FT - TEC

We offer technical solutions

SEAANGEL

# Improvement 1

## AIS FLARE SA15 SART

# I Table Of Contents

# 1 Improvement 1

This document shows the difference between the measured versions at Phoenix Testlab and latest version of the device:

| Measured Version | Latest Version |
|---|---|
| PCB 5400023A02; BOM V1.3 | PCB 5400023A03; BOM V1.5 |
| Case V1.0 | Case V1.1 |

This document will also explain the improvements resulted by the changes.

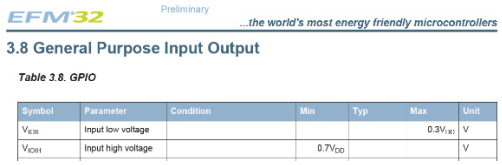
# 2 Test and Distress Button

Following improvements have been done with PCB 5400023A03 and BOM V1.5.

## 2.1 Switch off of the device below 2,31V

The microcontroller needs 3.3V * 0.7 = 2.31V at its GPIO input to read logic 1.

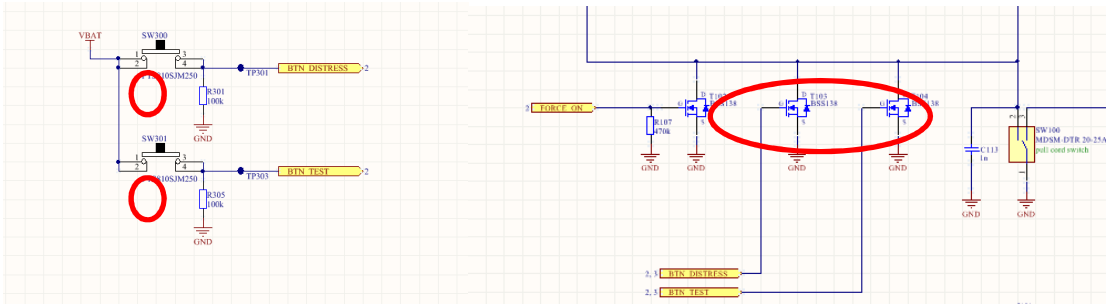
With the improvement it is now possible to switch off the device also if the battery voltage drops below 2,31V.

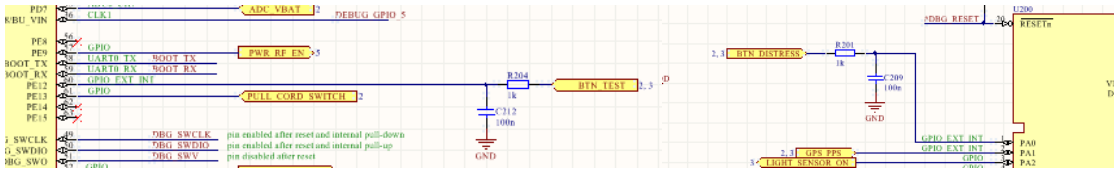

EFM32 Preliminary ...the world's most energy friendly microcontrollers

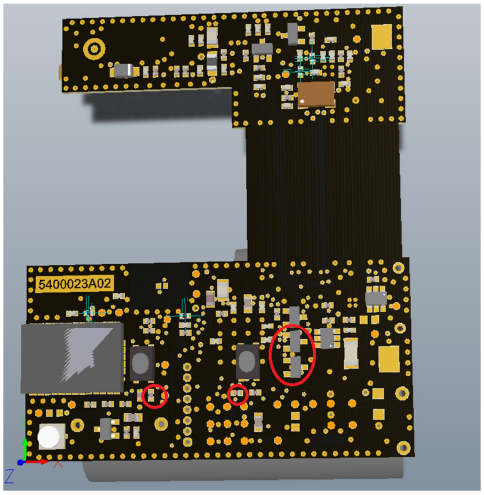
3.8 General Purpose Input Output

Table 3.8. GPIO

| Symbol | Parameter | Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| $V_{IOL}$ | Input low voltage | | | | $0.3V_{DD}$ | V |
| $V_{IOH}$ | Input high voltage | | $0.7V_{DD}$ | | | V |

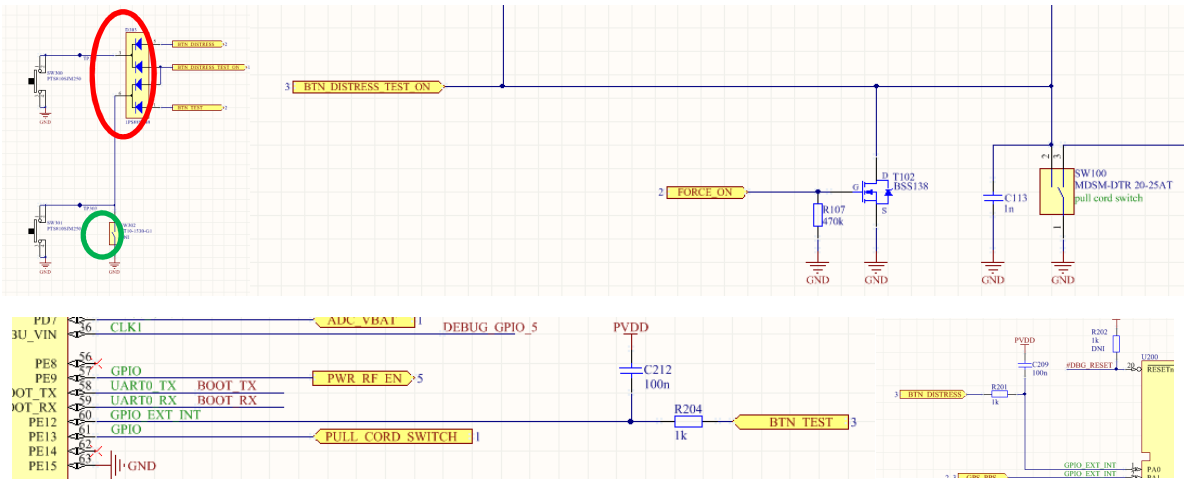


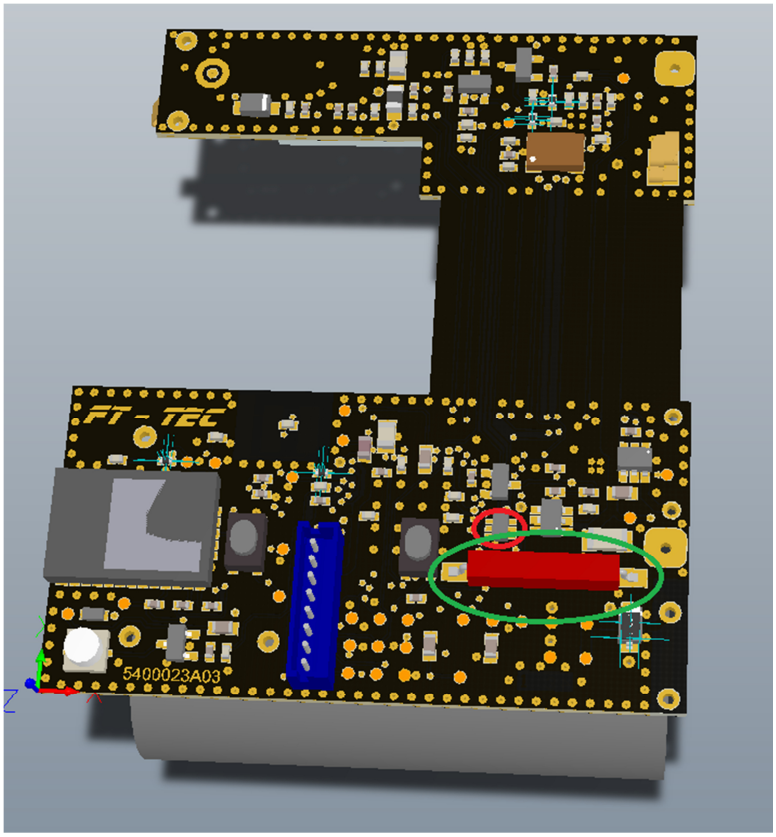



## 2.2 Additional REED-Switch

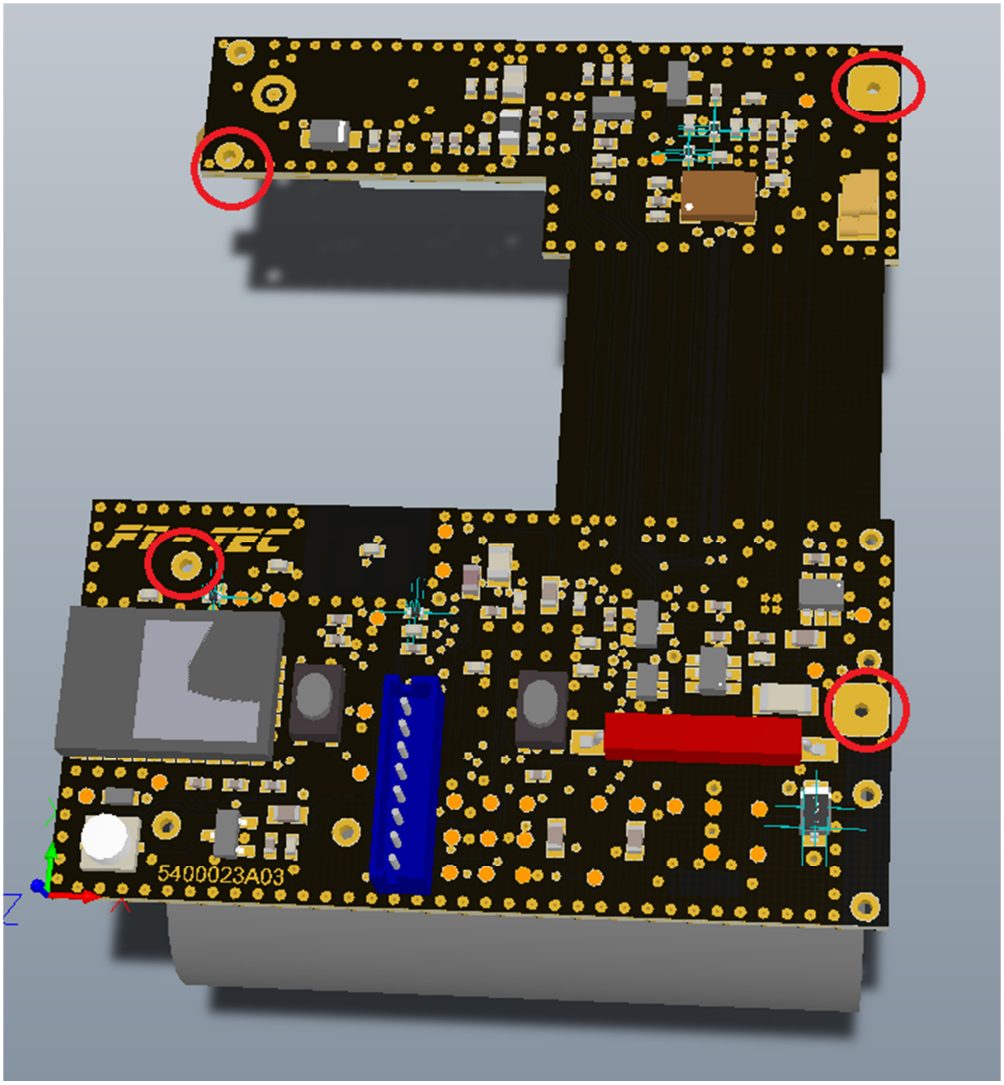
Additionally the PCB contains Pads to populate one reed switch (SW302) instead of the buttons (SW300 and SW301).



# 3 Increase PCB-Stability and improve PCB-Mounting into Case V1.1

The PCB 5400023A03 and BOM V1.5 contain 4 extra THT pads to solder both PCB parts by board stackers together. That improves the stability of the PCBs and makes the mounting of the PCB to the case V1.1 much faster and easier. The inductor L100 was exchanged to a lower type.



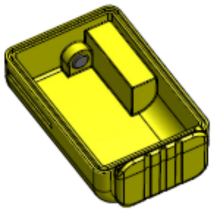
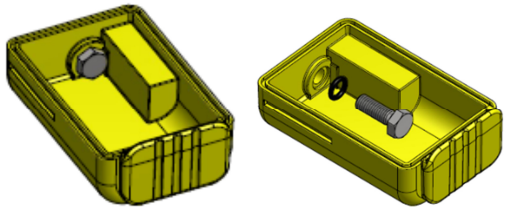
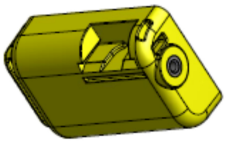
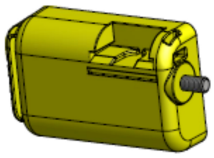
# 4 Improvements Case V1.1

Following improvement have been done with Case V1.1

## 4.1 Waterproofness increased from 20m up to 50m depth

With the use of a screw with an O-ring instead of an insert we are now

- waterproofed till 50m
- decrease possible tension between materials over the years (injection-mold around inserts)

| Case V1.0 | Case V1.1 |
|---|---|
|  |  |
|  |  |