CST Studio Suite 2020.04 - Release Notes

This service pack is a recommended update, which includes the following corrections and improvements:

Changes in 2020.04

General / Environment

- Fixed detection of Hyperthreading for specific AMD hardware.
- Adapted Curve Style dialog box layout to simplify usage with long curve names.
- Allow override ParallelACIS registry key via environment variable CST_PARALLELACIS.
- Activate software rendering for Linux, if remote X session is detected.
- Show messages if a floating progress window is visible.
- Corrected position of the port pin from a discrete face ports, after a sub-project import.
- Fixed authentication issue during automatic download of patch file due to wrong encoding of HTTP body.
- Show a notification when a new major release is available. ***New Feature!***

CST POWER'BY

- Fixed running multiple CST Connectors with **3D**EXPERIENCE 2020x.
- Fixed handling of projects located on a network drive.
- Improved error output in batch mode (Antenna Placement).

System Assembly and Modeling (SAM)

- Consider renamed CST projects without CATIA geometry and transformation matrix in assembly import from the **3D**EXPERIENCE platform.

EDA Import / EDA Tools

- Fixed computation of thermal material simplification for designs without soldermask.
- Fixed auto-conversion of unsupported characters.
- Fixed issue with dialog box loop when importing to CST MPS.

Distributed Computing (DC)

- Improved handling of renaming directory on SolverServer while the virus scanner is accessing the files.
- Fixed issue with max. distributed parameter sets.

Post-Processing

- Improved performance and enhanced plot quality for TLM results.

CST MICROWAVE STUDIO - General

- Fixed YZ calculation if it was called as separate post-processing step for renormalized S-Parameters.
- Fixed ADS co-simulation for multimode port excitations.

CST MICROWAVE STUDIO - Transient Solver

- Improved detection of correct s-parameter power scale at inhomogeneously filled waveguide ports.

CST MICROWAVE STUDIO - Frequency Domain Solver (Tetrahedral Mesh)

- Unit cell farfield calculation is now also possible with simultaneous excitation.
- Improved some error and warning messages.
- Improved accuracy of high order modes.
- Always plot an averaged propagation constant for multipin and single-ended modes.
- Repaired the initialization of the temperature dependent materials.

CST MICROWAVE STUDIO - Integral Equation Solver

- Fixed 180 degree phase offset in S-Parameter calculation for waveguide ports.

CST CABLE STUDIO

- Fixed issue in cable bundle definition: cables of different types with the same name can be added to the cable bundle.
- Fixed bug in interruption of simulation process.

CST EM STUDIO - LF Frequency Domain Solver (Tetrahedral Mesh)

- LF FD solver should not ignore limitation of threads.

CST PCB STUDIO

- Re-import of a package part fixed.
- Fixed that the component of a pin could not be re-calculated during creation of a SI-TD simulation project, which caused the creation to fail.
- Fixed SI dialog component filter.
- Fixed the automatic selection of an existing EBD file in the IBIS dialog box.
- Fixed package model issues with new IO models.
- Fixed import of LDF-files: layout stackup is kept consistent in case of mismatching layer names.

CST DESIGN STUDIO - General

- Fixed potential dead lock, when adding a text field.
- Changing the pin distance could produce an invalid layout size.
- Fixed block parameter list of any block not appearing after clicking on IBIS reference block parameter list.
- Improved stability during update of transient eye analysis for cable model.
- Wrong frequency range when performing transient simulations under rare conditions resolved.
- Enabled mask violation analyses in eye analysis task. ***New Feature!***
- Fixed HSPICE parsing and HSPICE export issues.
- Fixed bug in lumped element combining resulting in a wrong probe voltage in rare cases.

Automation / Macros / Result Templates / External Data Access

- Fixed issue in Eye diagram tool.
- Added new VBA method 'RunSolver', which starts the currently active solver. ***New Feature!***
- Added missing VBA command ‘ColourMapPlot.ExportImage’.

Changes in 2020.03

General / Environment

- Fixed double task entry for some modeless dialog boxes under Linux.

- For AWR co-simulations, a surrounding space is added to open boundary conditions.
- Support more than 64 logical cores per CPU on Windows.
- Fixed issue in NASTRAN file import.
- Repaired issue when importing ports in AWR files.
- Show error message, which occurred during automatic download of a patch file (e.g. credentials error) on start of CST Studio Suite.
- Upgraded some 3D CAD imports to support the latest version. ***New Feature!***
- Clicking on links in the message window does not unwantedly select the text.
- Screenshots can be saved using non-ASCII characters in the file name.
- Fixed setting for "Use default browser to view help contents" under Linux.
- Parameter tuner slider resolution increased to support very small value steps.
- Corrected position of a copied discrete face port during a sub-project import.

CST POWER'BY

- Corrected visualization data of an assembly project, while uploading to the **3D**EXPERIENCE platform.
- Consider CST projects without CATIA geometry and transformation matrix in assembly import from the **3D**EXPERIENCE platform.

EDA Import / EDA Tools

- Cylindrical Bending: Fixed PCB-thickness computation by skipping aux. layers.
- Prevented abortion of 3D import in case of failing face port creation (issuing a warning instead).

CST MICROWAVE STUDIO - General

- Farfield Broadband Source Export: Fixed choice of custom step size.
- Repaired editing of lumped face elements when changing the circuit or the touchstone file.
- Added STACEM 56NF01G and 57NF01G absorbers to material library. ***New Feature!***

CST MICROWAVE STUDIO - Transient Solver (TLM Mesh)

- Added reference impedances for non-excited discrete ports in Hybrid Solver simulations.
- Added support for combine results with power flow monitors. ***New Feature!***

CST MICROWAVE STUDIO - Frequency Domain Solver (Tetrahedral Mesh)

- Repaired “Inhomogeneously Biased Circulator” example.
- Improved face port model in presence of good conductors.
- In some situations, fixed moving mesh feature in parameter sweep calculation.
- Fixed issue that rarely the near field probes recorded zero when farfield probes had been defined in addition.
- Also with multipin ports, it is now possible to keep the mesh during a unit cell scan angle parameter sweep.

CST CABLE STUDIO

- Fixed duplication of sub-cables in cable group.

CST MPHYSICS - General

- Fixed an issue with large systems in Mechanical TET solver.

CST PCB STUDIO

- PI-solver: fixed problem in geometry handling.
- Fixed export of package devices.
- PI-solver: Fixed plotting problem caused by geometry artifact.

CST Chip Interface

- Prevented deadlock when canceling Import dialog box.

CST DESIGN STUDIO - General

- Fixed issue when connecting large Touchstone File Blocks.
- Improved stability of the Schematic Editor when doing a Ctrl+double click on a connection.
- Repaired specific issue when pasting elements with connection labels could produce unwanted connections.
- Adding an MWS block no longer produces an extra block (with no function).
- Allow different but equivalent buffer types in differential IBIS buffers.
- The clone block now has the correct size of the cloned block.
- Repaired pin numbering for strip line block.
- Corrected pin layout for multiconductor blocks.
- A new connection label now gets the name of the previous label, as it was in previous CST versions.
- Fixed false parsing errors on parsing a SPICE file in HSPICE format.
- The schematic editor will generate pin names for eligible pins only.
- Exiting the resize mode does no longer revert size changes.
- Fixed amplifier task dialog box logic for power sweeps.

CST DESIGN STUDIO - Hybrid Solver Task

- Fixed overwriting of residual curves in case of all ports excitation.

Automation / Macros / Result Templates / External Data Access

- Added Online Help pages for Result Templates "Extract TL Properties from S-Parameter", "Cascade 2-Port S-Parameters", "Calculate Field Exposure" and the macro "Results/EMC/Determine Plot Peaks".
- Improved Macro "Compensate Self Inductance of Discrete Ports": Port labels now supported, added warning when using "distributed" discrete ports with FIT Solver (new default since v2019).
- Improved Macro "Compare Multiple Runs", now calling new parameter framework.
- Step and Sat Export: Added command for exporting selected solids. ***New Feature!***
- Implemented new command GetProjectParameters, used in macro "Compare Multiple Runs" to read parameters from projects using the new parameter file format.

Changes in 2020.02

General / Environment

- Repaired specific issue when bending a layer stackup.
- Partial RLC nodes can now be imported via Sub-Project import. ***New Feature!***
- Added optimizer output of approximated data for FD3D based diplexer optimizations.
- Fixed issue with mesh recovery tool dumping debug output.
- Multi-selection for 3D Mesh imports is now available. ***New Feature!***
- Fixed sheet activation with modal dialog boxes when 3D plots are active in the master worksheet.
- Fixed issue where color ramp of 3D plot showed up in wrong sheet.
- Improved stability and UX enhancements for Report Tool.
- Added option to show Help Contents in an internal viewer. ***New Feature!***
- Fixed issue in cylindrical bending operation.
- "Copy View" and "Export Image" are now consistently enabled when available.
- Improved error reporting in Report Tool if linked result does not exist.
- Repaired interactive selection during alignment of mixed elements.
- Improve the copy-view feature in the Modeler.
- Improved stability when defining customized ribbons.
- Fixed activation of Zoom button for Farfield Plots.
- Fixed shortcuts and improved mouse wheel zoom in 2D/3D Plot, 2D Plot and PCB Layout View.
- Fast model update will no longer be deactivated, if a discrete face port is created.

- Added result data for component library model ‘Helix with Reflector’.
- The mesh type is now set correctly, when a protected project is loaded.

CST POWER'BY

- Improved generation of farfield visualization for Simulation Review in Power'By Workflow. ***New Feature!***
- Visualization data and axis systems are attached to a CST project while uploading to the **3D**EXPERIENCE platform. ***New Feature!***

System Assembly and Modeling (SAM)

- Allow to select anchors in transparent solid.
- Fixed error on creation of a coupled particle tracking-thermal simulation project sequence.
- Added support for 'Mesh Control Items' to the sub-project import.

EDA Import / EDA Tools

- Fixed net-name reassignment in EDA import dialog box.
- Added option for generating net geometries as separate 3D bodies, even if overlapping. ***New Feature!***
- Fixed message if sub-project import aborted.
- Suppressed some warnings related to components if in thermal-simulation context.
- Fixed import/export simulation settings option in EDA-import.

Distributed Computing (DC)

- Improved stability when generating statistics from large log files.
- Fixed problems when waiting for acceleration tokens.

Biological Models

- New Bio Model Library Extension 3.2 available for download, see Biological Data help page for more information. ***New Feature!***

Post-Processing

- Improved performance of TLM time animations.
- Fixed exports for the plot maximum with time domain results.
- Enhancement for 3D field ASCII export increasing the precision for all components.

Visualization

- Fixed issues with screenshots of 3D results on Linux.

CST MICROWAVE STUDIO - General

- Fixed the calculation of IEEE gain for farfields from TET surface fields in setups with many port modes.
- Fixed the wrong deletion of an exported .ffs file if an additional export to a different directory was requested.
- Radiated power curves generated by A-solver support now dB.
- Radiation efficiencies curves generated by hybrid solver support now dB.
- Extended 'protect' command line argument to allow saving protected projects with custom settings. ***New Feature!***
- Protected projects no longer enforce saving at least one protected shape. This allows to protect only materials in a project. ***New Feature!***
- Protected project sub-project import and ODB++ file import can coexist successfully in a project.
- Fixed import of field sources originating from a protected project.

CST MICROWAVE STUDIO - Transient Solver

- Display correct intermediate values during line impedance adaptation before solver run.
- Improved stability of s-parameter symmetry calculation with inhomogeneous port accuracy enhancement.
- Fixed handling of symmetries for waveguide ports with inhomogeneous port accuracy enhancement.
- Fixed calculation of absorbed power for discrete and waveguide ports.
- Corrected port signal processing in case of active time windowing.
- Improved error estimates for inhomogeneous port accuracy enhancement.
- Fixed error in handling of TST cells and inner waveguide ports for large examples.

CST MICROWAVE STUDIO - Frequency Domain Solver (Tetrahedral Mesh)

- Fixed field source monitor recording, for instance with interior waveguide ports, or with the fast reduced order model sweep.

CST MICROWAVE STUDIO - Eigenmode Solver

- Fixed lumped elements with periodic boundaries in preview solver.

CST MICROWAVE STUDIO - Asymptotic Solver

- Fixed ray amplitude visualization beyond last hit point.

CST MICROWAVE STUDIO - Partial RLC Solver

- Repaired issue that the results for the first parameter set is not stored for a parameter sweep.
- Improved error message when using material type 'Lossy Metal' or 'PEC'.
- Fixed SPICE export of PartialRLC solver in case nodes appear in multiple node pairs.
- Improved stability of PartialRLC solver capacitance calculation setup.
- Fixed wrong R and L of Partial RLC Solver upon recalculation.

CST CABLE STUDIO

- Enhanced the experimental Catia Electre cable import. ***New Feature!***
- Fixed missing insulation inside for ribbon cable in cable group when creating the 2DTL mesh.
- Fixed wrap thickness issue for some foil screen scenarios.
- KBL import should consider any number of centercurves.

CST EM STUDIO - General

- Fixed issue where the total resistance of coil groups depended on coils outside a periodic subvolume.

CST EM STUDIO - M-Static Solver (Tetrahedral Mesh)

- Coil segments from solids now available in the Magnetostatic Planar solver. ***New Feature!***

CST EM STUDIO - LF Time Domain Solver (Tetrahedral Mesh)

- Compute a start solution for coils from solids of conductor-type 'solid'.
- Fixed solver crash when using circuit equations in combination with nonlinear material.
- Fixed issue where a coil segment from solid intersects the mesh plane with varying cross sections.
- Export of motion objects in simulation task is now independent of the coordinate system of the master project.

CST EM STUDIO - LF Frequency Domain Solver (Tetrahedral Mesh)

- Do not allow lossy metals simulations in the broadband regime of the LF FD TET solver.

CST MPHYSICS - Thermal Static Solver

- In an EM-Thermal coupling simulation with results for multiple frequencies use the selected coupling frequency for a thermal calculation.

CST MPHYSICS - Conjugated Heat Transfer Solver

- Solid based definition of contact properties can fail in case of large discrepancies of solid size + curved geometry.
- Only pass valid monitors on surfaces to the CHT solver.
- Detect different temperatures assigned on intersecting solids, stop the solver and display an error message.
- Imported loss not properly assigned.
- Conduction solver gives wrong temperature.
- Improved accuracy of Monitor on Faces. ***New Feature!***
- Ignore invalid monitors for CFD mesh generation.

CST PARTICLE STUDIO Solvers

- Result template "Evaluate Particle 2D Monitor" considers particle weights for reduction operations. ***New Feature!***
- Repaired Co-simulation using PIC solver with distributed computing.
- Introduced automatic calculation of the filter cut-off frequency used in the explosive emission model for the Electrostatic PIC Solver. ***New Feature!***
- Fixed problem occurring in the PIC Solver when GPU is used.

CST PCB STUDIO

- Reference to package IO pin is now correct.
- Removed help section for Saber export.
- Touchstone preview now considers scaling factor in file.

CST Chip Interface

- Fixed issue with Chip Interface unable to call OpenAccess executables and import GDSII on some Linux systems.
- Fixed issue with Chip Interface retaking the main window uncontrollably.
- Make sure at least one column remains visible in all table views.

CST DESIGN STUDIO - General

- Fixed serialization of multiple FD3D goals in the same optimizer task.
- Fixed corner case where changing the pin layout of a self-connecting block could damage the electrical net.
- Repeatedly changing the pin distance does not move the block anymore.
- Resolved error in AMI solver due file paths containing spaces.
- Repaired selection management of block used for combine results.
- Improved stability of paste workflow.
- Fixed the number of warnings displayed when non-AMI IBIS blocks are used in AC tasks.
- Adding elements by dragging or copy&paste can be cancelled without error message.
- Improved 1D plotter error handling for impedance data.
- Fixed visualization of simulation project color map results in master project.
- Fixed deletion of IBIS-AMI and eye analysis simulation task results.
- Most often used Task (S-Parameter) is now ensured visible in task selection dialog.
- Copy&paste works again for connection labels and text fields.
- Fixed possible file error when circuit simulation of a very large netlist is run.

CST DESIGN STUDIO - Hybrid Solver Task

- Deactivated broadband frequency sweep for local F-solver domains, as sampled results are required, only.
- Hybrid Solver now provides farfields for multiple excitations for Integral Equation Solver in platform domain. ***New Feature!***

System Simulator

- Added possibility to retrieve frontend license directly from System Simulator.

IdEM

- Fixed issue when IdEM is closed prematurely.
- Improved legend display when plotting Mixed-Mode parameters.

Automation / Macros / Result Templates / External Data Access

- Fixed missing 'schematic' attribute in Python interface for Simulation Projects.
- Improved Result Template "Extract TL Properties from S-Parameter" for specific use cases.
- Improved Result Template "Cascade 2-Port S-Parameters".
- Result Template "Fourier Transform": Added limit to automatic Tmax calculation for cases of very small frequency resolutions, i.e. in logarithmic sampling at low frequencies.
- Farfield Result Template: Fixed a problem with result type selection.
- New Macro and LF Result Template to "Calculate Moment of Inertia". ***New Feature!***
- Improved Result Template "0D or 1D Result from 2D Colormap Plot", now also working in Schematic Tree. ***New Feature!***
- New Result template "Export 2D Colormap Plot Data". ***New Feature!***
- Result Template "Inverse Chirp Z-Transformation": improved behavior on Linux-OS and for usage of discrete ports.
- Result Animation Template: Fixed 1D Result access in farfield, fixed LOGO Path.
- Allow to set/get complex type of Result2D VBA object. ***New Feature!***

Changes in 2020.01

CST MICROWAVE STUDIO

- Close netlist extraction dialog box on start, to prevent potential reentrancy in post-processing.
- Fixed issue when waveguide monitors are used with multiple modes under simultaneous excitation.
- Improved stability for MPI Simulations.

CST PARTICLE STUDIO Solvers

- Improved stability when calculating broadband decomposition for homogeneous ports.

CST DESIGN STUDIO

- Fixed that some task parameters were not editable/visible under certain circumstances.
- Fixed issue where Spice reference blocks could not be created if the file was on another drive.
- Fixed issue that for blocks with automatic pin layout the visible connectors and the connection data could become uncoordinated.
- Improved stability when copying and pasting a machine task.

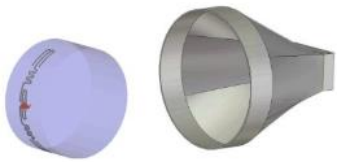
System Simulator

- Fixed a race condition on startup of system simulator.

Release Highlights 2020

This list provides an overview of the important new features and improvements in the latest release of CST Studio Suite. In addition, a lot of smaller changes and enhancements went into this release.

General Features



General

- LINUX support for all interactive workflows
- New project preview mode, which includes archiving of projects
- Added filtering option to the navigation tree
- New search option to find commands, information and examples
- New Python module for general project management
- Enhanced general and cylindrical bend feature
- System Simulator: Import of Functional Mockup Units for Model Exchange according to FMI standard
- HPC: MPI job scheduler native shell support
- HPC: Improved GPU support: Added selected AMD GPUs (T), NVIDIA RTX series and NVIDIA NVLink

System Assembly and Modeling (SAM)

- Extended modification options of existing simulation projects
- Improved support of lumped elements for 3D simulation projects
- One-click conversion of 3D projects to assembly projects

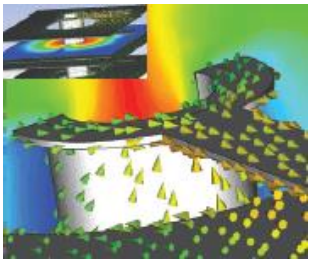
Meshing

- Mesh Import: Recovery tool for intersecting triangles
- NVH Mesh Import with connections for surface mesh (I)
- Improved robustness of mesh moving for optimizations and sweeps

Post-Processing

- New Python module ‘cst.results’ to access 0D/1D results from file
- New easy to use ‘Result2D’ VBA object
- Improved ray histogram post-processing
- Interactive plot measurement mode for Cartesian 1D plot
- Interactive farfield plots in orthographic projection
- Faster farfield combination that avoids nearfield data processing (T, F)
- New Report tool to collect screenshots and create report documents
- Enhanced 2D colormap plot supports contour lines, banding and auto tick
- Customizable plot units in 2D/3D plots

3D EM Technology



High Frequency Simulation

- Added circularly distributed discrete face ports (F)
- Encryption of CST models for securely sharing data (IP protection): FD and TLM solver added
- New Partial RLC solver for calculation of circuit parameters (partial resistances, inductances, and capacitances) with optional SPICE export
- Allow surface impedance material at waveguide ports (T)
- Performance improvements for open boundary simulations (T)
- Added multi-pin lumped element SPICE and Touchstone circuits (T, TLM)
- Added connectivity tree and mesh feedback for discretization and intersection problems (TLM)
- Improved handling of composite skins on aircraft frames (TLM)
- Combine results for fast reduced order model frequency domain solver with tetrahedral mesh (F)
- Modal weighting coefficients available after Characteristic Mode Analysis (I, M)
- Performance enhancement for monostatic RCS sweep (I)
- General performance improvements and support for larger simulation setups for MLFMM (I)
- Field of view analysis (A)
- Improved accuracy for near- and farfield source excitations (A)
- Hybrid solver task (SAM task)
    - Support simultaneous excitations defined in local domains
    - Reference impedance for S-parameters and Touchstone export added
    - Support all ports excitation selection

Antenna Magus

- Multiple elements per array
- Element pattern from collection
- Calculate NFS for default designs and for previously estimated designs while NFS setting was disabled
- Value comparison in compare window
- Exclude selected variables from macro export

Low Frequency Simulation

- Performance improvement for time domain solvers (LT)
- Authoring of CAD coil segments from CAD geometries (LT, JS, LF FD (broadband only))
- 3D translational motion (LT)
- Introduction of Machine Simulation Sequence for multiple drive scenario simulation in SAM
- Authoring of Reduced Order Models as Functional Mockup Units according to FMI standard (LF FD and SAM Machine Simulation Sequence)
- Induction Machine drive scenario (SAM Machine Simulation Sequence)
- Performance improvements for evaluating machine drive scenarios (SAM Machine Simulation Sequence)
- Using iron loss data sheets for calculating iron losses (Frontend)
- Temperature dependent permanent magnet recoil model (LT)

Particle Simulation

- Particle volume source for modeling initial plasma distributions
- Ion-induced secondary electron emission
- Added support for periodic boundaries in the E-Static PIC solver
- Time dependent field excitation for E-Static PIC solver

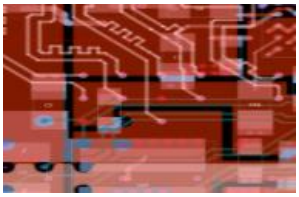
SPARK3D

- In Corona configuration, pressure sweep points may be distributed in a linear or logarithmic scale
- Added new Corona simulation type: at a fixed power, a pressure sweep may be analyzed in order to know if there is breakdown or not

FEST3D

- Expose independent parameters to CST Design Studio
- Added coaxial/dielectric-loaded cavity libraries based on CST Frequency Domain Solver. Rectangular and cylindrical cavities are allowed
- Visualize the mesh used by 3D subcomponents based on BI-RME3D and CST Frequency Domain Solver
- Use FEST3D projects as blocks in CST Design Studio

Cable | Circuit | Macromodels | PCB | Chip



Cable Simulation

- Support for CST Cable Studio projects in simulation projects
- Improvements of connection to 3D manager
- Improvements of automatic bundling and twisted cable simulation
- Increase of simulation accuracy concerning loss and screen modeling, incl. Spice export
- Improvements of the user interface: e.g. interactive cross-section editing

Circuit Simulation

- All task properties are available through task parameter list and many other schematic editor improvements
- New parameterized array block to define multiple, identical sub circuits
- New FEST3D project block
- IBIS-AMI task: Support of transient AMI simulation
- Encryption/decryption for SPICE circuit files
- Interface to LTSPICE simulator

IdEM

- Full support for macromodeling of Mixed-Mode parameters
- New functionality for performing sensitivity analyses on a dataset
- Enhancement of the passivity solver through a more efficient characterization of the passivity violations
- Major improvement in the convergence of the passivity enforcement solver through a more robust optimizer
- Performance improvements for terminate ports functionality

Filter Design

- Automatic 3D filter design and model creation

EDA Import and PCB Simulation

- Support for bending and multiple-stackup information in Cadence-Allegro import
- Automatic import of heat sources from PCBS IR-drop results into CST MPhysics Studio
- Improved performance of opening PCB designs in 3D
- New package component model (EBD)
- New impedance calculator for pre-layout analysis
- Improvements in IR-Drop simulation: Consider filled vias
- Increase of simulation accuracy for SI/2DTL, e.g. Ohmic loss modeling and legacy via model, incl. SPICE export
- Improvements of the user interface: e.g. view attributes manager and color mode for 2D/3D results

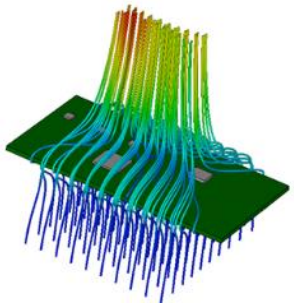
Boardcheck

- Classify rules by analysis types (EMC, SI, PI)
- New rule ‘Power Net Overlapping’
- Improved rules that are checking cross-talk

Chip Interface

- Automatic port creation at pin locations
- Project history display and editing
- Retain pin/net information when exporting through Cadence Virtuoso plugin
- Single-file setup for GDS-based workflow triggered from Cadence Virtuoso plugin

Multi-Physics Simulations



Thermal Simulation

- CHT Solver
  - New CFD mesh type enabling the use of non-uniform background meshes and the optimal positioning of meshing gridlines at solid interfaces
  - Improved reporting of setup errors including self-intersecting surfaces
  - Faster and more accurate import of surface losses from EM simulations
  - Support for surface emissivity and contact properties in the two-resistor thermal compact model
- Two-resistor thermal compact model creation macro for classic thermal solvers (THt, THs)
- Updated heat transfer coefficient calculation macro to compute surface temperature for given power dissipation (THt, THs)