Berlin, March 9, 2018

VPIphotonics Design Suite - Version 9.9

New release of market-leading optical transmission system and component design software – on show at OFC 2018
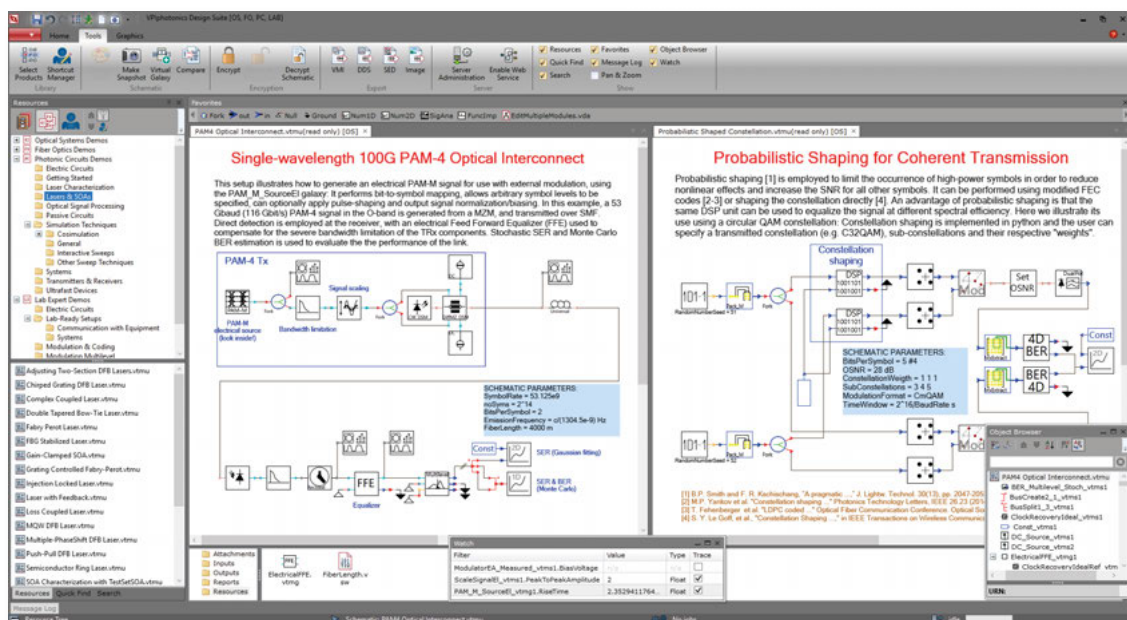
VPIphotonics Design Suite provides access to professional application-specific simulation and design tools for optical components and transmission systems with common usability, design process and data analysis capabilities.

Version 9.9 comes with enhancements of the user interface and tools operation, as well as advances in simulation capabilities, such as new design and analysis tools for coherent M-QAM and direct-detection PAM-M systems, new and enhanced DSP and coding functionalities, extended library of PIC elements and instrumentations, to continuously support VPIphotonics' existing and addressing new applications and markets.

The simulation tool suite provides access to over 850 ready-to-run demonstrations, including new ones illustrating the novel functions and applications available in Version 9.9, such as probabilistic shaping, PAM-4 for interconnects, multimode VCSEL transmission, nonlinear Volterra filtering.

VPIphotonics' software solutions are utilized for 20+ years by hundreds of commercial companies and educational institutions for winning and successfully performing a diversity of research and design projects.

Our team will demonstrate the capabilities provided in *VPIphotonics Design Suite* Version 9.9 at OFC 2018, booth 4513.

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Short list of new features in Version 9.9

- Probabilistically-shaped M-QAM with Maxwell-Boltzmann distribution of constellation amplitudes; supports user-defined non-integer bit-loading

- Simplified generation of high-multilevel M-QAM (such as 4096-QAM) signals from library

- Pseudo-random symbol sequence generator of adjustable alphabet length for multi-level formats

- Digital Volterra series filtering for emulating frequency-dependent nonlinearities of electrical components

- Enhanced TD-MIMO equalizer in Multi-Modulus Algorithm (MMA) mode for faster convergence

- Maximum-Likelihood (ML) carrier phase recovery (CPR) algorithm for decision-directed or data-aided operation

- Differential encoding to mitigation cycle-slips from library for common M-QAM formats and user-definable for arbitrary rotationally-symmetric formats

- Macros enabling automated configuration of photonic circuits schematics for time- and frequency-domain simulations

- Instrumentation modules and Macros enabling automated characterization of passive sub-circuits and actives (lasers, SOAs, optical modulators)

- Faster time-domain simulations for certain passive sub-circuits and dynamically tunable modulator

- Simplified models for passive components (waveguides, star couplers, MMIs) to enable fast initial circuit design before PIC technology is chosen

- Efficient utilization of multiple GPUs for running GPU-assisted simulations in parallel or during parameter sweeps executed in multitasking mode

- Electrical PAM-M signal generator supporting pulse-shaping and arbitrary bit-to-level mapping; suitable for driving any optical modulator or DML

- Analysis solution of Transmitter and Dispersion Eye Closure Quaternary (TDECQ) performance for PAM-4 transmitters; for experimental waveforms as well

- Adaptive scaling of one or multiple electrical signals based on several different mechanisms

- Normalization of raised cosine pulses by preserving signal energy or providing unity gain for the passband

- Multimode VCSEL for short-haul applications supporting inhomogeneous field- and carrier spatial distributions, thermal dynamics, chirping, noise, electrical parasitics

- Enhanced mode solver for the multimode fiber accounting for dispersion slope

- Simplified creation of compact multimode modules by mapping single-mode building blocks to each of the spatial modes

- Polarization scrambler to perform deterministic or stochastic polarization scrambling

- Signal Analyzer to show arbitrary 2D cross-sections of 3D data plots

- Evaluate parameter values in not fully connected schematics simplifying the use of our rich parameter expressions capabilities

Many more features and enhancements are provided. For details visit www.vpiphotonics.com/DSv99.

***VPIphotonics Design Suite* Version 9.9 is on show at OFC 2018, booth 4513 – visit our team for a personalized preview.**

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About VPIphotonics

VPIphotonics™ sets the industry standard for end-to-end photonic design automation comprising design, analysis and optimization of components, systems and networks. We provide professional simulation software supporting requirements of optoelectronics, integrated photonics and fiber optics applications, optical transmission system and network applications, as well as cost-optimized equipment configuration. Our team of experts provides professional consulting services addressing customer-specific design, analysis and optimization requirements, and delivers training courses on adequate modeling techniques and advanced software capabilities.

VPIphotonics' award-winning off-the-shelf and customized solutions are used extensively in research and development, and by product design and marketing teams at hundreds of corporations worldwide for 20+ years. Over 160 academic institutions joined our University Program enabling students, educators and researchers an easy access to VPIphotonics' latest modeling and design innovations.

For further information, please visit us at www.VPIphotonics.com.