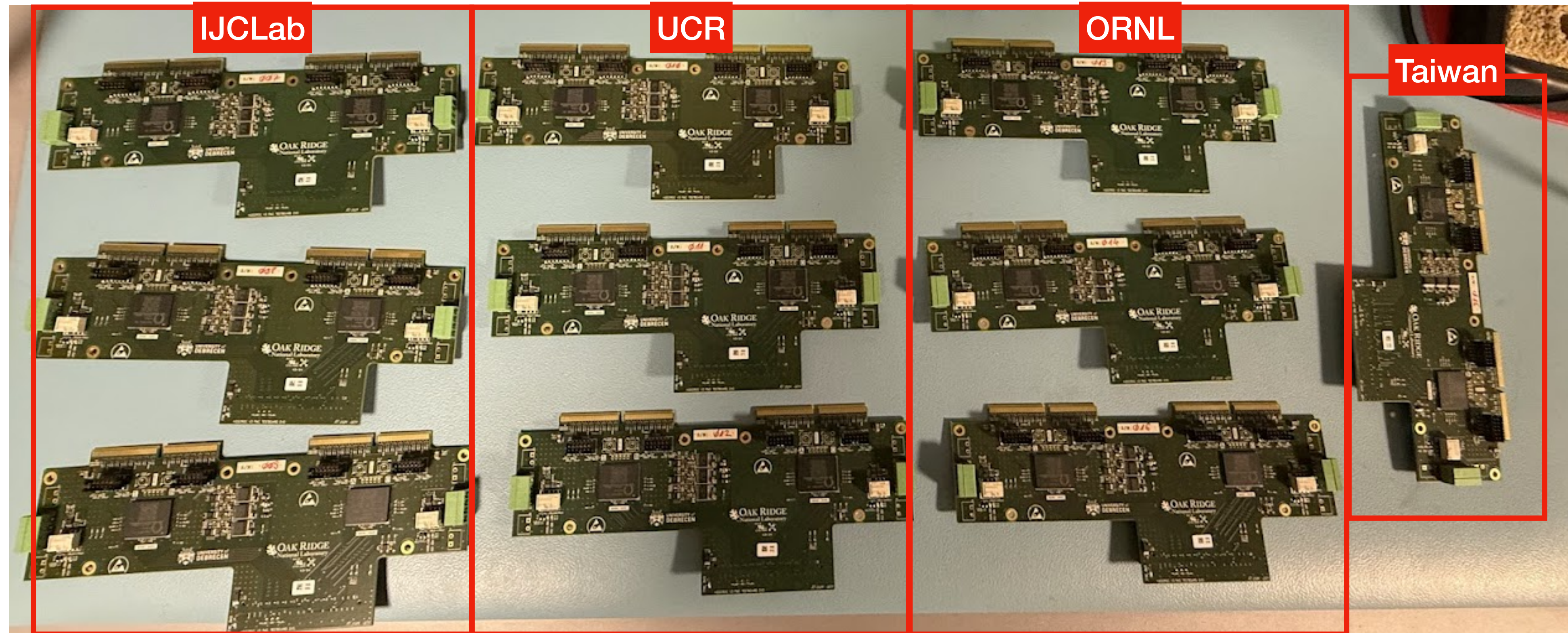


eRD109 Update - HGCROC

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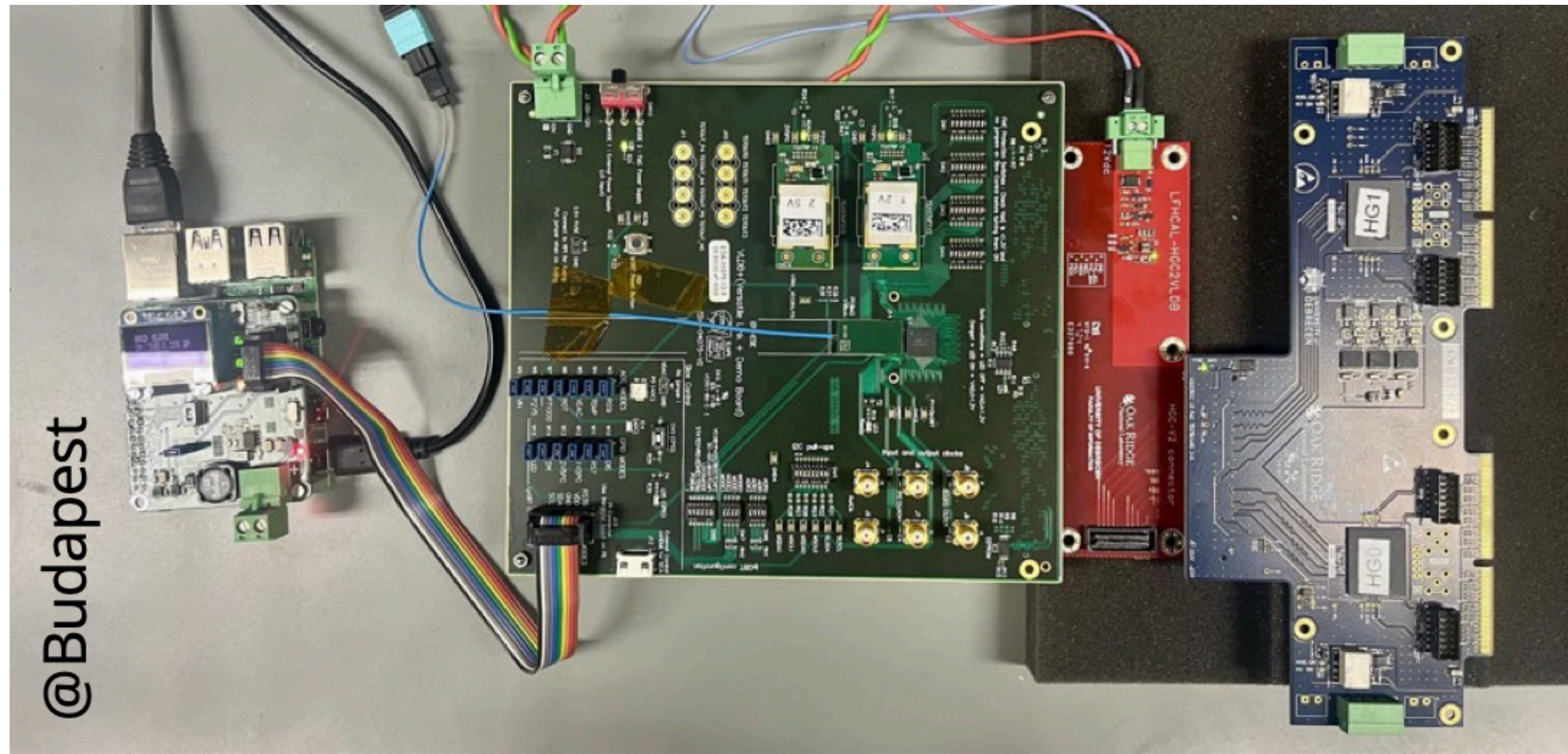
New boards are produced



10 new protoboards, all distributed:

- H2GCROC3B:
 - Updated I2C, less errors when setting up
 - New header - Firmware was updated (some version still needs update, like with external clock)
- To my knowledge, everyone received it, started testing it
 - Looking into the software changes

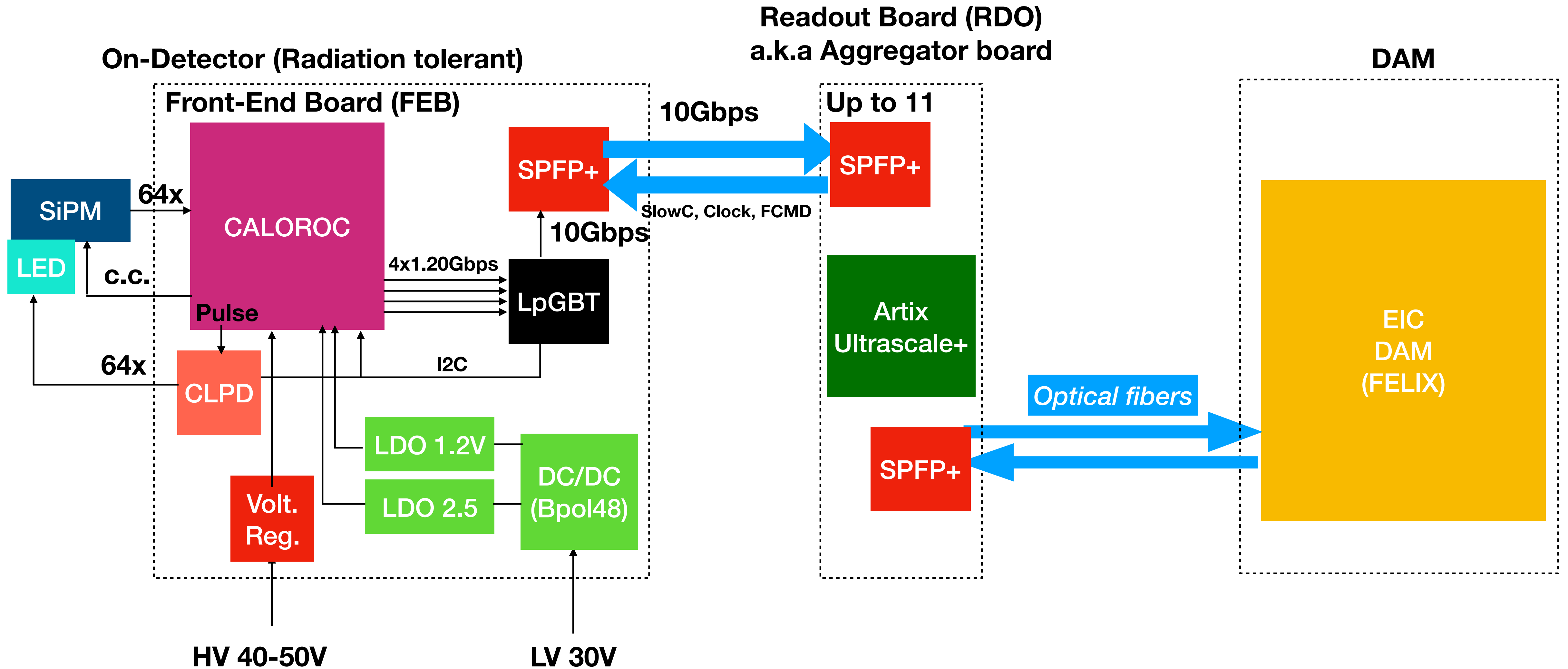
Started to test with LpGBT



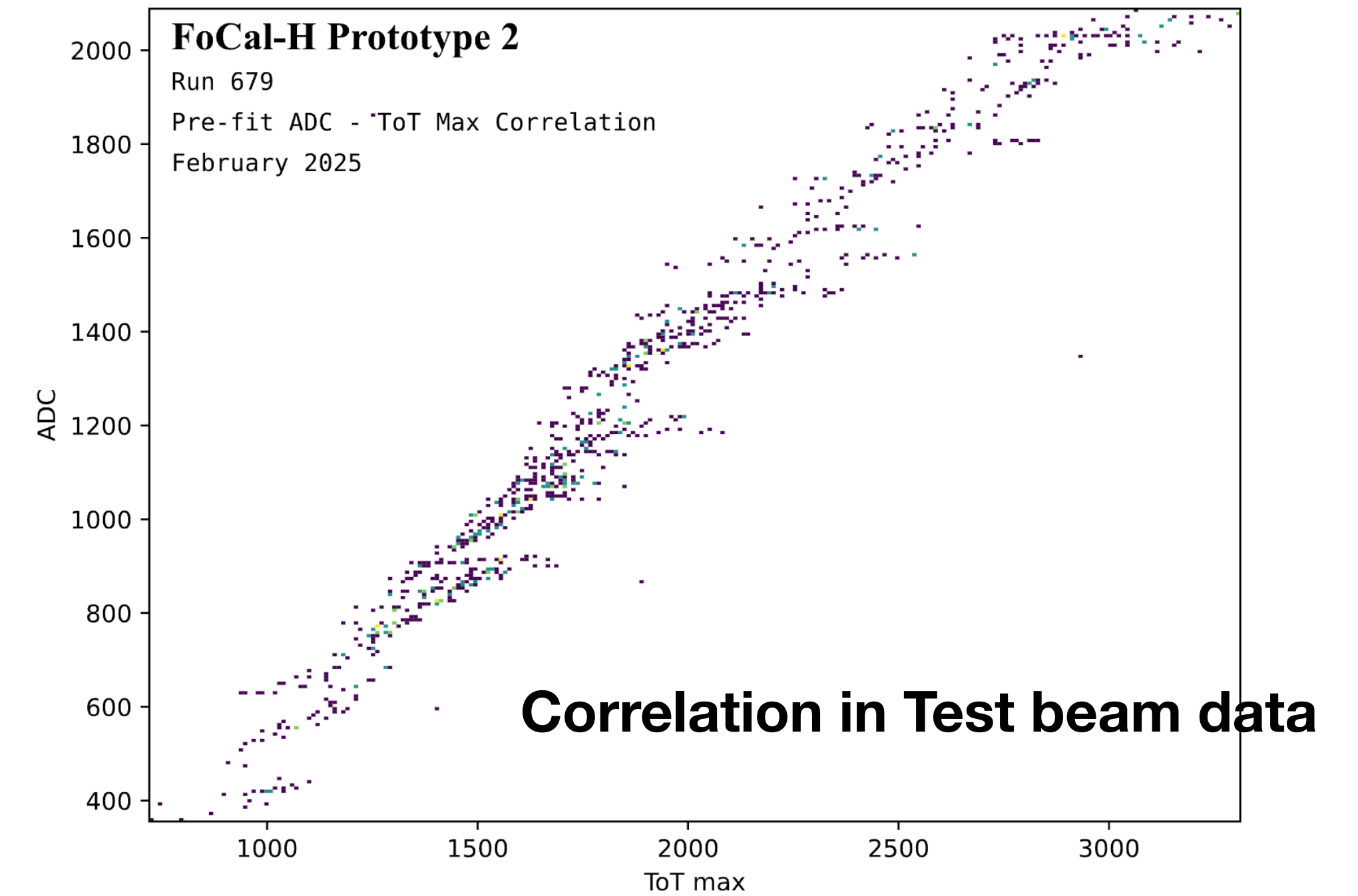
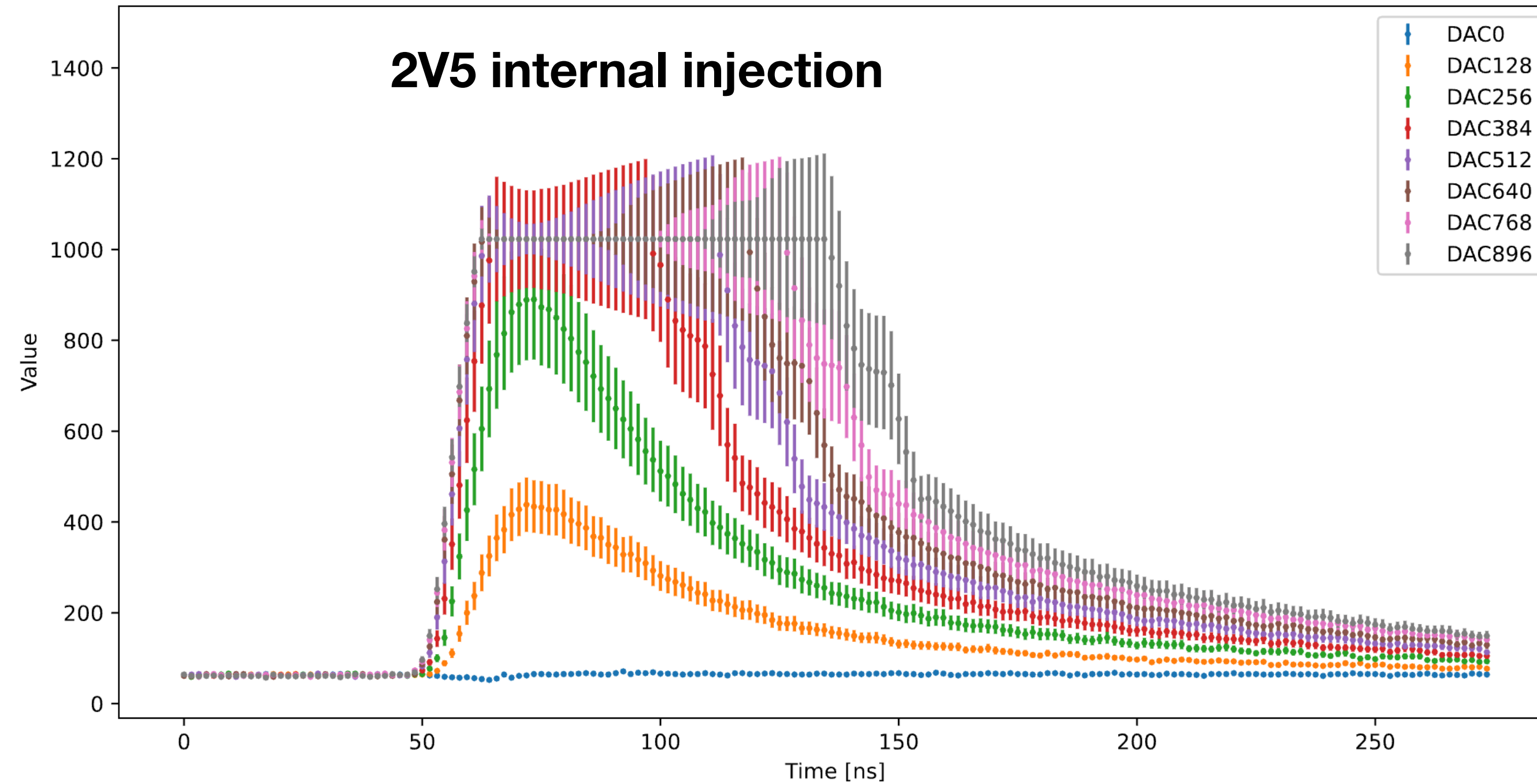
Connected the protoboard2.0 (H2GCROC3A) with a bridge board to the VLDB+ (LpGBT and VTRX+ evaluation board):

- Fiber is connected to the CRU (it is like FELIX for ALICE/LHCb)
 - There is a LpGBT fw running, but it is still work-in-progress
 - I2C was tested, works (with the 3A there is a <1% error rate)
 - Idle data received in CRU
- Further data will come soon:
 - Some extra fw/sw needed from their side (not my work)

The current strategy for the CALOROC readout



Further progress with the signal reconstruction



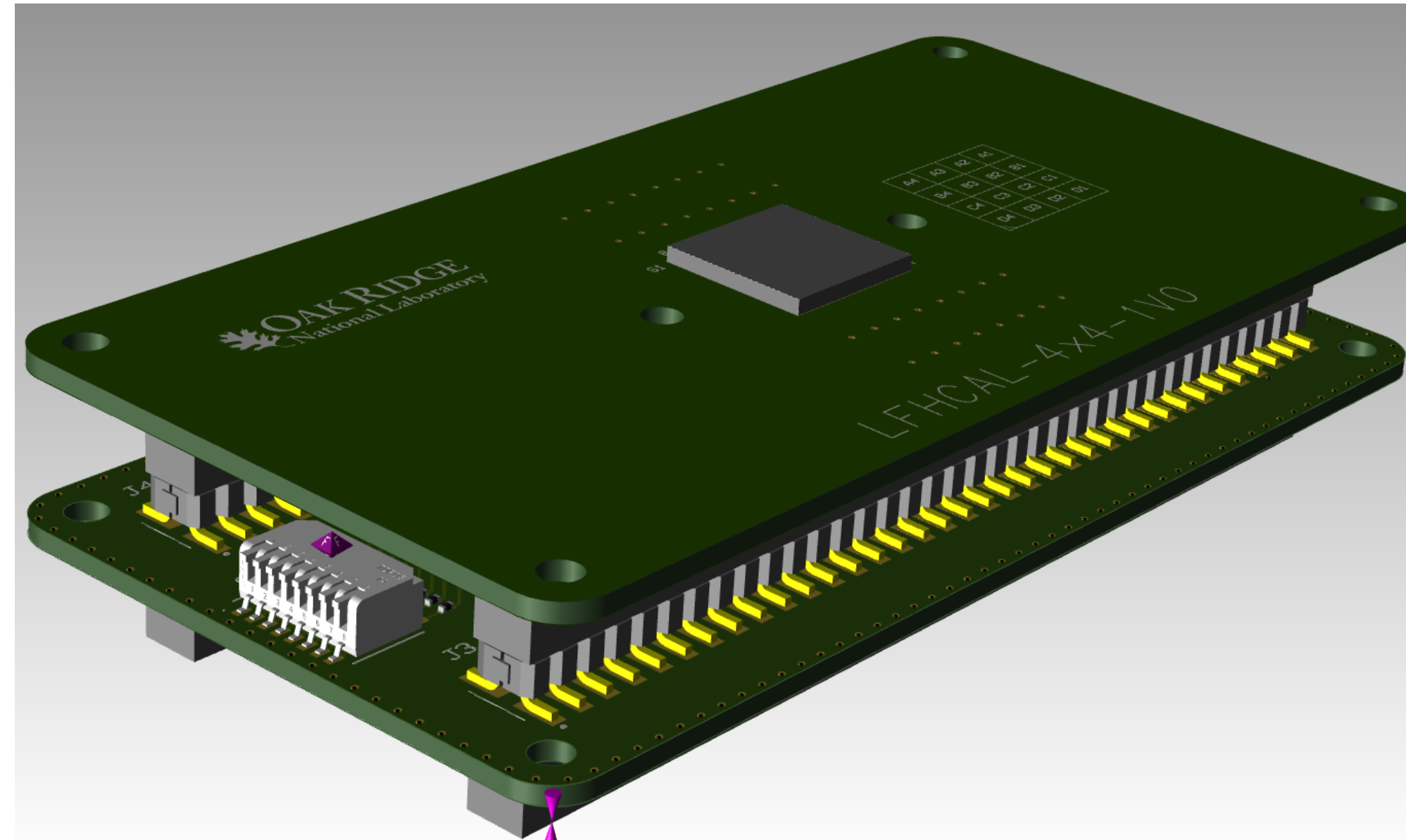
The strategy to reconstruct the signals from test beam:

- Realistic template fit:
 - We use the 2.5 V injection (in front of the c.c) - most realistic signal which would be from SiPM
 - Phase shift (16 phases in 25ns) to reconstruct the full shape
 - This is in sync with the clock provided
- Apply this to the data:
 - Here the clock and particle is not aligned (as it is test beam data)
 - Looks good at first look, still looking into the “flattenings”

Still remaining

Finally starting to sum:

- The summing board is designed
 - Passive summing, this one should result in longer signal
 - There is a switch to 'sum' 1-8 SiPM's, using the BIC 4x4 SiPM array for this



LED calibration circuit:

- We saw a nice LED signal from the PWO4 tests
- We rerouted the SiPM pulser from the H2GCROC to the FPGA
- Now redoing the same exercise with the LFHCAL setup
 - Work in progress...
 - Then designing a daughter board for the LED pins in order setup which LED will be flashed

