

Wave Photonics enables circuit simulation with fabrication-aware scattering parameters

For more information, contact info@wavephotonics.com

Wave Photonics now provides fabrication-aware scattering parameters (S-parameters) which facilitate users to assess the suitability and performance of Wave Photonics' components for different integrated photonics applications. Users will benefit from S-parameters by incorporating our components into their circuits and testing them by using circuit simulation software.

S-parameters are normally used to simulate ideal designs, but the fabrication process changes the design affecting the performance of the components. On the other hand, S-parameters use our proprietary fabrication model to give more accurate simulation results of the expected component performance on a given fabrication process – this means designers can predict before fabrication how a given circuit is expected to perform.

To learn more about S-parameters and how they can be accessed in Wave Photonics PDKs, visit our tutorials page: <https://pdk.wavephotonics.com/tutorials>.

S-parameters can be easily combined with our EDA plugins to GDSFactory and Siemens L-Edit and the QPICPAC packaging service or PHIX characterisation package to provide a smooth design flow from idea to a final working packaged device.

Wave Photonics has collaborated closely with CORNERSTONE while developing its technology and so will make the standard, non-fabrication aware S-parameters available to CORNERSTONE users free of charge. Wave Photonics' customers will have access to the premium, fabrication-aware version. These S-parameters are now also available for several CORNERSTONE silicon-on-insulator (SOI) and Silicon Nitride (SiN) PDKs and will be generated for all new PDKs added to Wave Photonics' platform.

S-parameters are currently available for:

- Wave Photonics PDK – Cornerstone SOI 220nm @ 1550 nm – this PDK offers an increased range of lower loss and fabrication tolerant components.
- Cornerstone PDK – SOI 220nm @ 1550 nm
- Cornerstone PDK – SOI 220nm @ 1310 nm
- Cornerstone PDK – SiN 300nm @ 1550 nm
- Cornerstone PDK – SiN 300nm @ 1310 nm
- Cornerstone PDK – SOI 500nm @ 1550 nm
- Cornerstone PDK – SOI 340nm @ 1550 nm
- Cornerstone PDK – SOI 340nm @ 1310 nm

Access S-parameters through our PDK website: <https://pdk.wavephotonics.com>

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