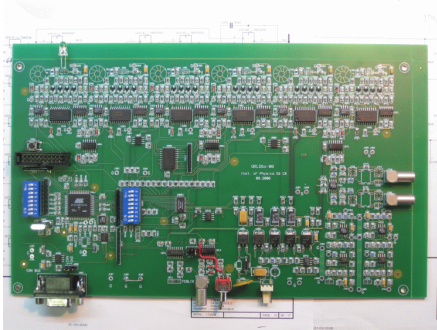


LED calibration system (with notched fibre)

Prague - Plans for 2011

Overview of 2010



- We performed 2 tests of QMB6 with HBU0:
 - Lab test
 - Beam test
- Some small issues were observed during the tests
→ Summarized in a MEMO
- We addressed 2 electrical issues at QMB6, which will be fixed
 - After-pulses for some LEDs at highest amplitude
 - Stability of pulse power within a bunch of very fast triggers (>100kHz)

EUDET-Memo-2010-21



Beam test of the QMB6 calibration board and HBU0 prototype

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December 16, 2010

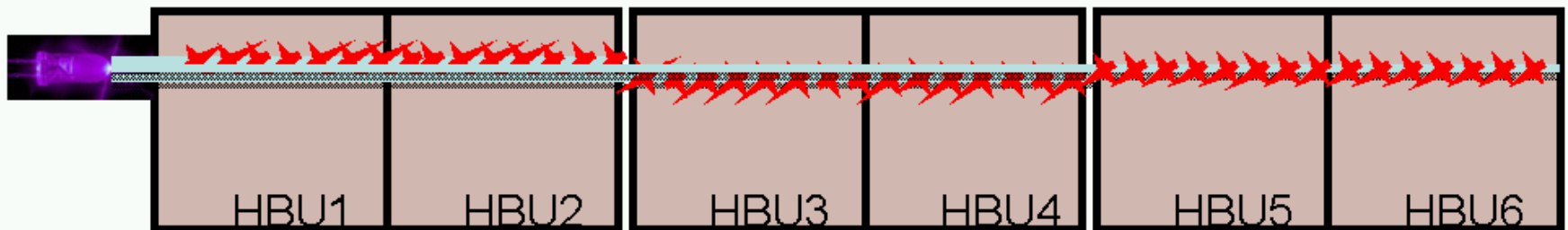
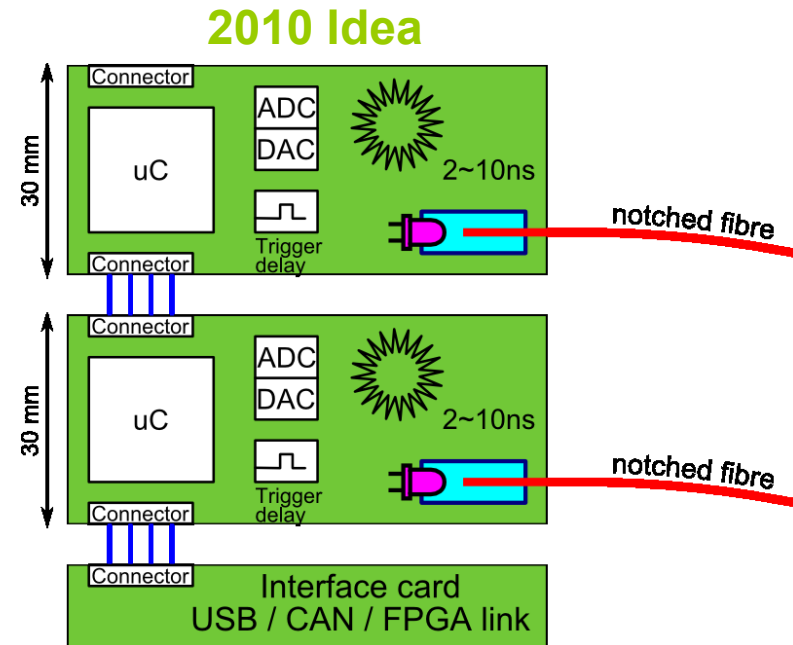
Abstract

We report about the performance of the HBU0 board and the optical calibration system QMB6 in the DESY test beam. A MIP signal was measured on the HBU0 board, providing a reference to the LED amplitude scan, showing an amount of light delivered to each of 12 SiPMs from 0 to 250 MIP at maximum. An ASIC analogue memory cell performance was analyzed in relation with the SiPM signal strength. We observed a non-uniformity and a pedestal shift in the ASIC readout values in the high gain mode for the higher signals strength.

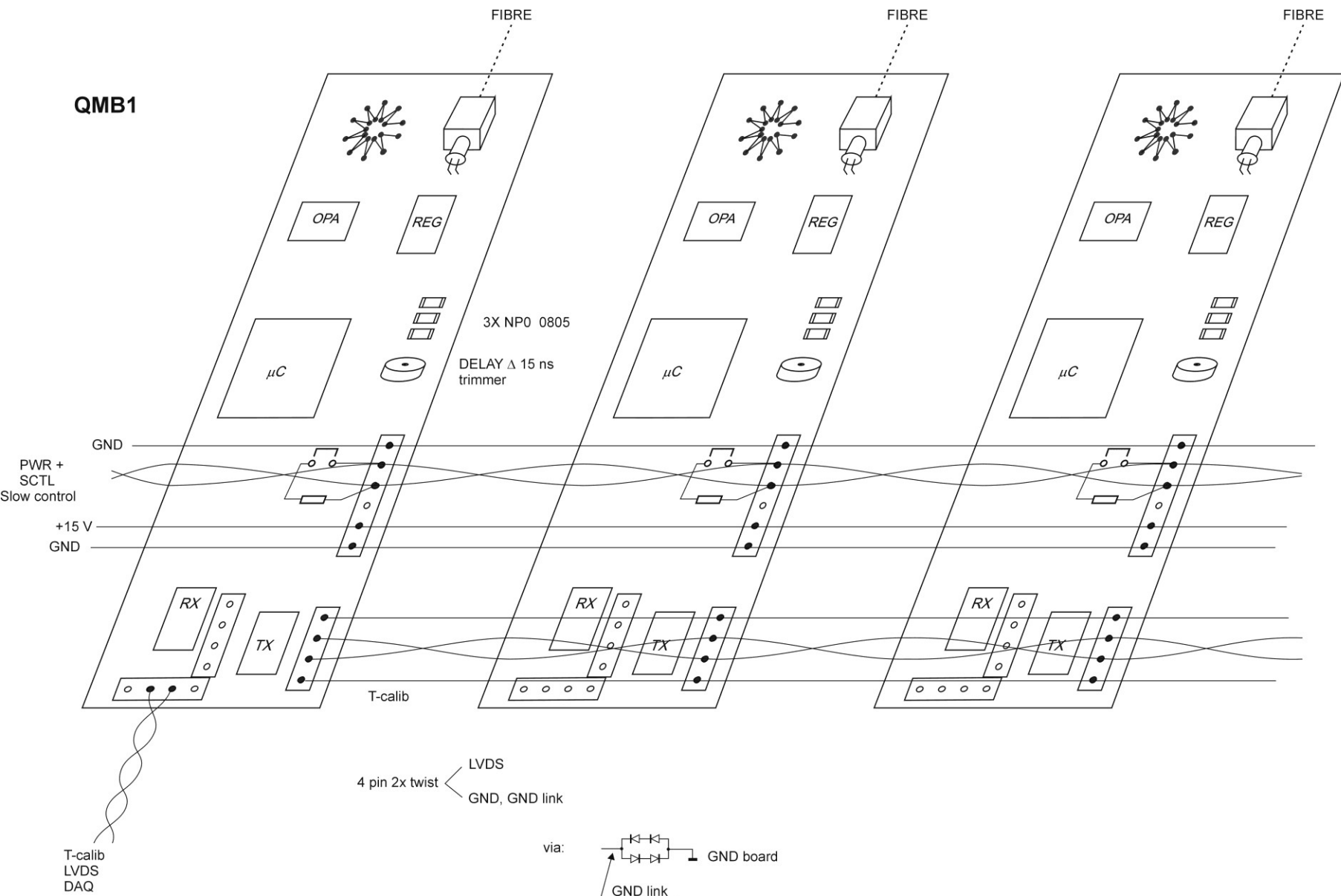
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Plans for 2011

- **QMB1 (1-channel LED driver):**
 - Better adaptability to test-setups
 - finishing the selection of components
 - Fixed
 - Topology
 - Communicating bus (CAN)
 - CPU (Atmel AVR)
 - Trigger distribution (LVDS)
 - Free to adjust:
 - Mounting holes (fixation to support/HBU)
 - Fibre(LED) position
 - Trigger delays
- **Set of notched fibers**
 - Set: 3*fibre with 24 notches, creating a line of 72 notches.
 - 3 sets will be delivered



Architecture



QMB 1

