

Proposal for additional items to procure

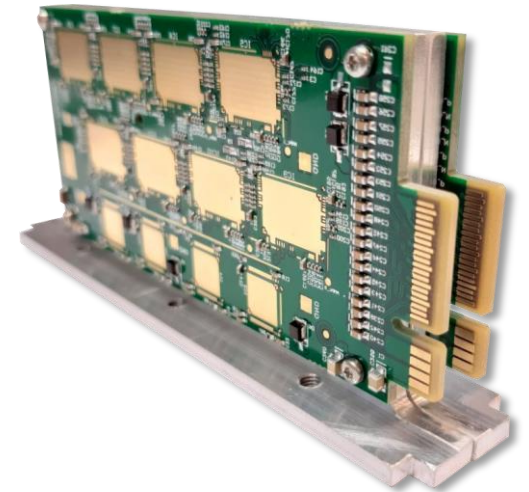
Dmitrii Dementev

List of items

- Front-end boards (FEBs) of BM@N type;
- HV & LV Power supply modules;
- Data cables – *is it possible to order Samtec cables within Roadmap funding?*

FEBs

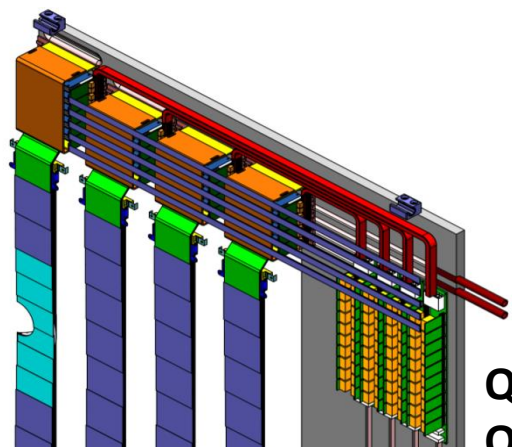
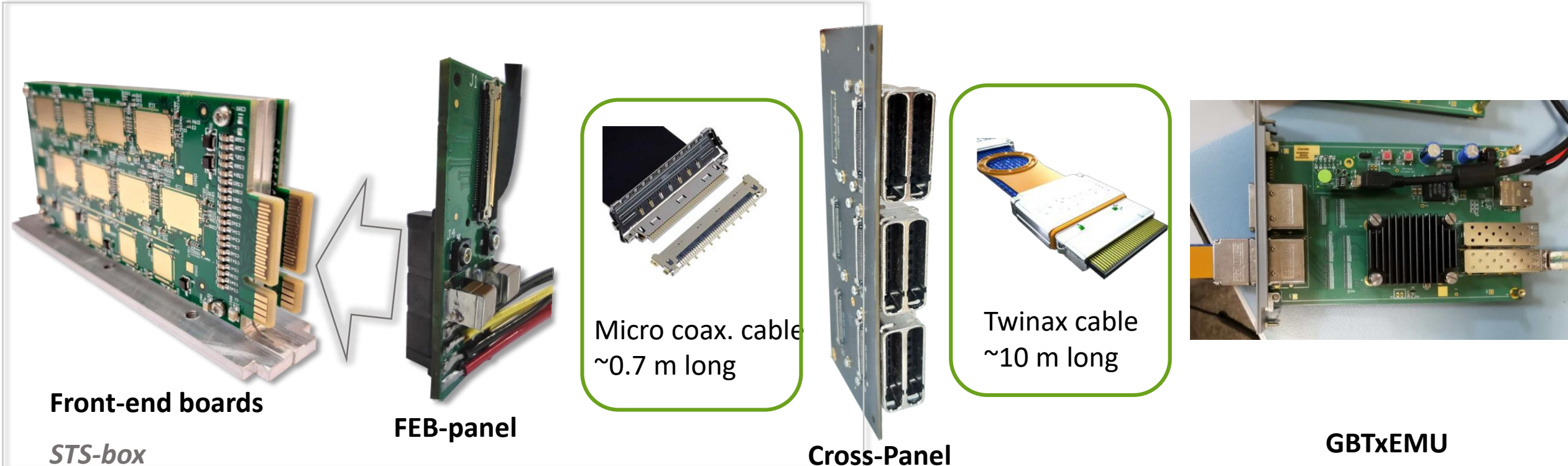
- Two geometries: P and N;
- Already have been produced in China and tested;
- Total number of boards needed for the project:
 - *Type N: 170 pcs; (146+20% spare)*
 - *Type P: 170 pcs;*
- Batch production
 - The first test batch is 20 pcs N + 20 pcs P ;
- Specification: <https://disk.jinr.ru/index.php/s/x2yjmyTSGoZRqjM>



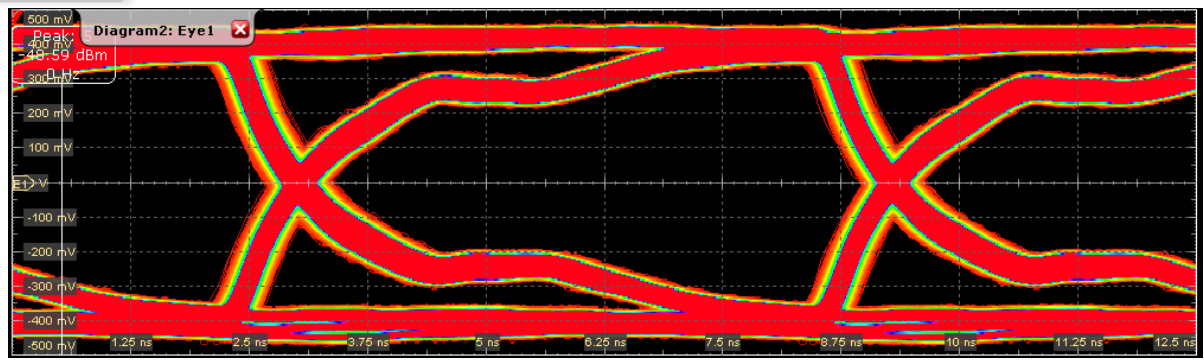
LV&HV power supply modules

- Power system with the same specification as provided by GSI, plus extra requirement: **“OPC UA support”**;
- Number of modules:
 - HV modules: 51 pcs;
 - LV modules: 52 pcs;
 - With crates and controllers
- Batch production: first batch: 5 LV+5 HV modules *with crate and controller*

Connectivity between FEBs and GBTxEMU



Quarter-station
Of BM@N STS

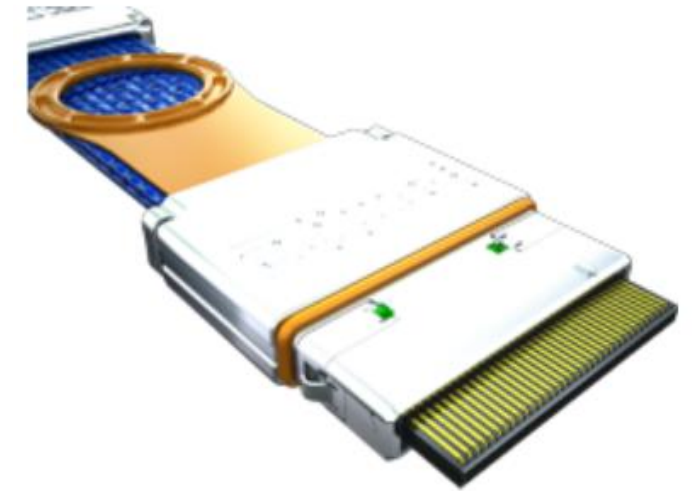


Eye diagram of the Down link signal at 160 MHz Clock

Data cables (outside STS box)

- PN: HDLSP-035-9999 *by Samtec (non-standard!)*
(<https://www.samtec.com/products/hdlsp>)
- 10 cables were already ordered and tested;
- Final length is not yet clear: 8-10 meters;
- Number of cables needed: 330 cables, price for one cable is approx. 850 USD
- Batch delivery, first batch is 100 pcs

- **Is it possible to order cables within roadmap funding?**



Data cables inside STS box



RAZOR™
BEAM
SYSTEM

**HIGH-SPEED
HERMAPHRODITIC CABLE**

(0.50 mm) .0197" PITCH • HLCD SERIES



PN: HLCD-20-39.00-TL-TRS-3 (https://suddendocs.samtec.com/catalog_english/hlcd.pdf)

We currently use cable assemblies with Ipex connectors,

Possible alternative from Samtec are Razor cables. Benefits:

- 2-row connector (more compact);
- 38 AWG instead of 40 AWG
- Mechanical connectivity is more reliable;

Thank you for your attention!