OB module: options

Work in progress

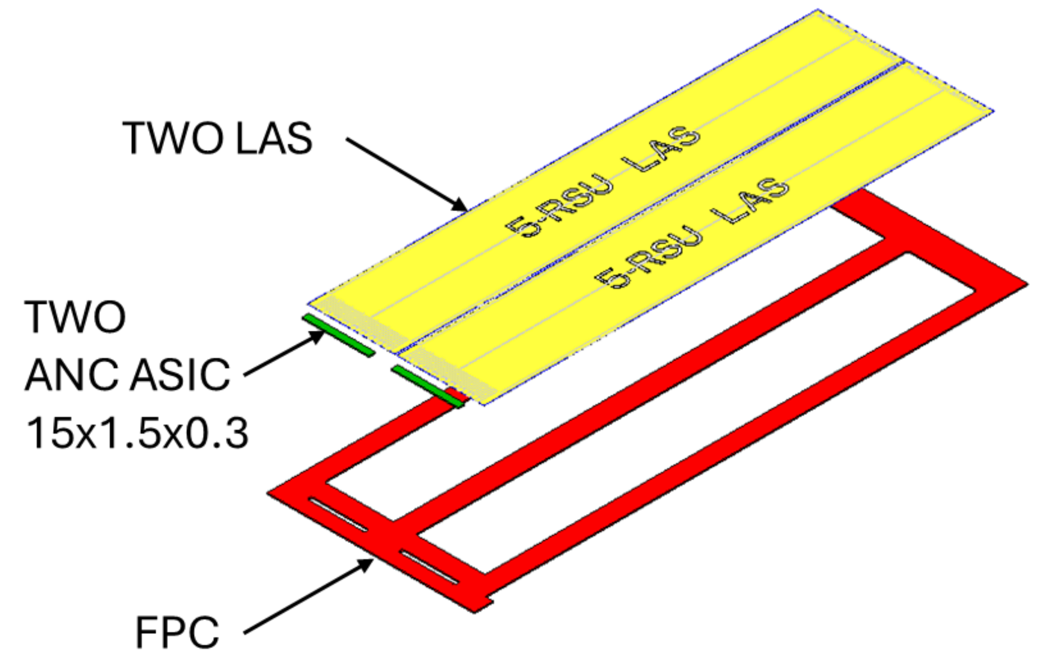
20250203

M.Borri, K.Davies

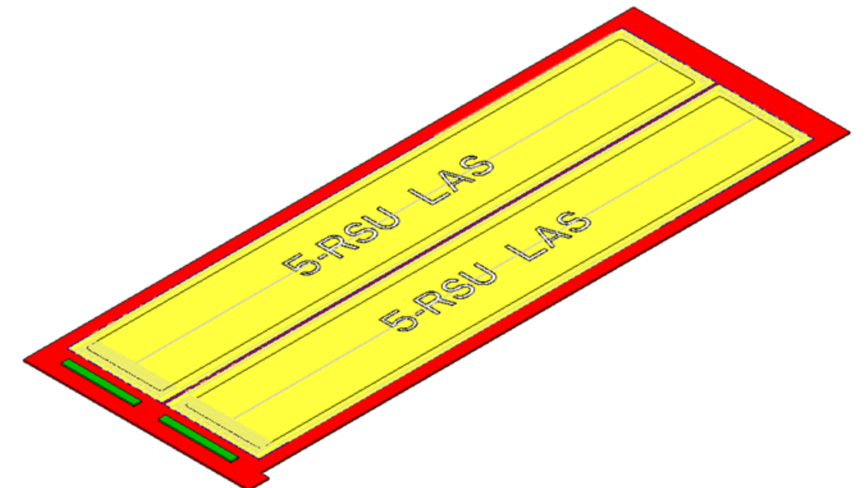
UKRI
Science and Technology Facilities Council

Opt.1 (baseline)

- Pros:
  - Good electrical insulation from stave
  - Suitable for wire-bonding
- Cons:
  - FPC provides partial thermal insulation
  - Not suitable for spTAB



OPTION 3
WITH GAP AND
FPC UNDERNEATH

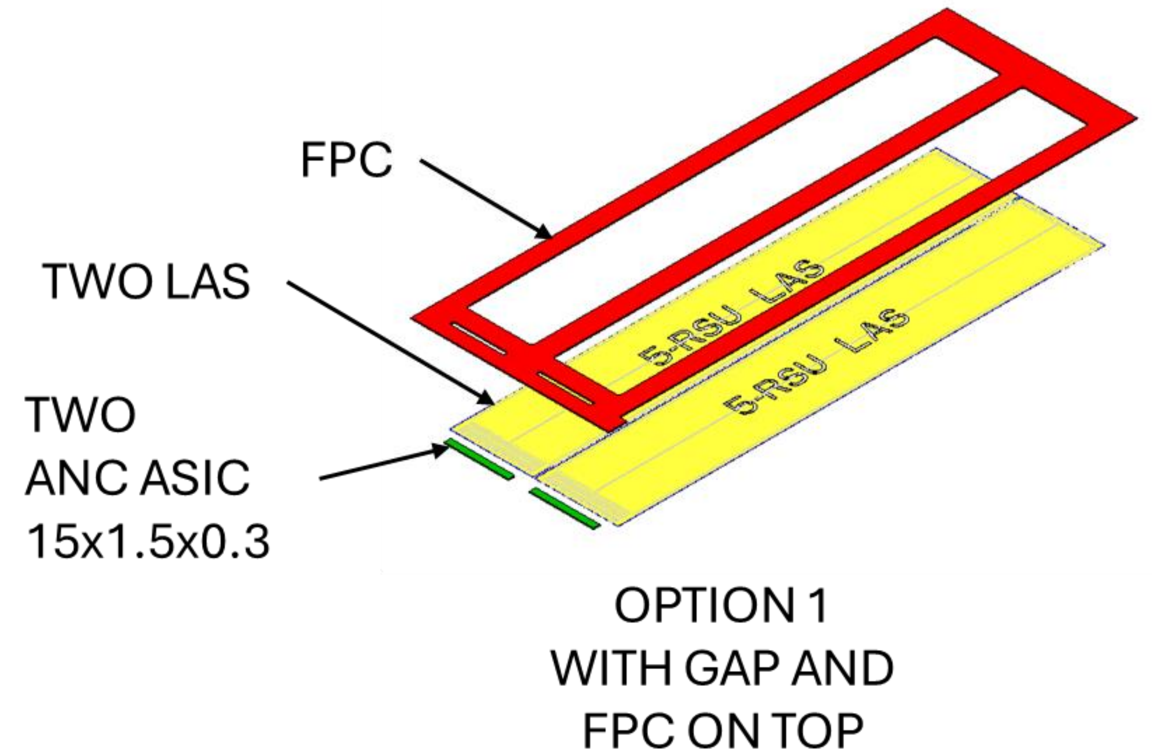


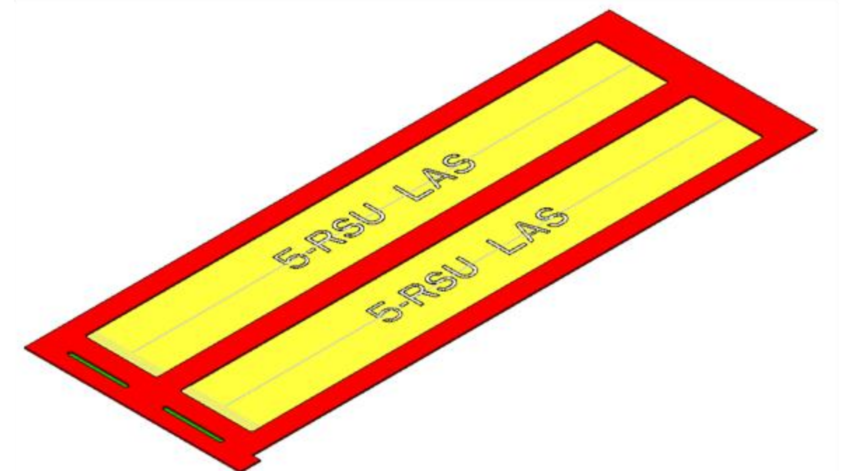
Science and Technology Facilities Council

marcello.borri@stfc.ac.uk

Opt.2

- Pros:
  - Suitable for spTAB and wire-bonding
  - Improved thermal conductivity to stave w.r.t. Opt.1
- Cons:
  - Requires wider edge to support FPC on chips.
  - Direct electrical contact from LAS to stave support (is this a cons?)



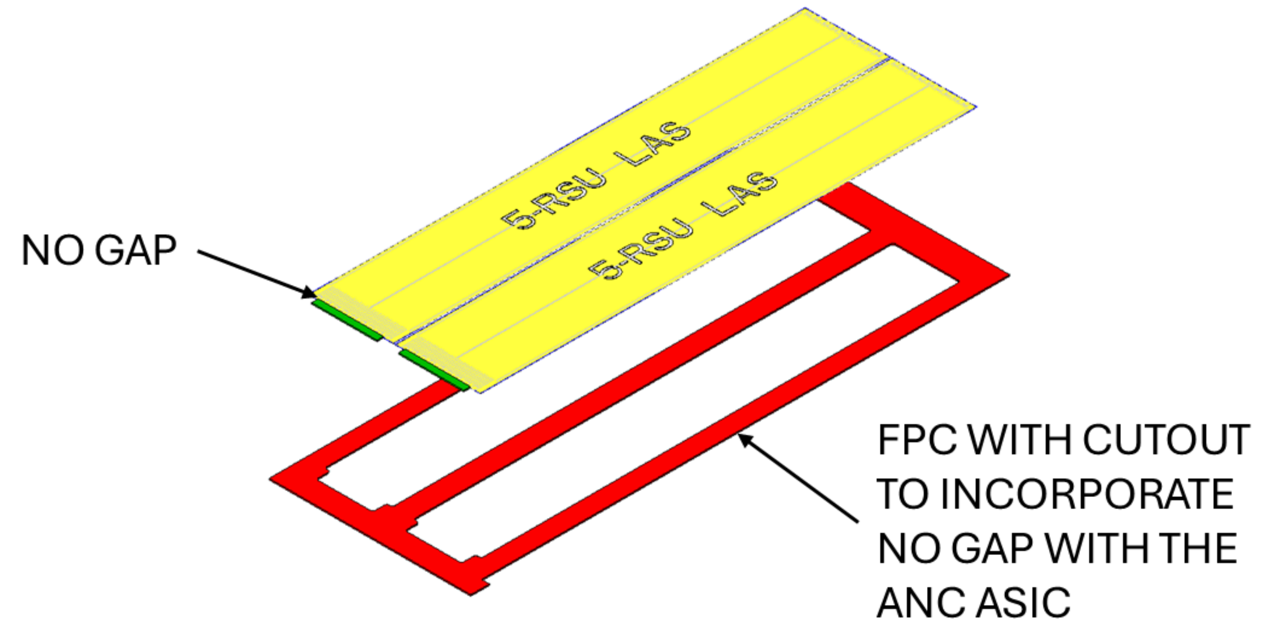


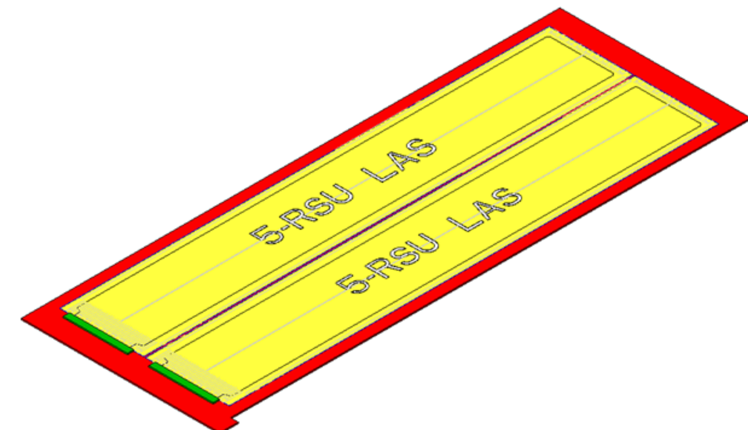
Science and Technology Facilities Council

marcello.borri@stfc.ac.uk

Opt.3

- Pros:
  - AncAsic to LAS direct wire-bonding (Si to Si), less material inc. capacitors
- Cons:
  - Power spokes will not be filtered by decoupling caps
  - AncAsic similar width than LAS, slightly less efficient usage of Si wafer

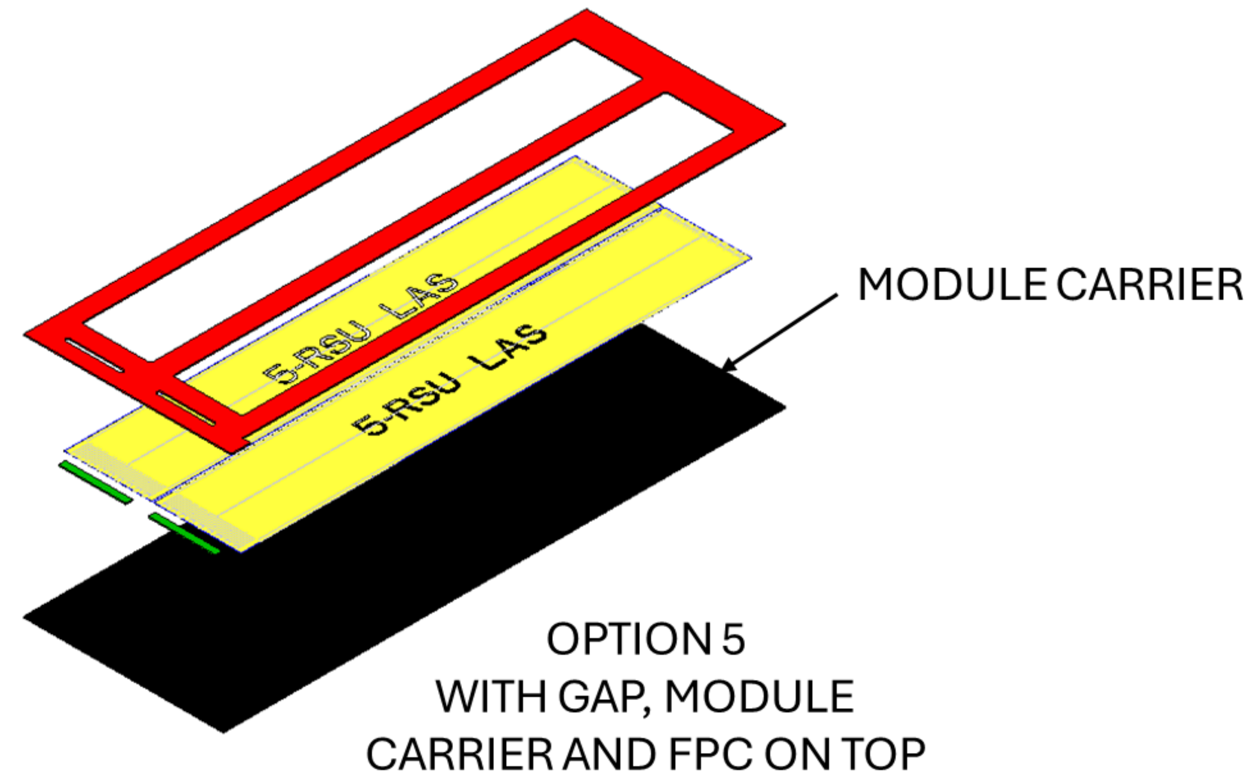


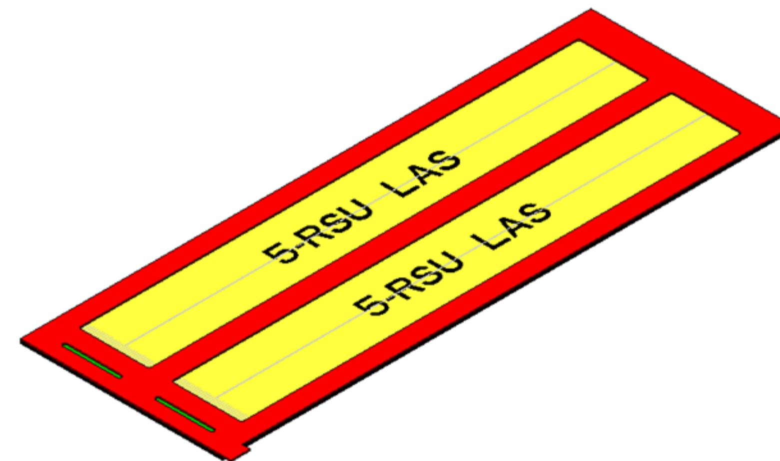


marcello.borri@stfc.ac.uk

Opt.4

- Pros
  - Stronger support, potentially advantageous if air cooling vibrations are an issue.
- Cons
  - More material budget

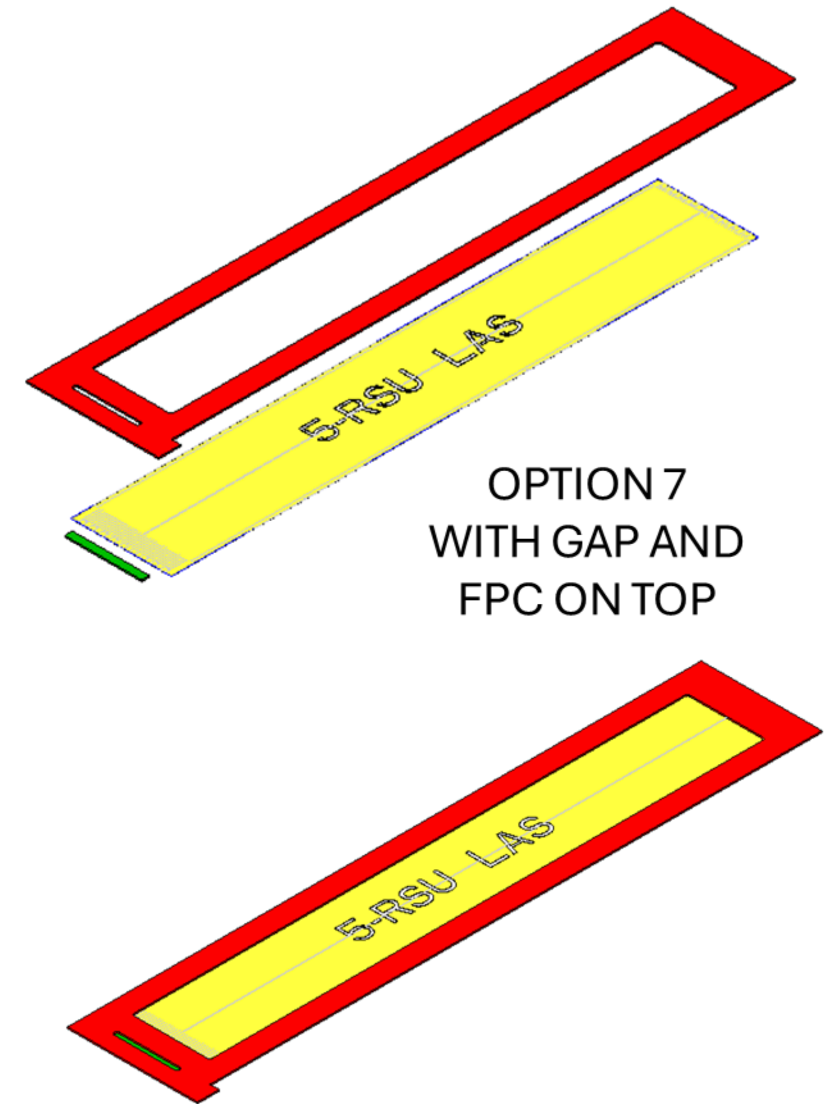




marcello.borri@stfc.ac.uk

Opt.5

- Pros:
  - Least electrical modularity possible: 1 LAS + 1 AncAsic
- Cons:
  - Potentially requiring module to module electrical interconnection on stave



Science and Technology Facilities Council

marcello.borri@stfc.ac.uk

Conclusion

- First draft of module options presented.
- Opt.1 is still considered the baseline.
- Alternatives under evaluation.

Science and
Technology
Facilities Council

marcello.borri@stfc.ac.uk

Thank you

Science and
Technology
Facilities Council

marcello.borri@stfc.ac.uk