Production Status

RIKEN/RBRC

Itaru Nakagawa

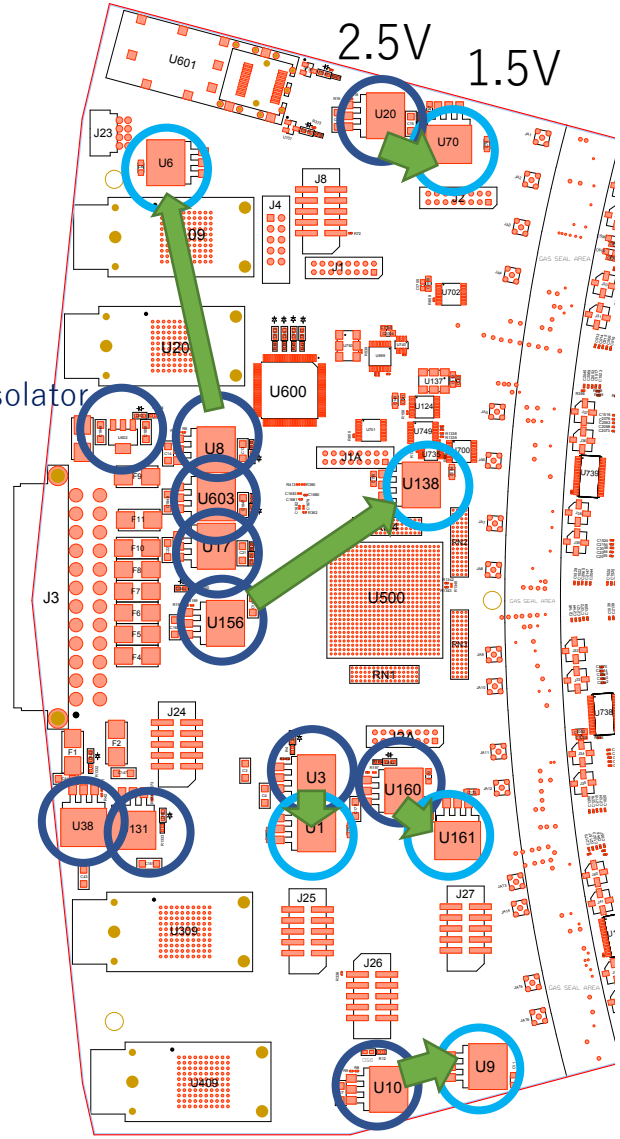
ROC Test @ RIKEN

Heat Sink

Thanks to Genki.
250 Heat sinks were delivered to RIKEN on Feb. 10th.

Regulator Heat Sinks

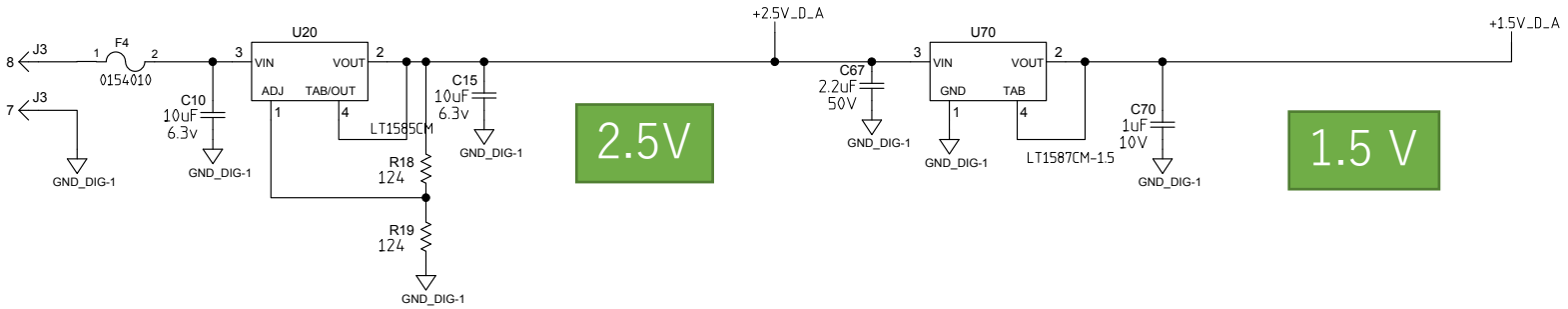
To Photo-isolator

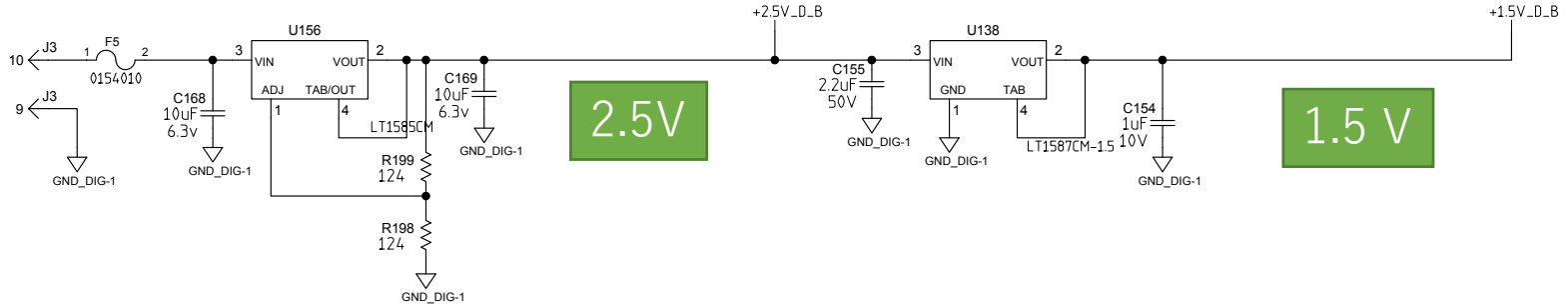


- There are 16+1 regulators implemented on the primary side
- Are we going to mount heat sinks to all of them?
- If so we need 16 x 18ROCs=288 heat sinks, while we have only 250.
- Some regulators may not generates too much heat
- For example, 2nd stage regulators which drops voltage from 2.5V to 1.5V.
- Can be confirmed by the thermal shot took in BNL sometime ago.

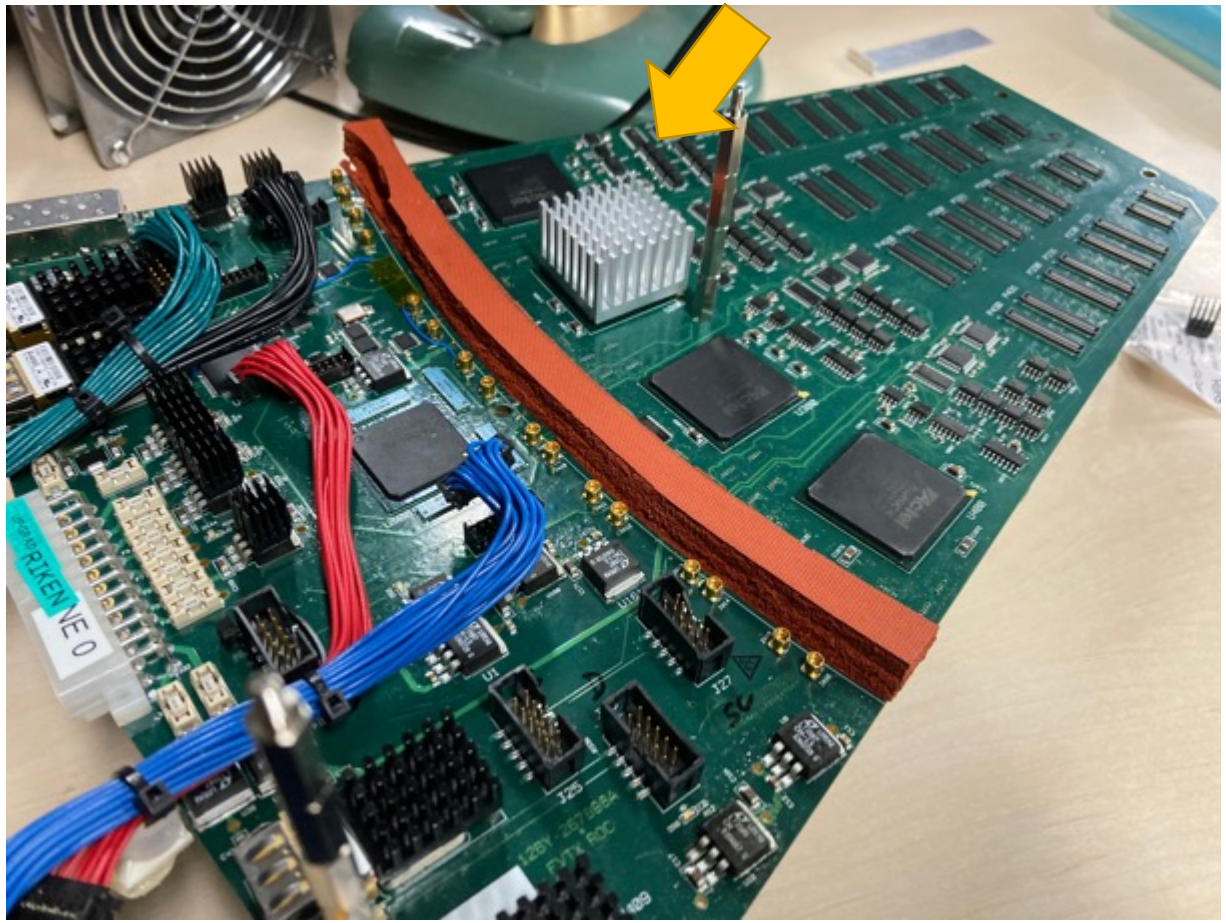
○ ΔV=1V

Regulator Cascade Chains



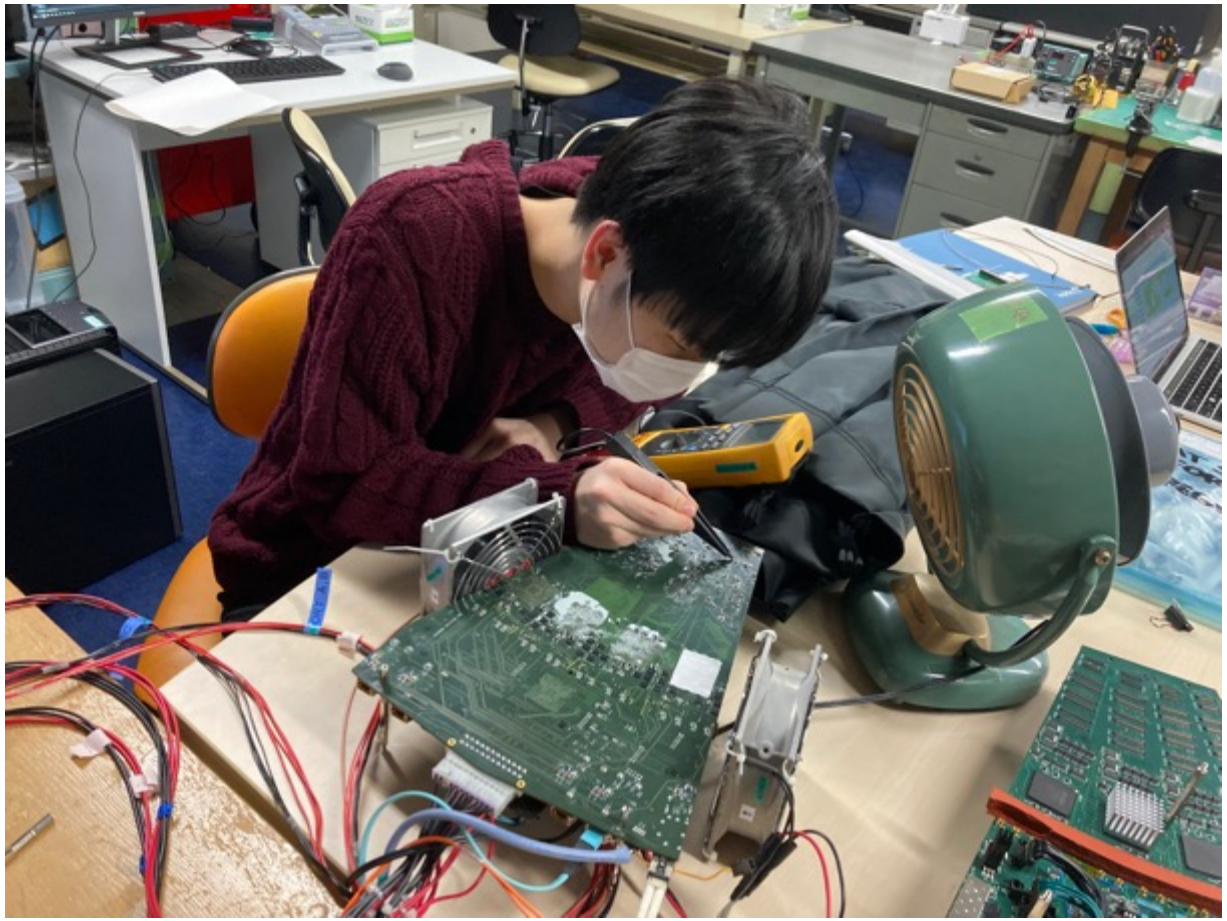


Heat Sinks for FPGA



- We don’t have sufficient heat sinks for FPGA to mount all 1008 ROCs.
- We have several heat sinks which is sufficient to be used for testing ROCs, but only for temporary use. Not permanent mount on FPGAs.
- Can BNL crews procure heat sinks and mount them to all FPGA for all ROCs sent back from RIKEN after testing?

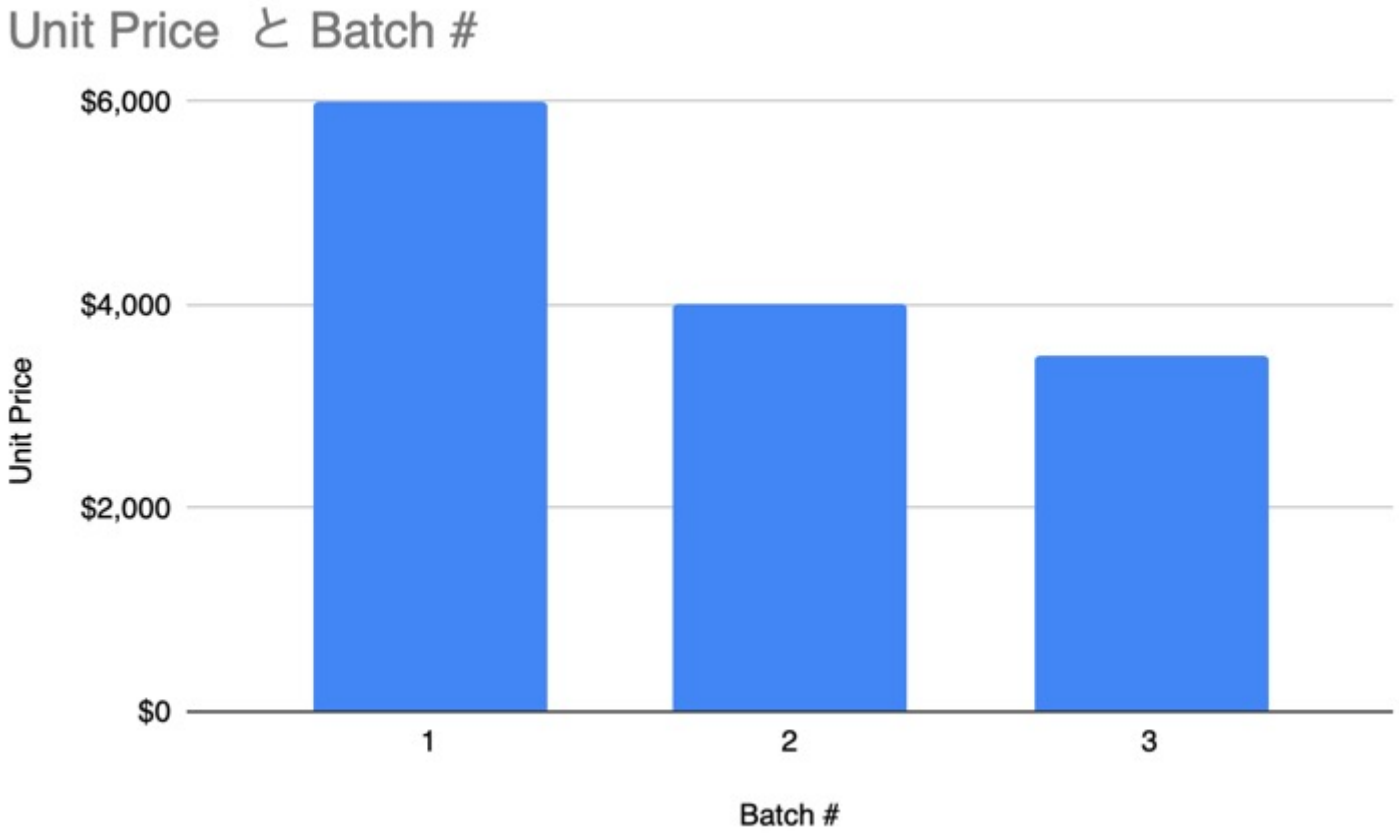
1008 ROC Tests

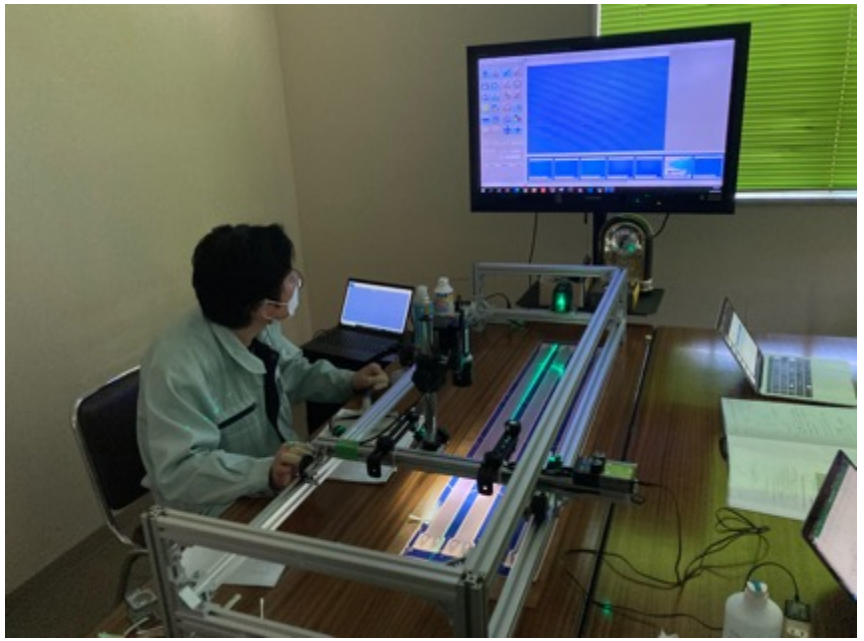


- Hikaru Imai has started 1008 ROC test at RIKEN test bench

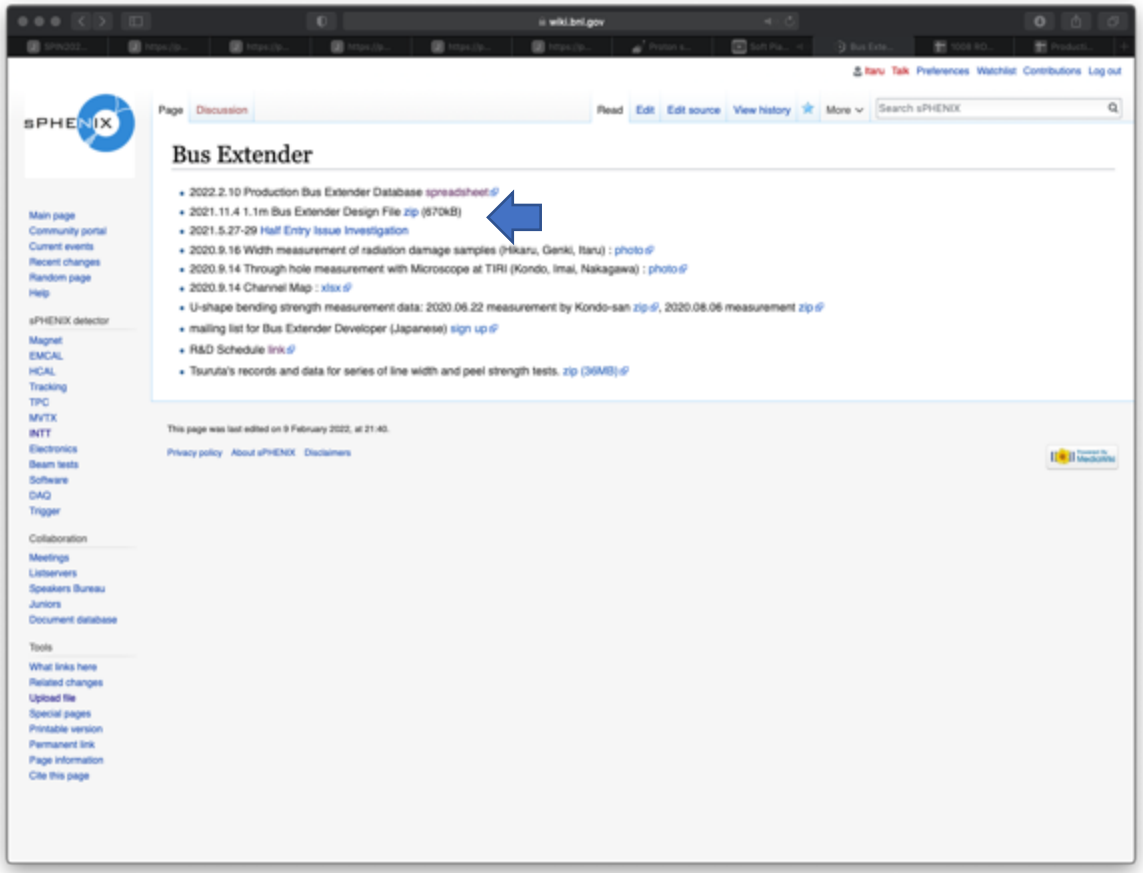
Bus Extender Production

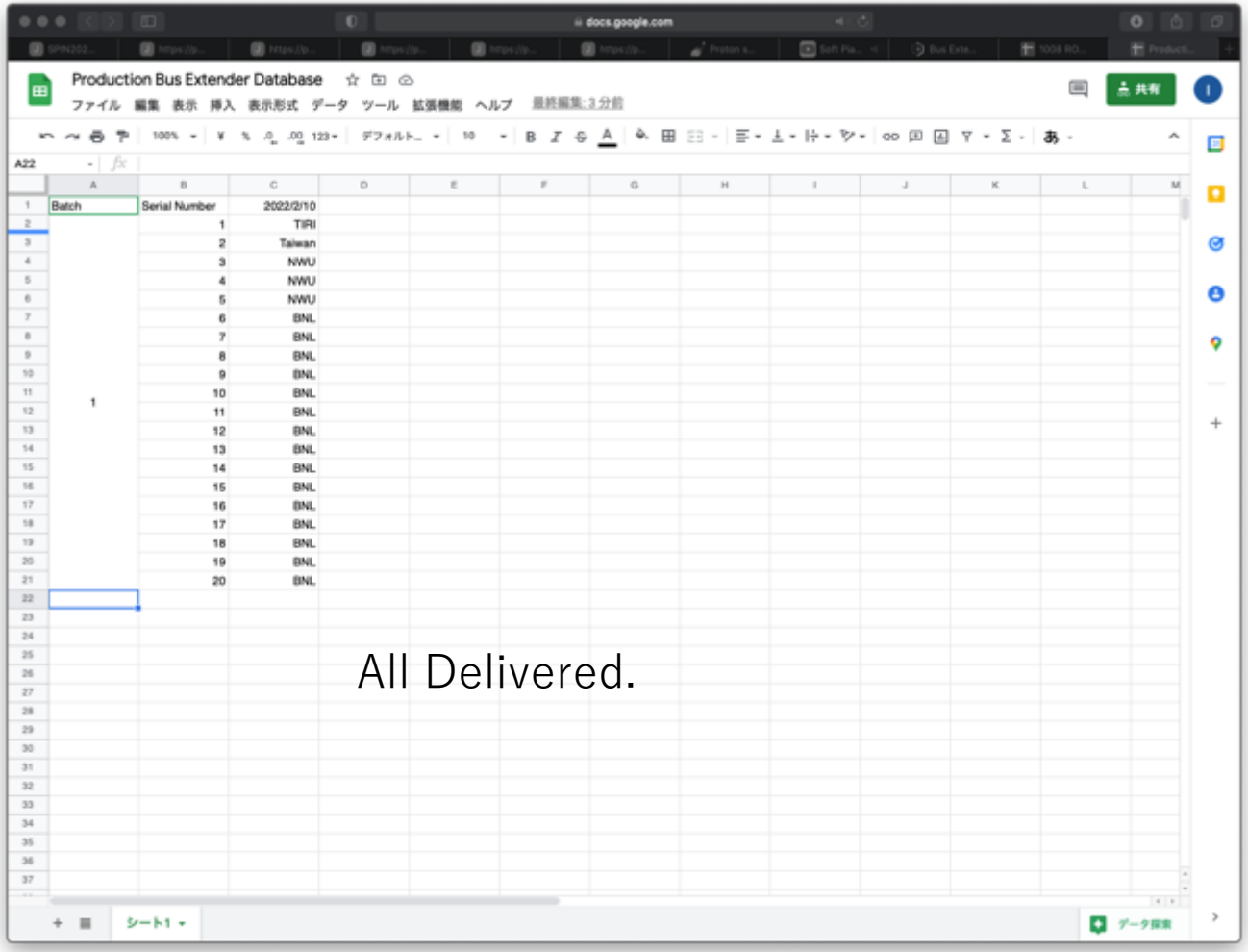
Bus Extender Production Cost





Bus Extender Production Batch-I

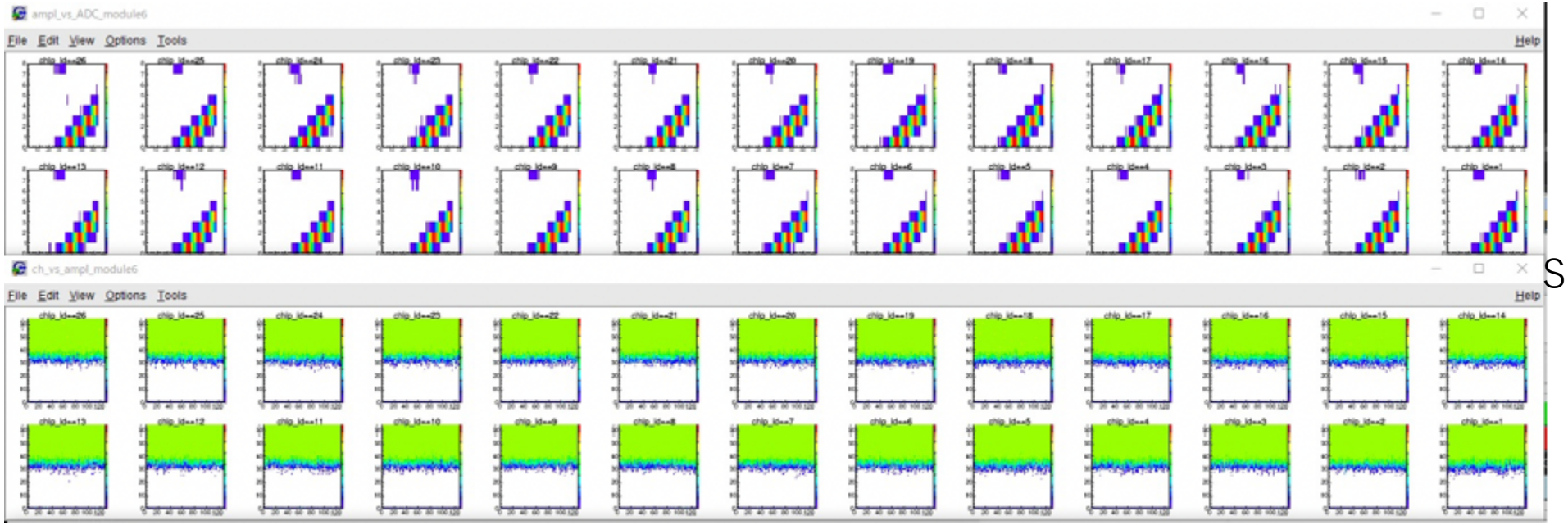




All Delivered.

1.1m Bus Extender

Measurement by Hikaru Imai

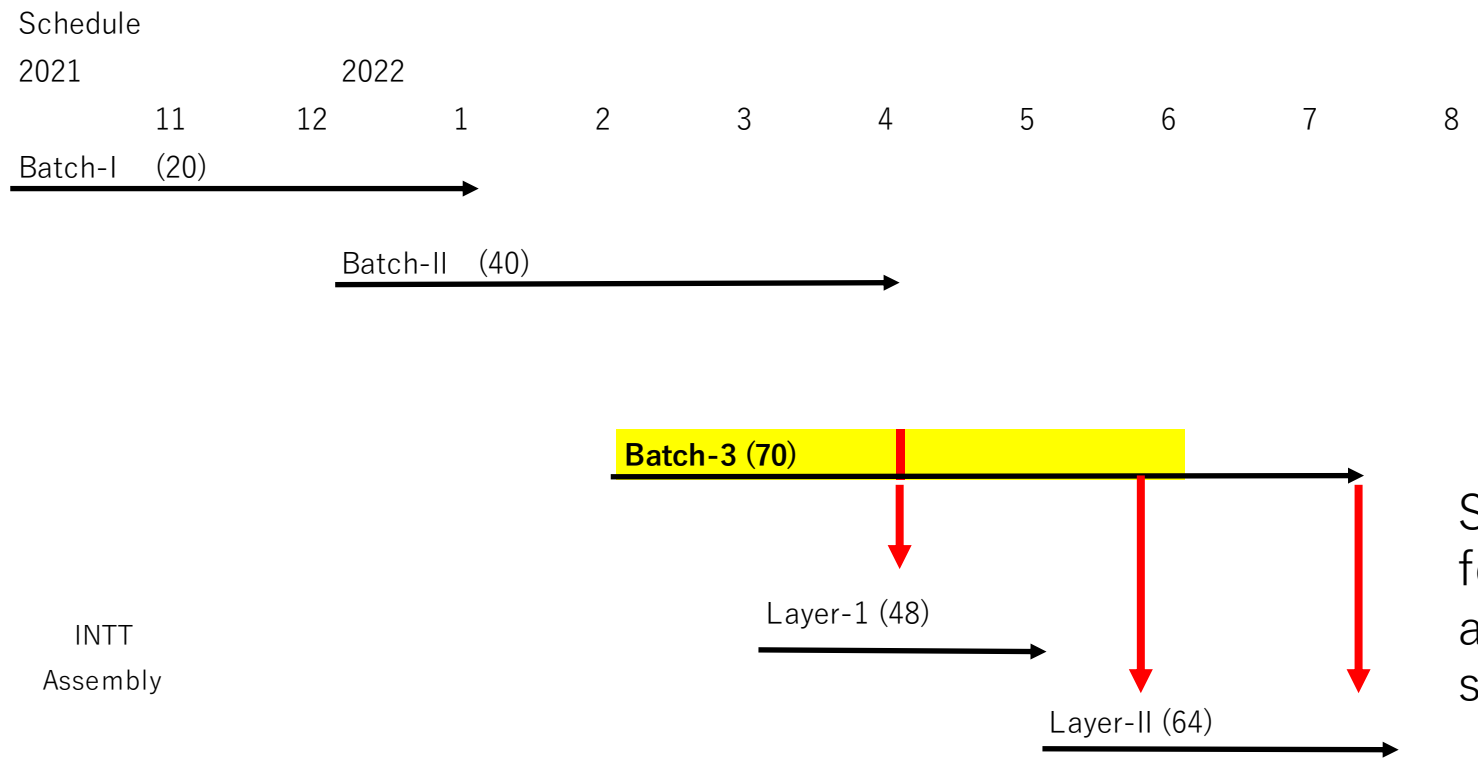


Successful Calibration

1st attempt to take calibration data with 1.1m bus extender using short/long FPC conversion cable.
Similar LVDS current dependence observed with 1.3m bus extenders.

Bus Extender Production Batch-II, III

- Batch-III (70) Contract is in progress.



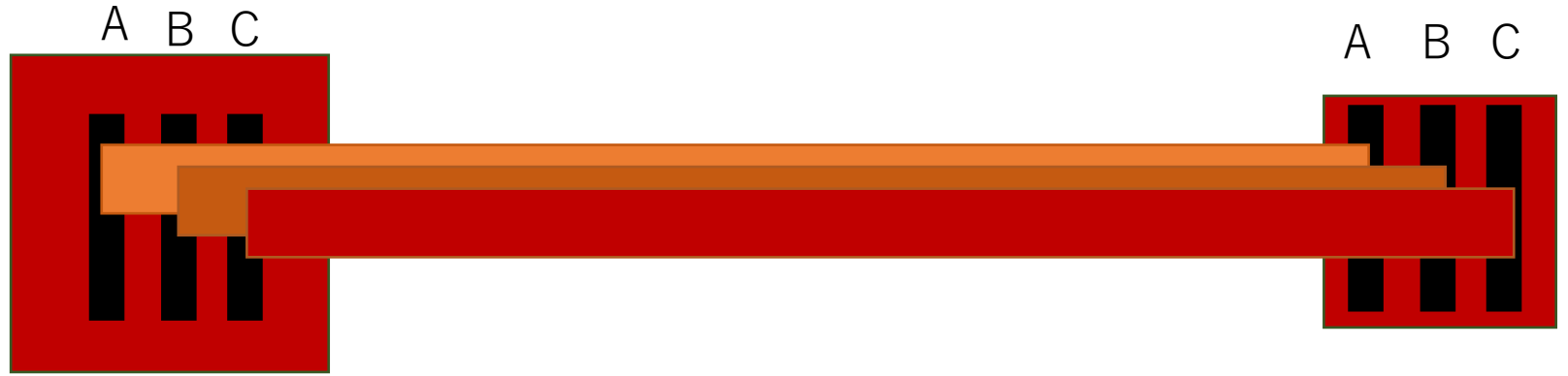
Separate Delivery is proposed to feed BEX cables to the barrel assembly in the first come first serve base.

Conversion Cable

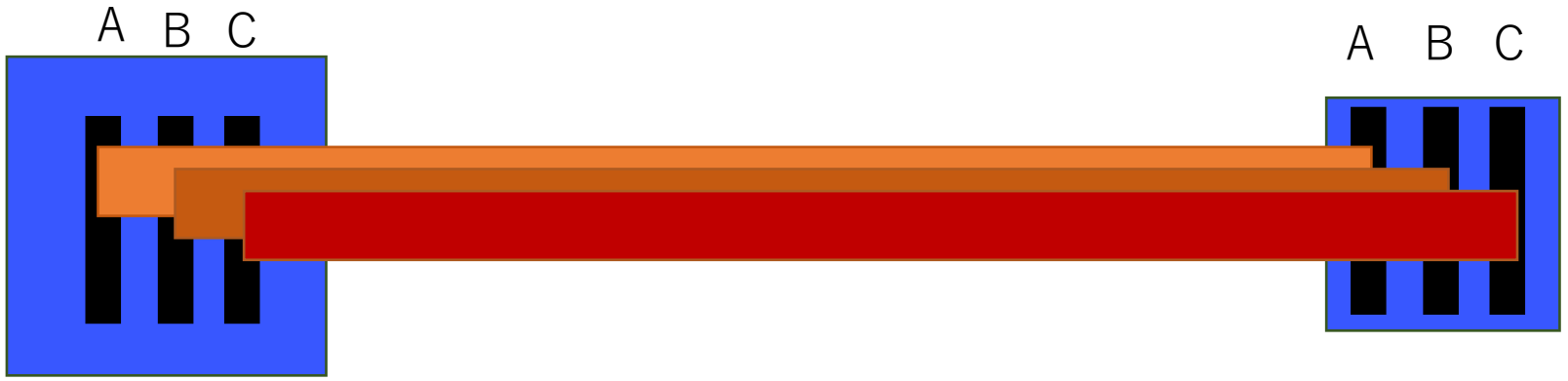
Design work towards prototype-II

A,C Cable and B,D Cable

- The connectors for B,D and A,C needs dedicated boards. They look identical, but the inner layer layout will be different in both ROC/BEX side boards.

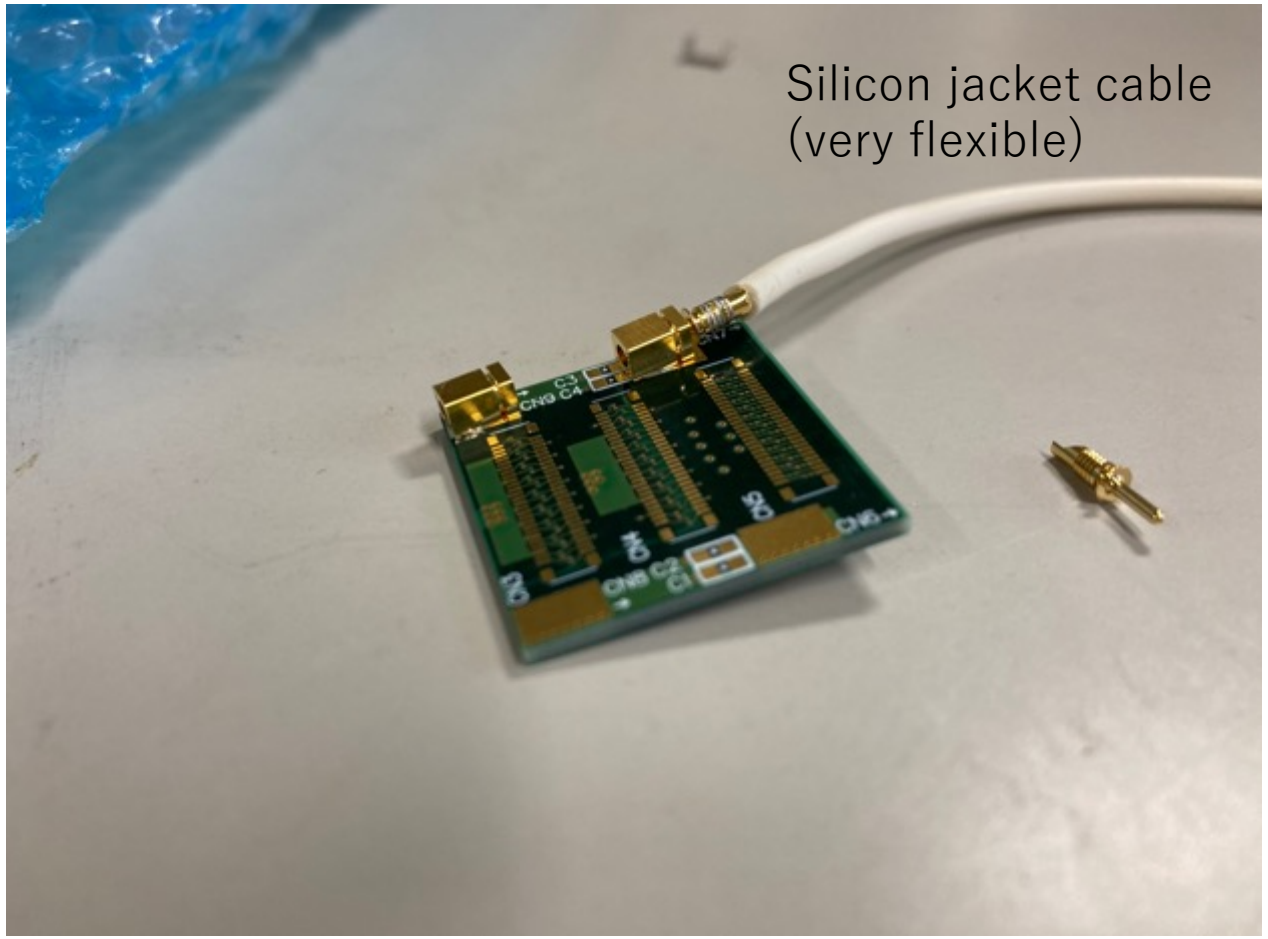


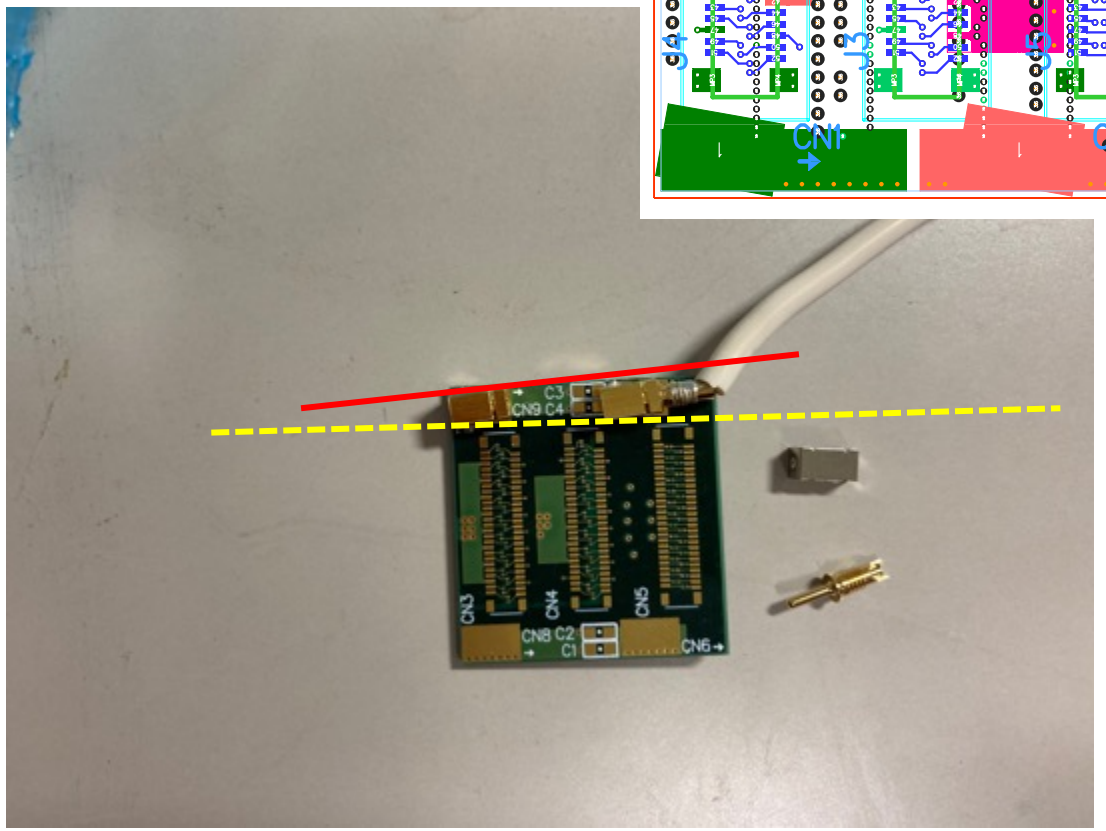
Column A-C

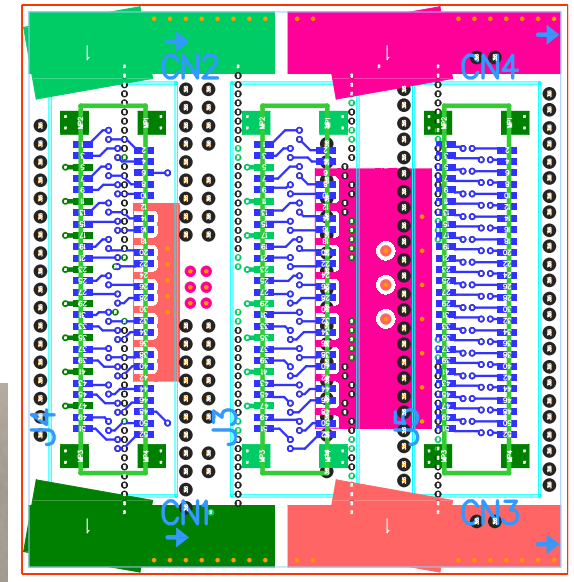


Column B-D

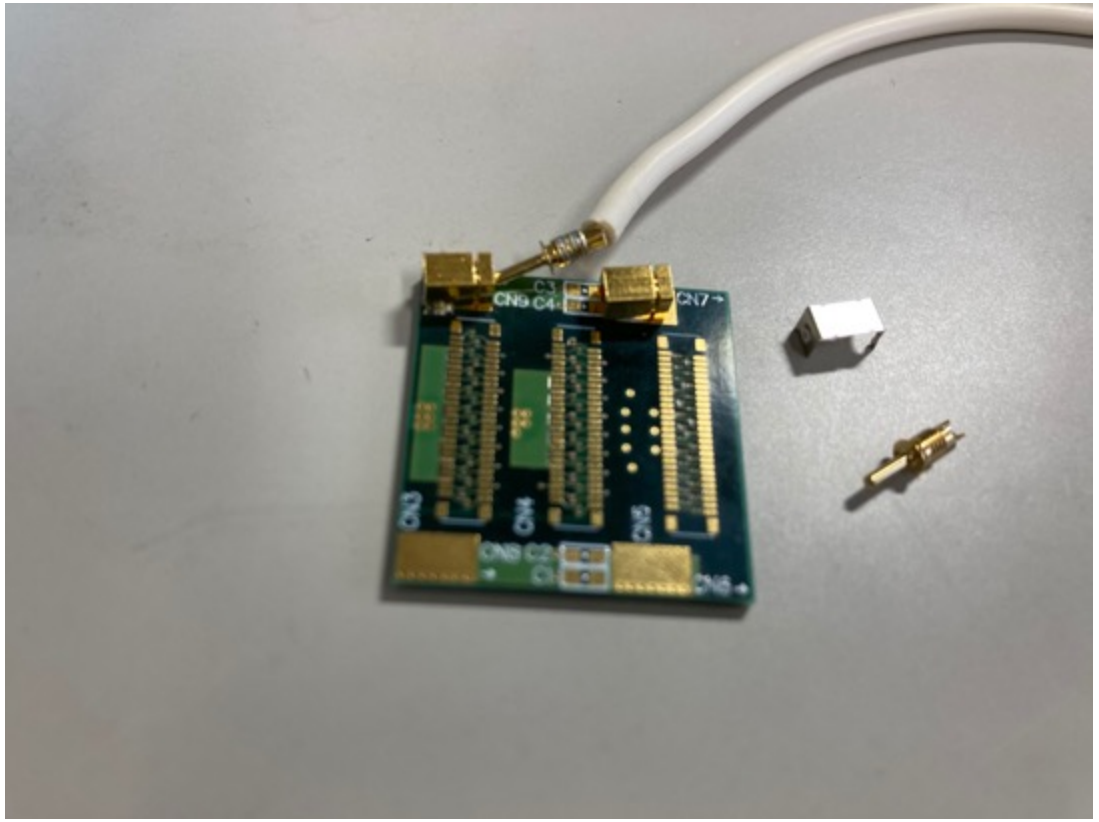
Board Design (ROC Side)

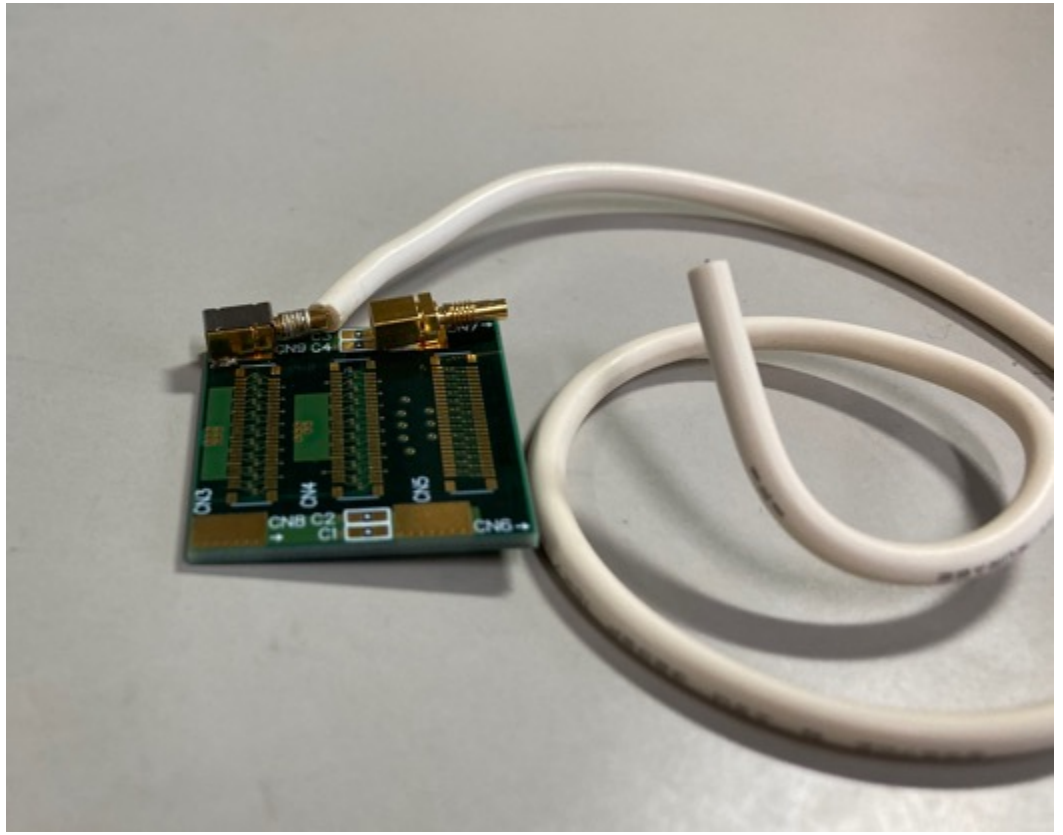




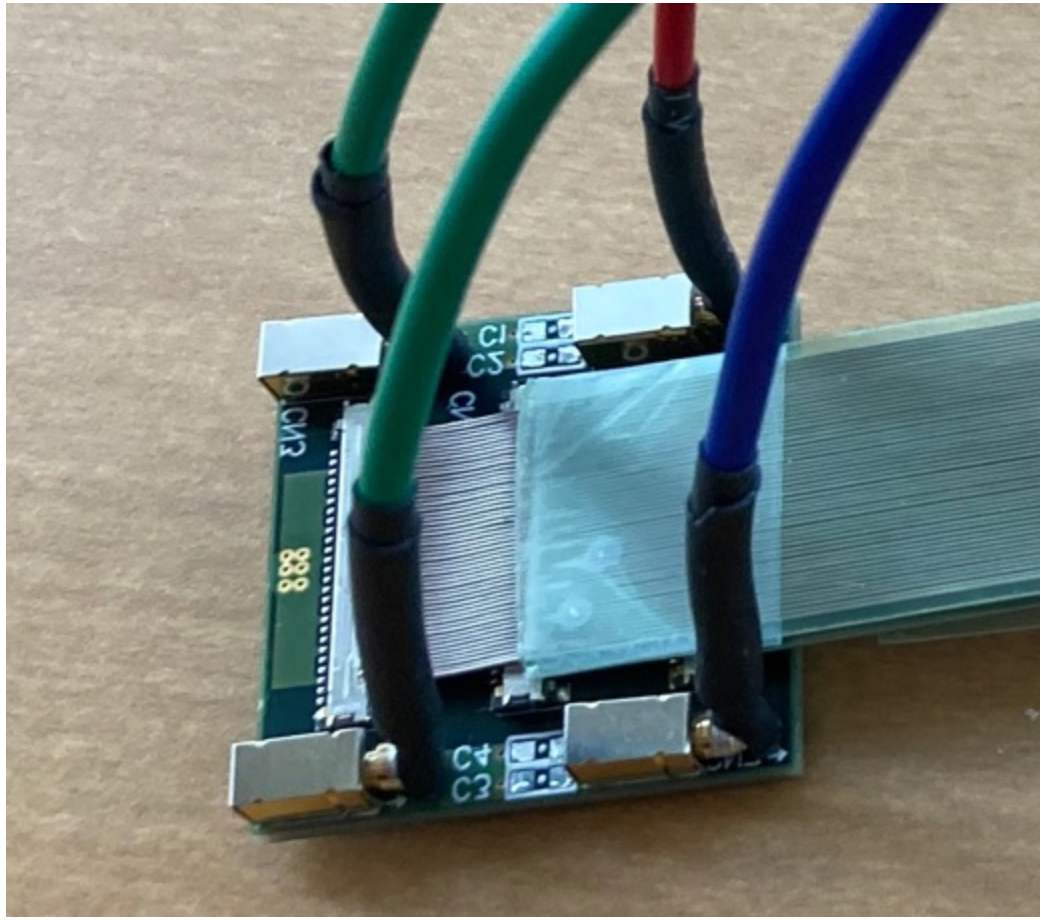


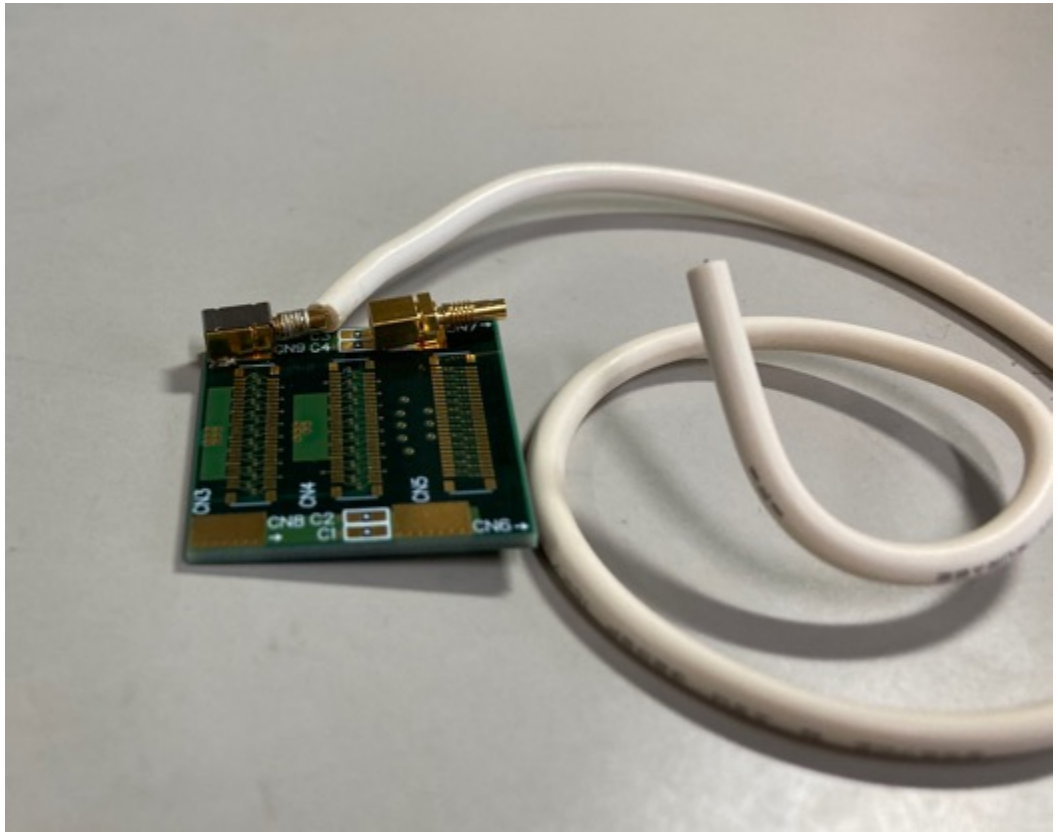
Board Design (ROC Side)





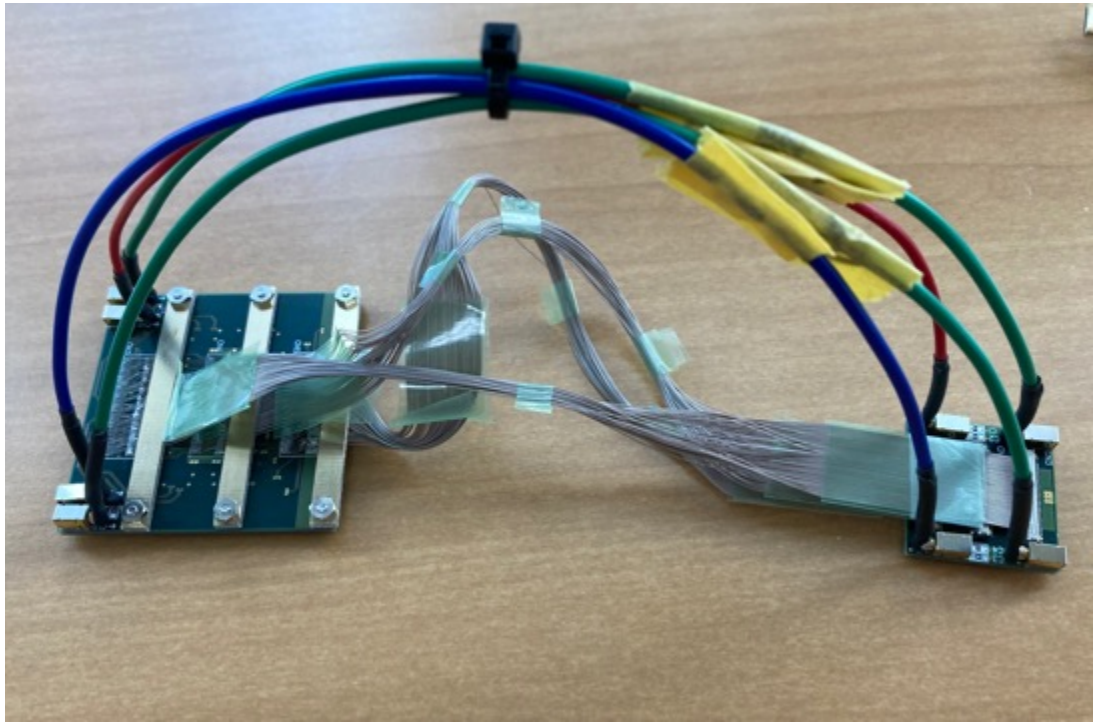
Board Design (ROC Side)



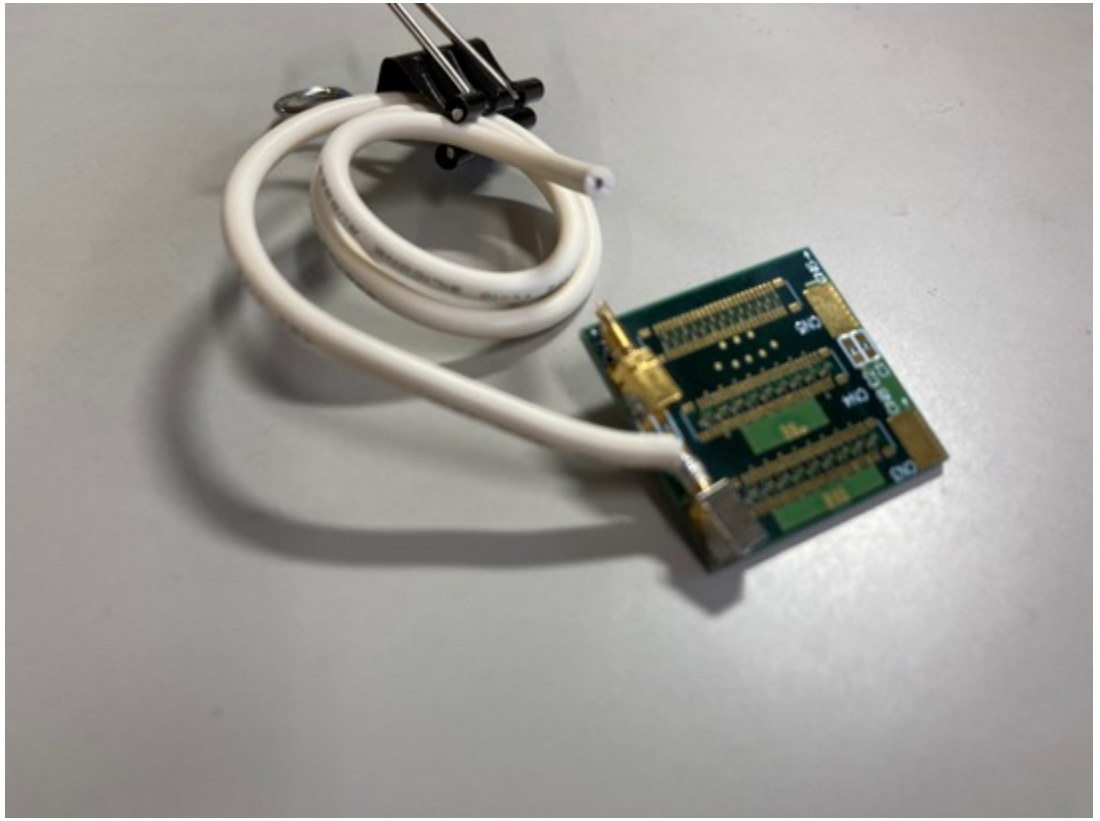


Keeping GND cables in-plane.

Stiffness of the GND Cables



The GND cables were too stiff and they invades vertical space above coaxial bandles.



Silicon jacket cable secures good flexibility

Possible Show Stopper

1. Lead Time for μ-Coax harness is estimated to be at least 6months. Seeking for any get around solution now.
2. Radiation hardness of μ-Coax cable (to be discussed in the dedicated slide).

Backup

Twisting m-Coax bandle for column B,D