

EMPIRE XPU 9.2.0 Release

November, 2025

Enhancements

- GUI
 - Enhanced 3D Boolean Operations for Polygons
 - Additional QTEM port input variants
 - Plane wave rotation including polarization
 - Allow equations with python evaluation
 - Change default distance + mesh resolution for coaxial calibrated ports
 - Priority display in group panel
 - Improved TDR Setup
 - Improved group drawing order in 2D Design
 - Fix for rotation of Finline port
 - Sources editor support for absorbing ports
 - Additional icons in Object Editor
 - Improved display of rotational polygons
 - Fixed exception for thermal source creation
 - Length calculation for MSPath library object
 - Improved window size for remote desktop reconnection
 - Automesh with zero size structure bounding box in one direction
 - Assign group height from object
 - Improved initial zoom in 2D and 3D design
 - Function to refine solids
 - Group scroll in 2D Design
- Import / Export
 - PDF export support for layout (2D Design)
 - Account for new CST syntax for mesh unit
 - STL Export with group names for different solids
- Simulation engine
 - Optional directive dispersion compensation
 - Reduced memory consumption for plane waves
 - Simulation speed improvement for field recording in narrow band excitations
 - Simulation cache optimization for CPUs with large number of cores
 - Magnetic boundary support for TE/TM waveguides
 - Print remote information in logs
 - Fixed caching problem for TE/TM cut-off frequency calculation
 - Improved handling of degenerate waveguide modes and statistics
 - Fix float precision issues for value times unit inputs
 - Fix for dumpbox convergence error using time domain monitor
 - Control of field monitor convergence check during run-time
 - QTEM port supporting REC/PMC walls
- Postprocessing
 - Reference Plane shift for QTEM ports
 - Optional plot energy convergence over time in seconds
 - Avoiding divide by zero problems during parameter sweep creation

- Print Max SAR avg cube corner coordinates in SAR.log files (position may vary if maximum is not unique)
- 2D result plotting engine
 - New plot type with more flexible y-axis labels for custom results
 - Color cyler for curve color selection (rainbow, viridis, jet, ...)
 - Mask interface: disable the options that are not used
 - User-defined offset in field path axes
 - Marker functions: find min/max
- 3D result plotting engine
 - Allow add near field plane in 3D Result mode
 - Fix for SMD Port display
 - Save SAR avg cube corner coordinates in log file
- Scripting
 - Improved Scripting save/load
 - KMF Scripting new extrude objects method
 - Changed defaults for circular analytic modes
 - More parameters in coaxial ports
 - Support of material script for magnetic materials
 - Empire start command with python.exe (more output)
- EM Twin Add-on
 - Improved access and naming for nearfield converted surf.dat
 - Fieldsource (R&S) Optimization with Coarse Mesh
 - Avoid unwanted rotation by source placement
 - Exposure Wizard: pull down menu for dielectrics
 - Improvement for file type extension during save
- Documentation and Installation
 - Updated file structure in installation path
 - New guideline for floating licensing on Linux
 - New tutorials (Higher order waveguide modes, ODB++ PCB coupling, CAD import, Mesh Accuracy Check)
 - Improved templates (array, plate line)
 - Improved installation for RHEL 8 and Ubuntu 24.04 Linux
 - Updated manuals and application notes