────┬──────┘
                         │
                    ┌────▼────┐
                    │   End   │
                    └─────────┘
```