

Release Notes
RSoft OptSim, OptSim Circuit and ModeSYS
Version 2017.03

Optical Solutions Group

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SYNOPSYS®

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OptSim, OptSim Circuit and ModeSYS 2017.03, Synopsys' RSoft System Tools, include the changes described in the following sections.

OptSim

The 2017.03 release of OptSim adds:

- New Discrete Multi-Tone (DMT) modulation format functions for the digital signal processing (DSP) library. The DMT has attracted a lot of attention lately from the automotive and 100G, 400G Ethernet data center interconnect designers.
- An application note (pre-supplied project design files and corresponding description) on the use of the DMT system.
- Ability to specify global setting of blockmode simulation parameters. Instead of having to adjust simulation parameters in individual models of blockmode of OptSim, specifying them globally for the entire project file provides an ease and convenience to the users in situations when different types of signals with different data rates need to be combined.

OptSim Circuit

The 2017.03 release of OptSim Circuit adds:

- Support for the American Institute for Manufacturing Integrated Photonics (AIM Photonics) Process Design Kit (PDK) version 1.0 and new PDAFlow libraries. The PDK helps save costs in photonic integrated circuit (PIC) design and brings PIC designers a step closer to fabrication through SUNY Poly silicon photonics processes.
- Ability to specify global setting of simulation parameters. Instead of having to adjust simulation parameters in individual models of OptSim Circuit, specifying them globally for the entire project file provides an ease and convenience to the users in situations when different types of signals with different data rates need to be combined.

ModeSYS

The 2017.03 release of ModeSYS adds:

- Support for large-core fiber power-vs-angle signal domain across select ModeSYS models. The 2017.03 version of ModeSYS extends large-core multimode fiber's numerically efficient power vs. angle approach for signal propagation to other models in ModeSYS in order to model a complete data transmission link.
- New large-core connector model. In large-core multimode fiber-optic systems, alignments between components affect the speed and distances that can be supported by a specific link design. In order to model component offsets and study performance bounds due to alignment tolerances, ModeSYS 2017.03 includes a large-core connector model

that is computationally more efficient compared to the conventional spatial field-profile based connector models.

- Ability to specify global setting of simulation parameters. Instead of having to adjust simulation parameters in individual models of ModeSYS, specifying them globally for the entire project file provides an ease and convenience to the users in situations when different types of signals with different data rates need to be combined.