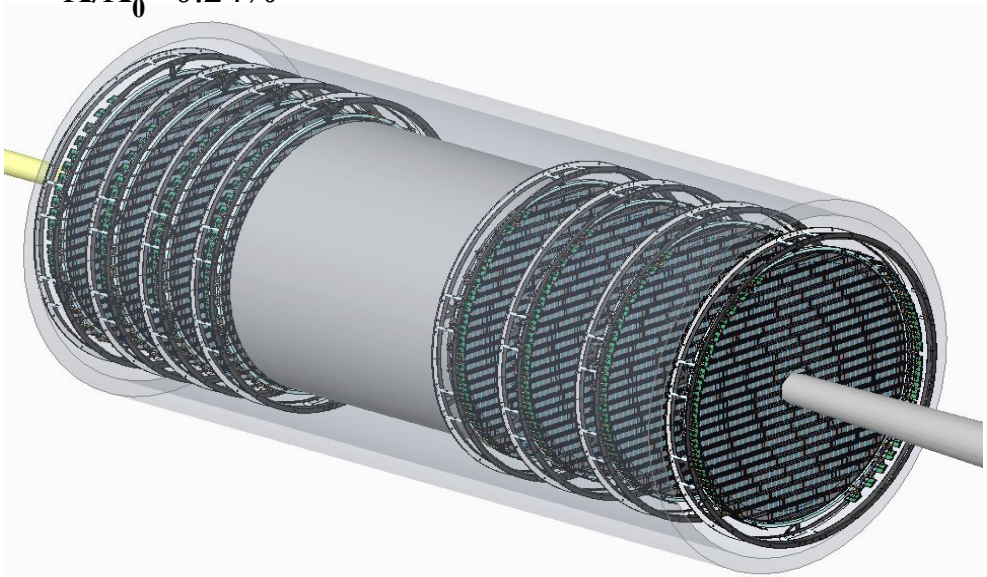
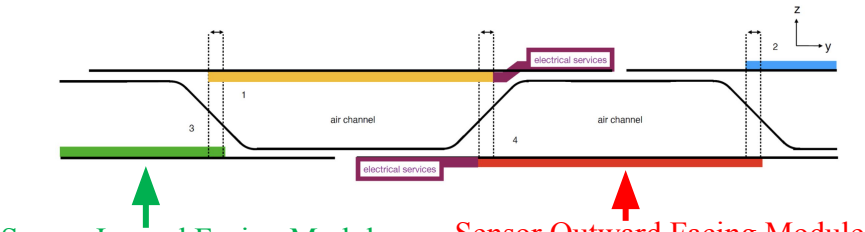
ePIC SVT Disks

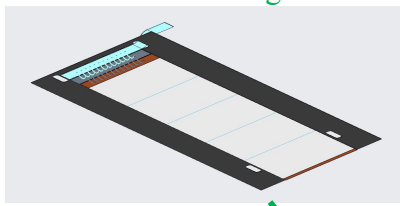
- **EIC Large-Area Sensor** with design based on ITS3 MOSAIX, mounted on low-mass CF support structure with integrated air cooling
- **AncASIC** provide negative sensor bias voltage, serial power and slow control
- **Outer radius** ranging from 24 to 40 cm
- **X/X_0** ~0.24%

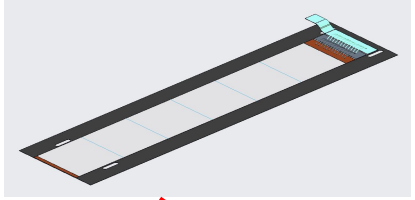


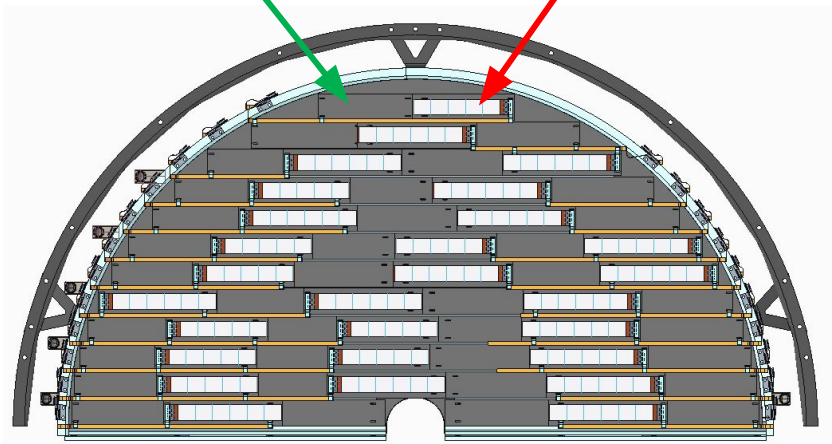


Sensor Inward Facing Module

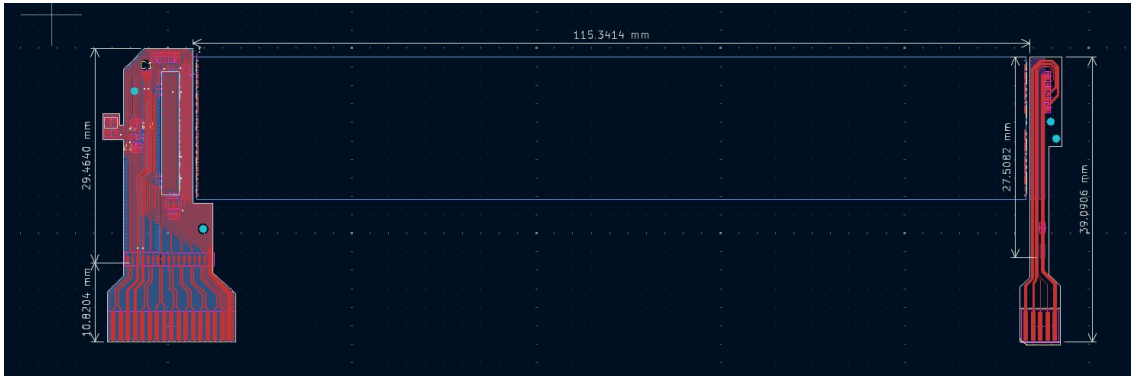
Sensor Outward Facing Module





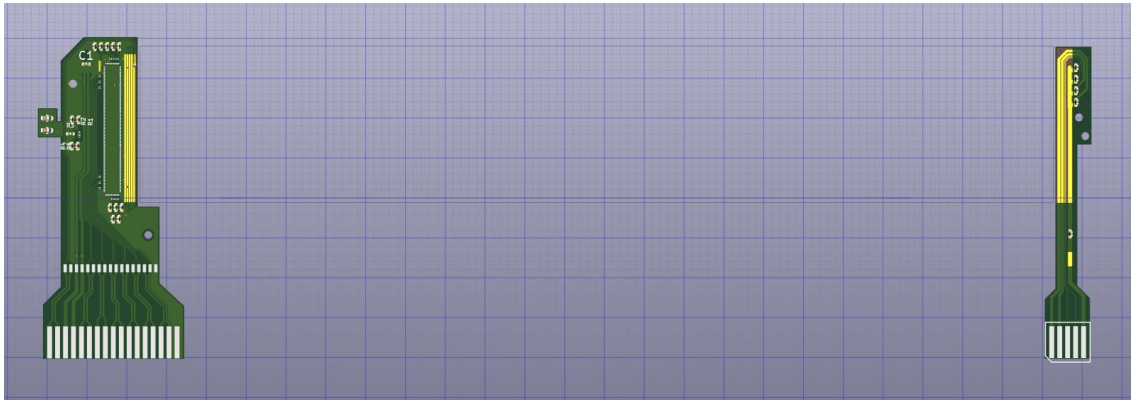


Bridge FPC - Overview



- **Left bridge FPC** with **AncASIC** will handle **EIC-LAS LEC** power, slow control, high-speed data transmission.

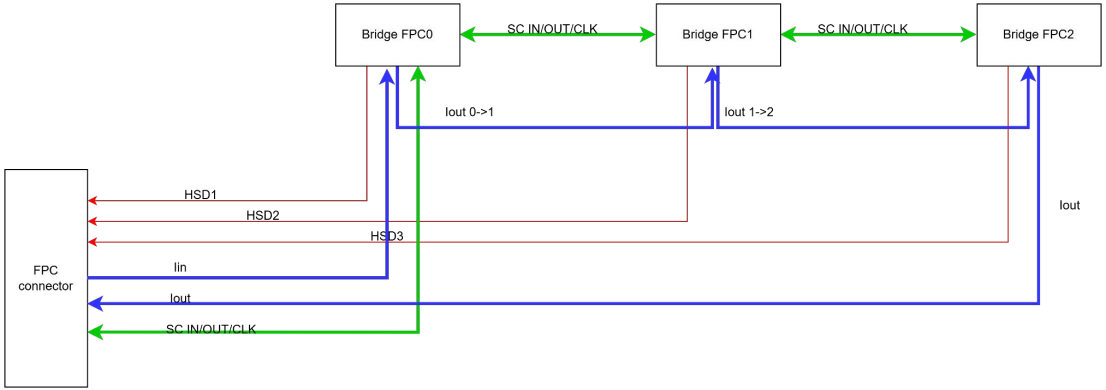
	Area (mm^2)	Copper area (mm^2)	Fill factor
Top Layer	278.2	190	0.69
Bottom Layer	278.2	260	0.94

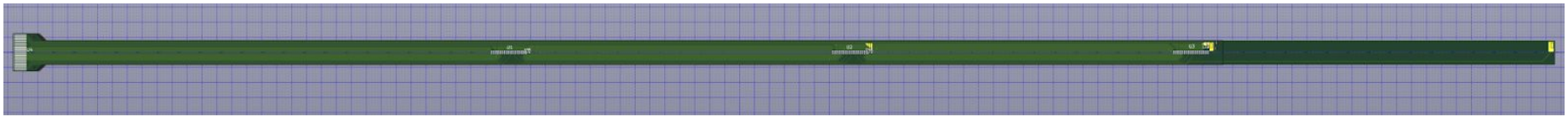


- **Right bridge FPC** with power buses connected to GND through decoupling capacitors will connect to the **EIC-LAS REC**.

	Area (mm^2)	Copper area (mm^2)	Fill factor
Top Layer	78.9	32.9	0.42
Bottom Layer	78.9	0	0

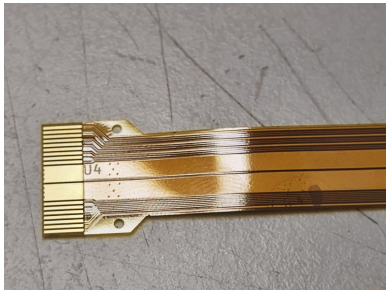
Main FPC Overview

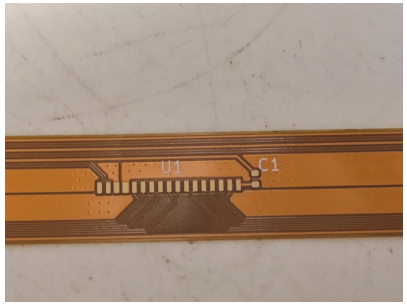


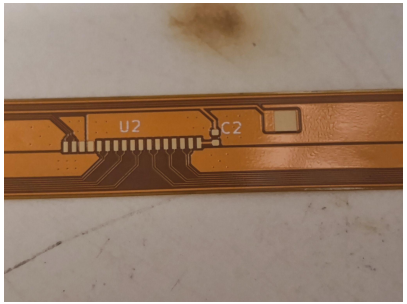


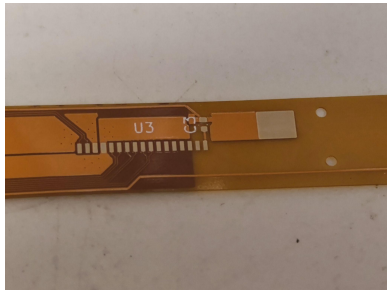
	Area (mm^2)	Trace Area (mm^2)	Power net area (mm^2)	Fill factor
Top Layer	4747.6	221.5	1875.6	0.45
Bottom Layer	4747.6	0	3202.2	0.68

Visual Inspection

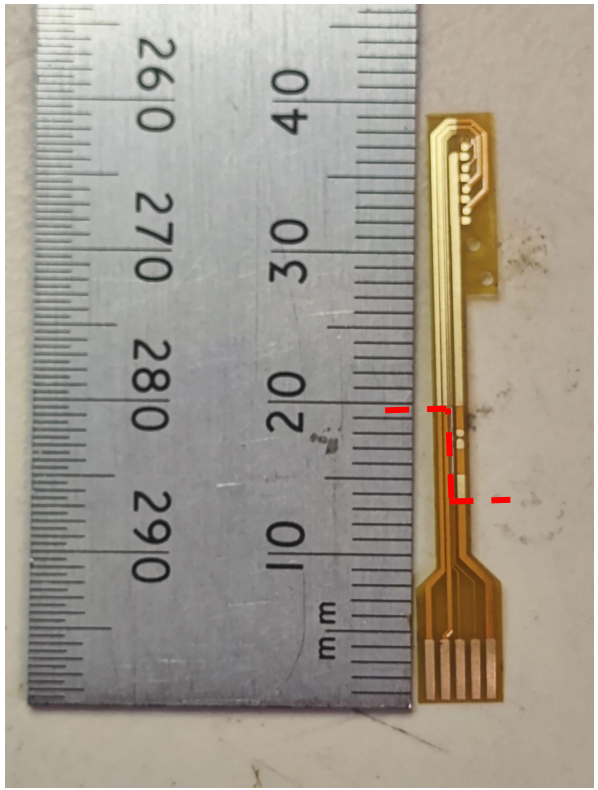




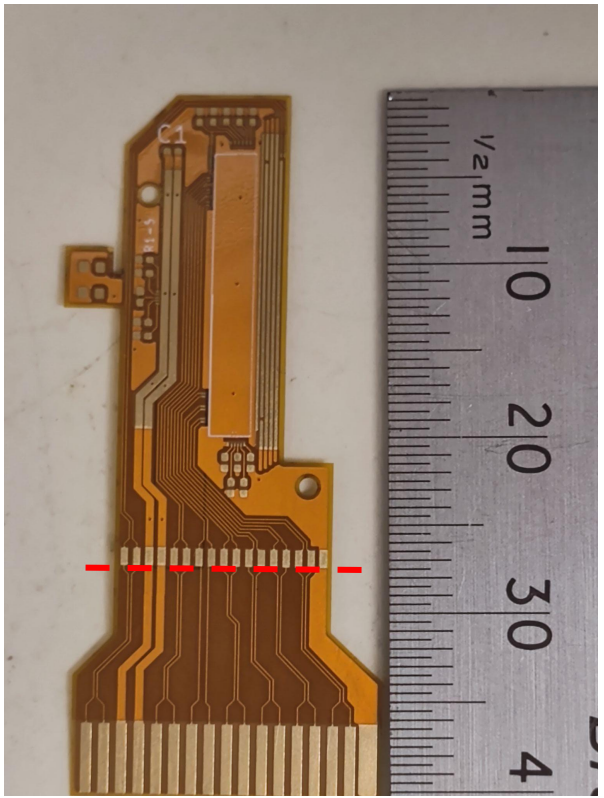


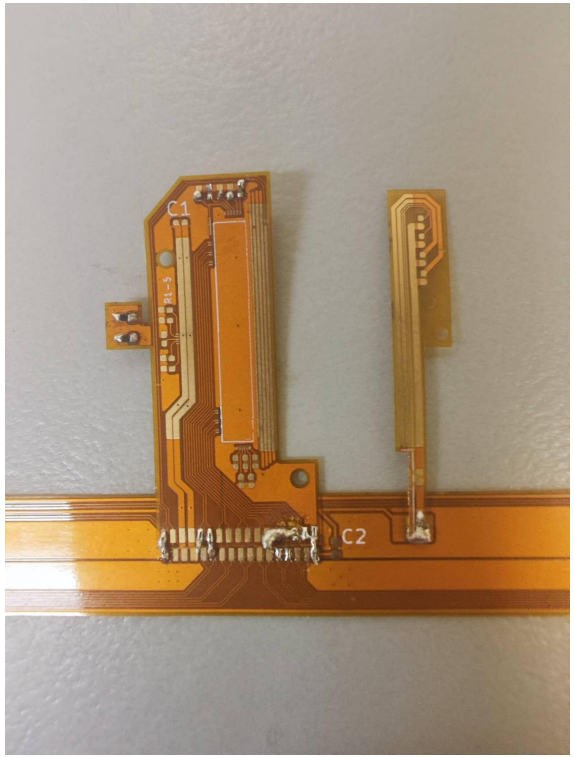


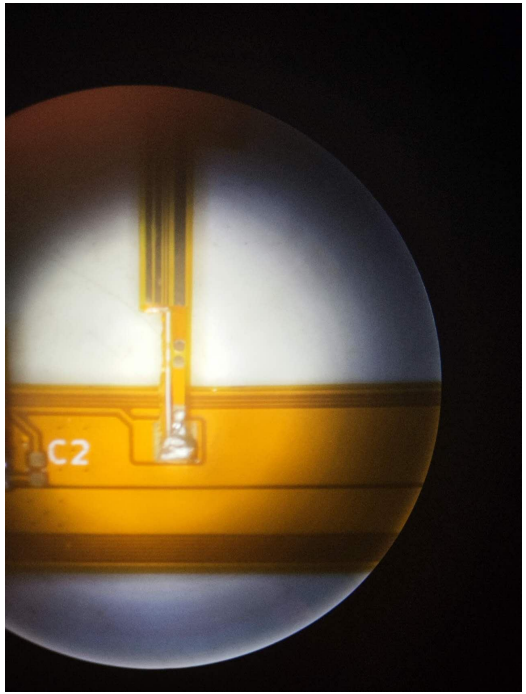
Visual Inspection



Cut lines







Solder the right BFPC to Main FPC: Easy, Stable

Next Steps

- Complete the tests on Cu-based v1 FPC from JLC
  - Visual Inspection -> done
  - Soldering SMP components onto bridge FPC -> done
  - Cutting bridge FPC -> done
  - Soldering bridge FPCs onto main FPC -> done, will implement changes in v2
  - Mount and wire-bond between dummy EIC-LASs, AncASICs and bridge FPCs -> in progress
- Update the FPC design based on the test results and including both inward- and outward-facing modules to produce Cu-based v2 FPCs from JLC -> in progress