

The goal of this task is to evaluate the tooling/software capabilities of a photonics design engineer, specific to passive integrated photonics components. The task is to be completed prior to the panel interview.

The candidate will use the open-source [GDSFactory](#) software (or equivalent python based alternatives) to attempt the following tasks. She/He is expected to version-control their scripts via GitHub (or gitlab/bitbucket) and share the gds during the call. Up to 15-minutes is allocated for a design review to be conducted in the panel interview.

- ☐ Generate a GDS of an Si-based 2x2 50:50 beamsplitter (of the candidate's choice)
- ☐ Generate a simple integrated-photonic test circuit to measure that beamsplitter in a lab
(The candidate is free to choose the intended experimental setup for the designed test circuit)
- ☐ Generate a simple design of experiment to target the 50:50 splitting ratio at 1550nm

As these points are somewhat open ended we request the candidate to not spend more than 2 hours on the above exercise. The candidate is restricted to use only publicly available device concepts and designs and must not use any prior intellectual design property or proprietary ideas.