RMU
Status

INFN Roma Tre Group

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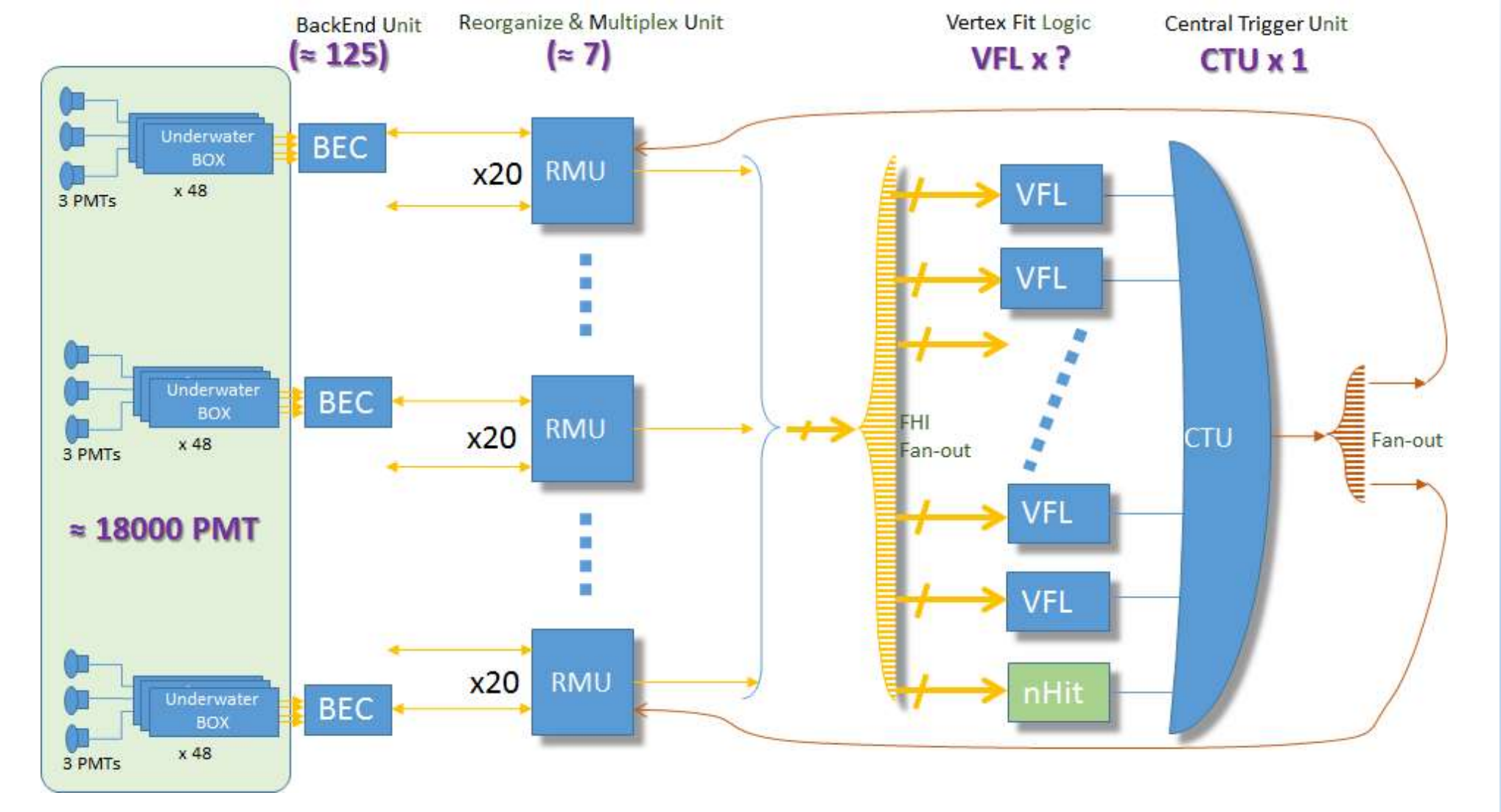
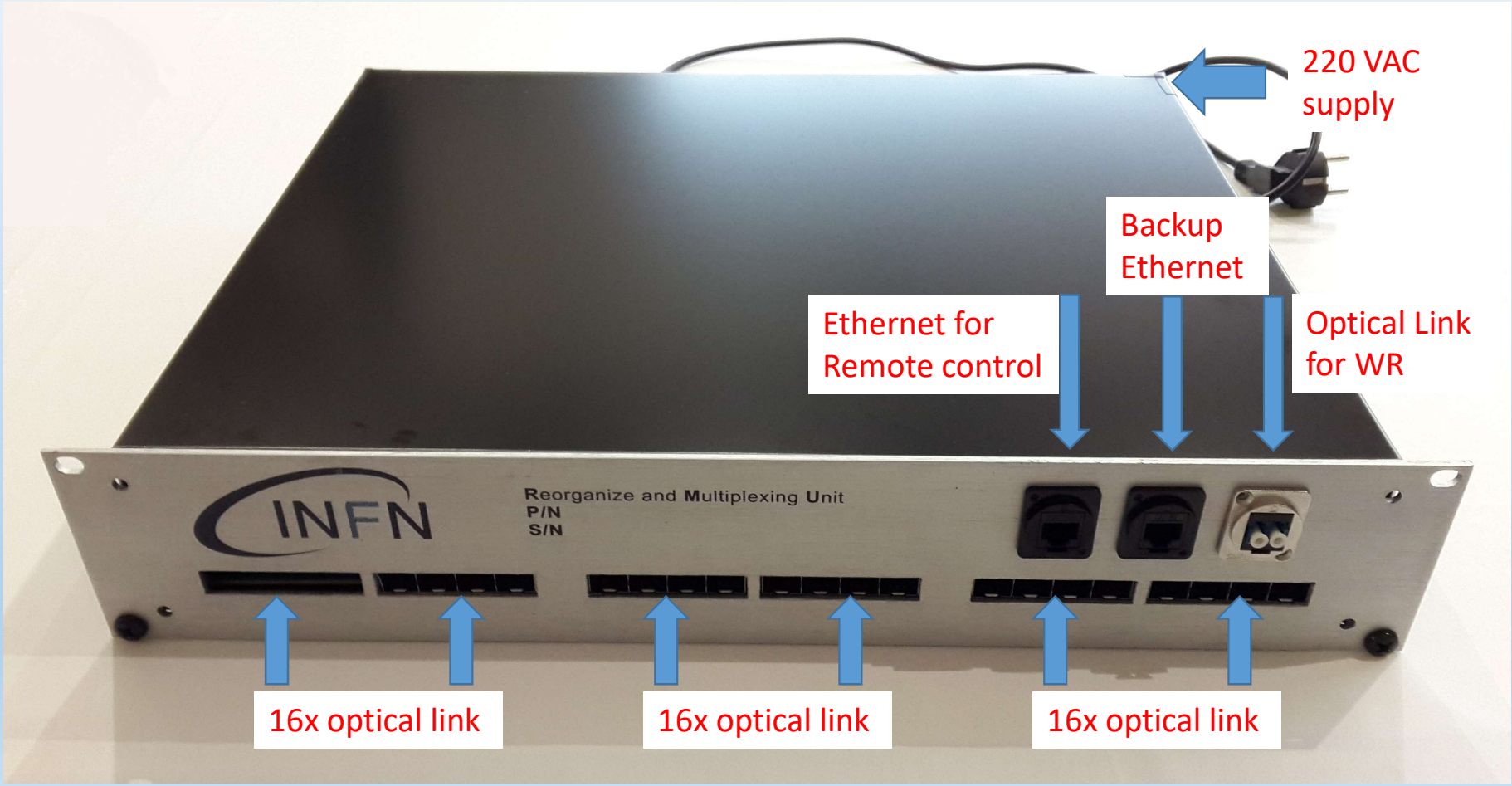
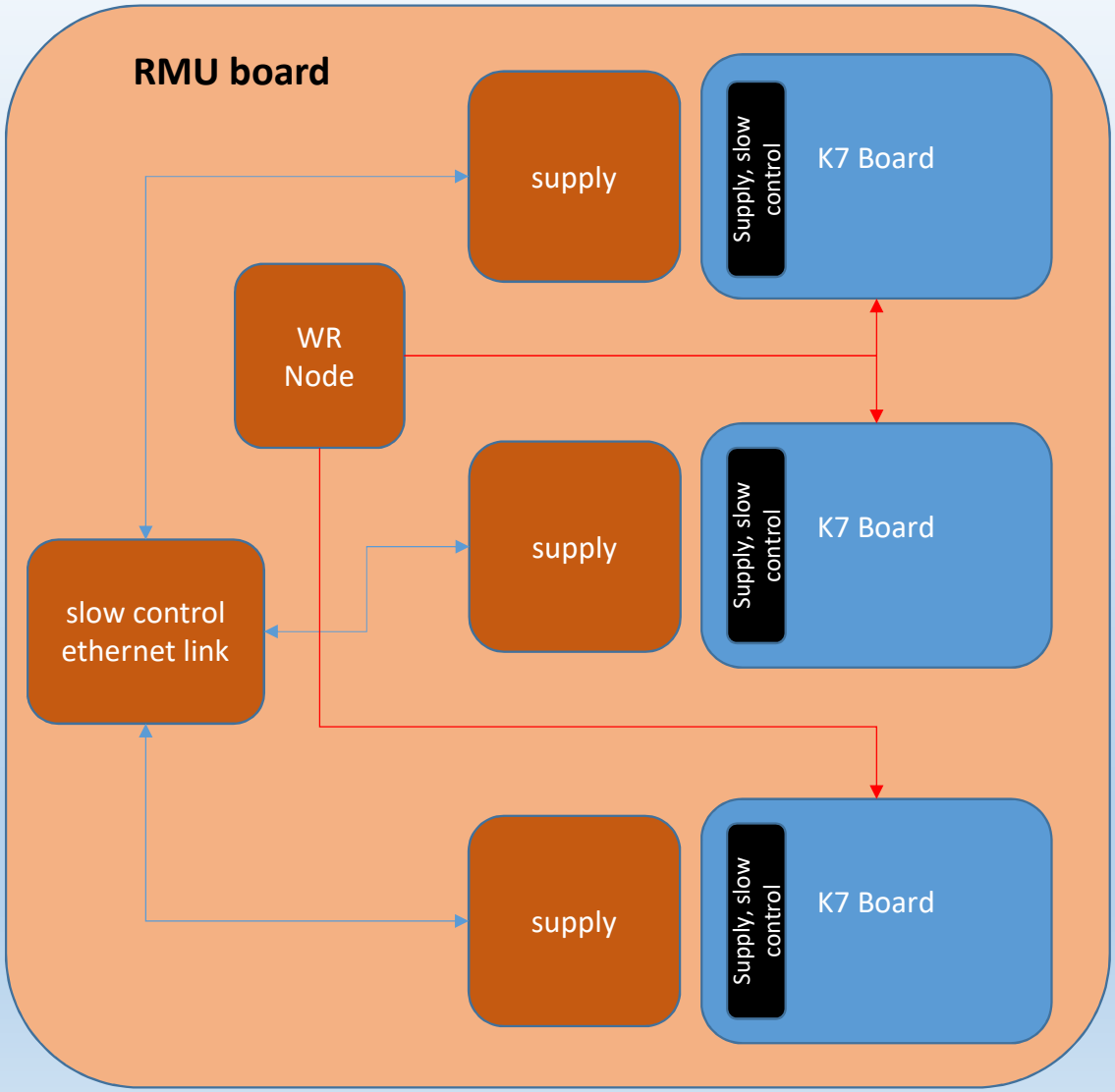
CD trigger block schematic



RMU External connection



RMU Reorganize & Multiplexing Unit



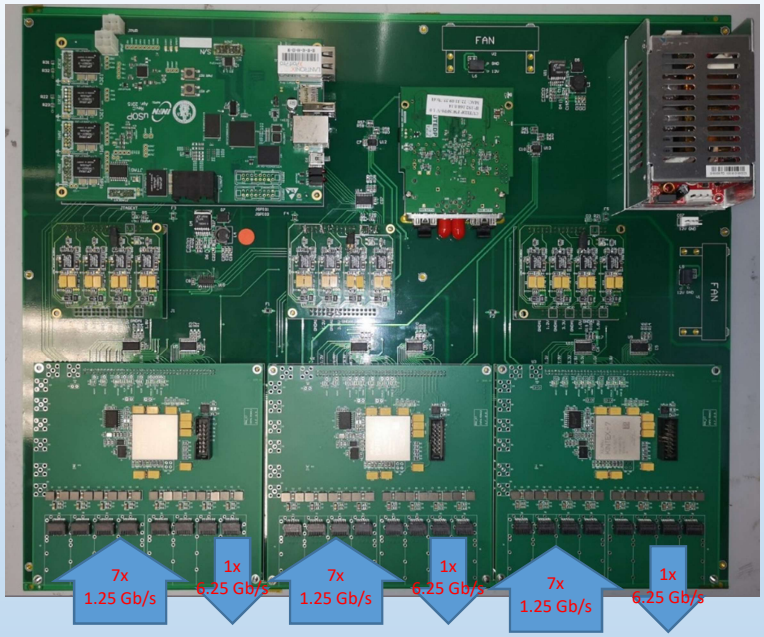
Specification:

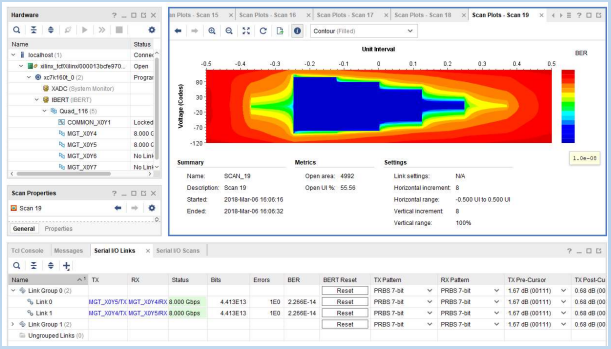
125 input link from BEC organized in 7 RM Unit:

18x 1 Gb/s input link each
3x 6.25 Gb/s output link each

Each RMU has 3 separate FPGA board with 7x input link and 1x output link

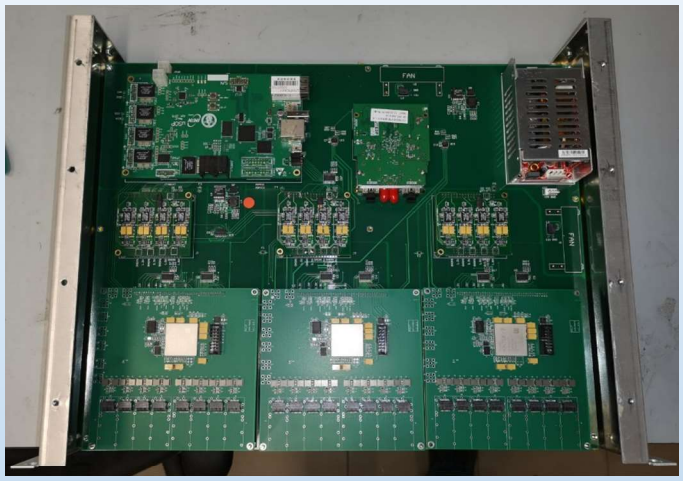
Firmware development





- I^2C interface on FPGA is working fine. Parameters about data trasmitted/received from the transceivers can be read (data mean, number of zeros, etc…). Different settings can be changed from slow control board.
- Optical link data transfer is working fine. Data collected from the 7x input link are transmitted by the 1x output without error. Working on a minimum delay configuration, at the moment the delay is 255 ns.
- Iso-synchronous transfer is finished, test is undergoing.
- BER was measure up to 10 Gbit/s with zero errors up to 10^{16} transmitted bit.

RMU Pre-production Status



Electronic Board (for 3 complete modules):

- Mother Board: **Delivered**.
- Power Board: **Delivered**.
- USOP (Slow Control): **Delivered**.
- K7 Board: **Delivered**.
- White Rabbit Board: **Delivered**.

Box:

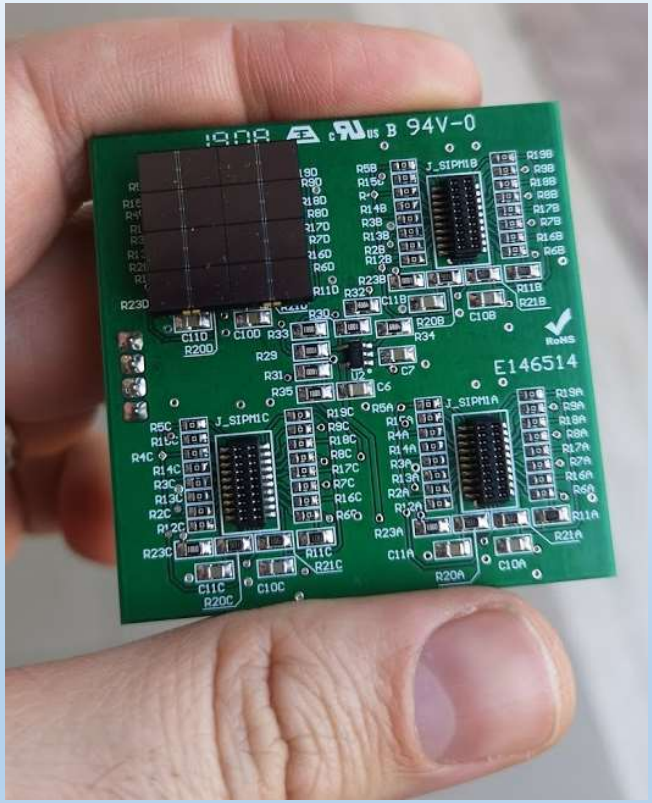
- First box delivered, all checks passed.

Two modules almost ready, can be shipped next week.

We would like to start the mass production (10 modules) after next General Meeting.

SiPM Electronics

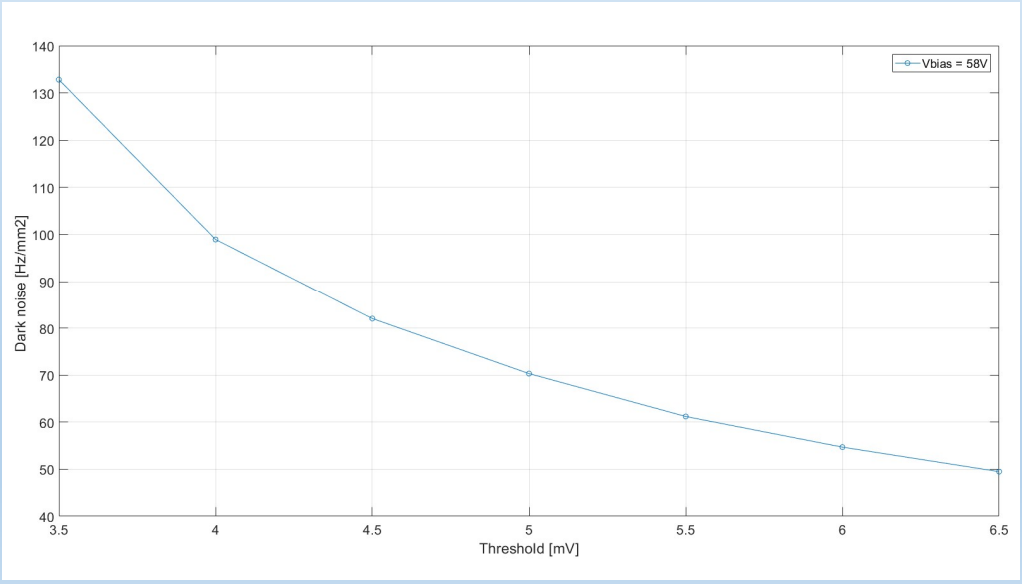
Readout Board

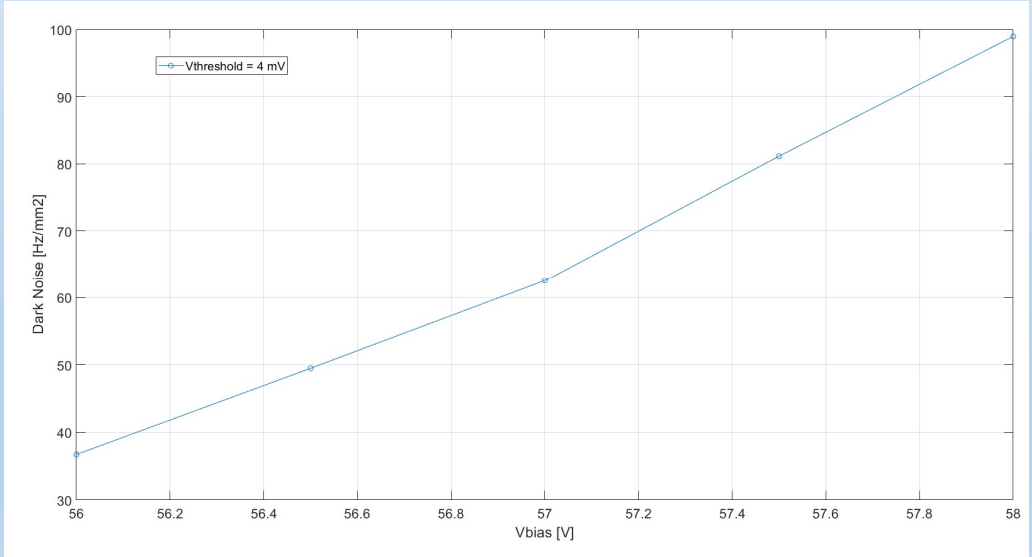


- Same approach of Dark Side experiment
- 5 cm x 5 cm shape board
- One output channel for (up to) 25 cm^2 SiPM
- Test started last week.

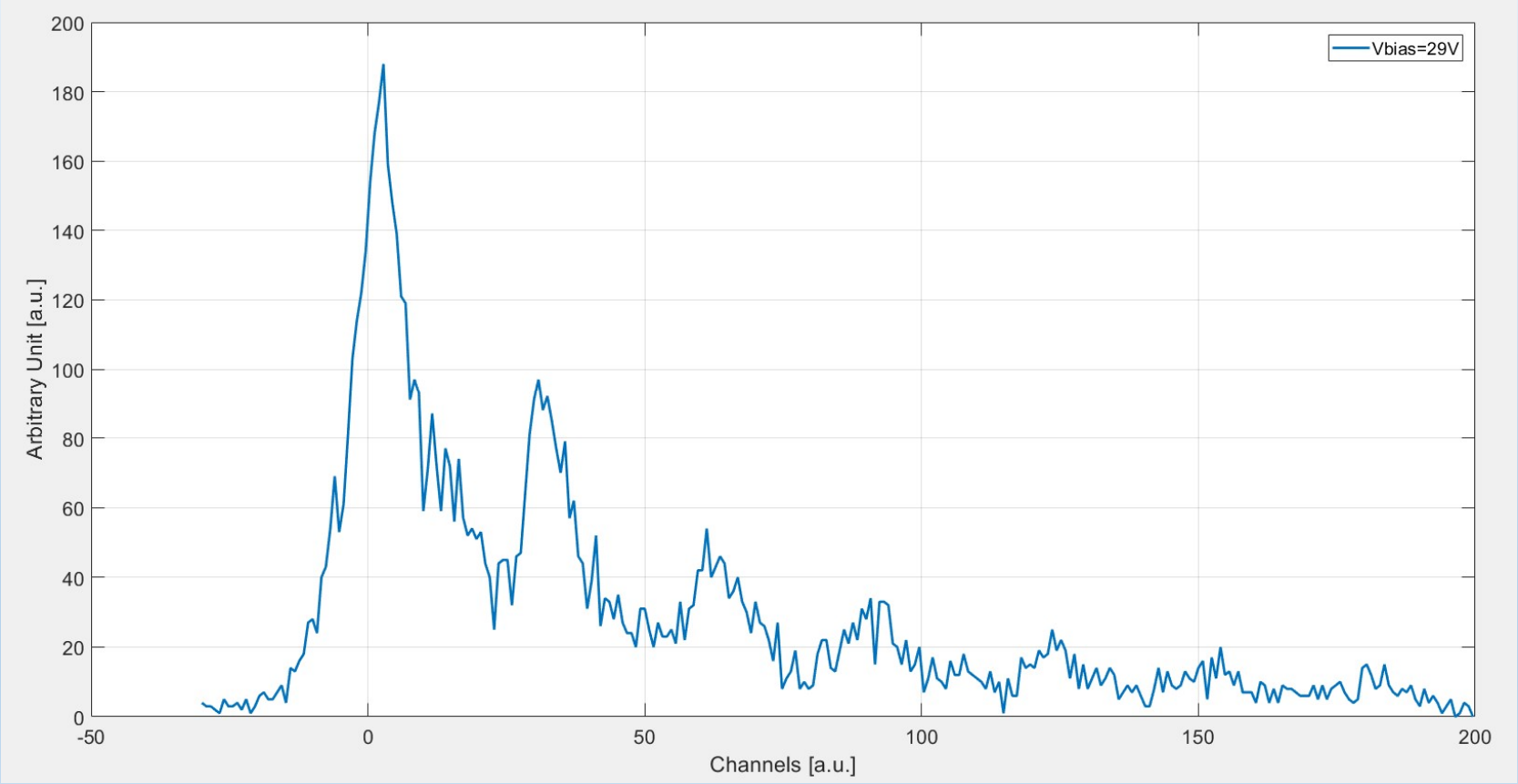
First results at -50°

- Four tiles from FBK – NUV-4S SiPM. Each tiles has 16 4 mm x 4 mm elements (=64 elements, >10 cm^2).
- Test at -50°





First results at -50°



Thank you!