

Readout electronics update 9-June-2020

HV-Mux: production order in progress with STFC and Cambridge in the UK, vendor says order now will have delivery in Nov-Dec 2020. Have 1500 from prototype batch on hand.

- Need to order 1500 more parts, for a total of 25,500. Have 24,000 in P6 – need a BCP change.

Powerboard: pre-production design (v3.1) complete and approved by ATLAS

- Started producing last batch of 45 v3.0c prototype boards June 1, progress will be slow due to low occupancy at lab
- Preparing order of 250 flexes for v3.1 with EPEC

ABCStar: pre-production order released to manufacturing with vendor in March 2020, wafers back at CERN at the end of May. Will be shipped to DA and RAL this week. Expect diced chips from first wafers back at the end of June.

- Vitaliy: Check with Paul on edge chips “mark as faulty in probing map” so they are returned as useful

HCCStar and AMAC: pre-production design in progress, [Paul Keener's status sheet](#), check on dicing order

- AMAC
 - Adding monitor of input current to AMAC, thanks to tests by Karol Krizka at LBNL
- HCCStar
 - Continue digital design review and implementation of SEE mitigations, functional verification and SEE simulations.

Coils: production order placed on Feb 21 2020, first batch of 100 coils arrived May 20, irradiation tests started, tests at LBNL and DESY

BCP for ITk strips readout electronics

- Reason: revised estimate for number of parts for HV-Mux production order
- Cost impact: change in cost of RE140400M
 - In FY20 dollars \$552,000 increases to \$586,500
 - Increase of \$34,500 in FY20 dollars
 - Original estimate has 24,000 parts at cost of \$23 each = \$552,000.
 - Revise upwards by 1,500 parts to 25,500 parts at cost of \$23 each = \$586,500.
- Details
 - Same Barrel production $14,003 = 10,976 \times 1.1890 \times 1.073$
 - Revised Endcap production $8960 = 6912 \times 1.208 \times 1.073$ with higher **system yield factor** since some endcap powerboards need 2 HV Mux to control power to two sensors.
 - Revised QA/QC needs 1490 (irradiations 685, powerboards barrel 305, **endcap estimate 500**)
 - Preproduction powerboard needs **500 more**. Barrel and endcap need 1000 each, for total of 2000 parts needed and there are 1500 on hand from the prototype run
 - Total of above is 24,952. Prefer to round up to 25,500 since this is a one-time one-off order.