

What's New in Ansys Electronics Desktop 2025 R1

Ansys Electronics Desktop (AEDT) provides highly integrated electromagnetic simulators, circuit/system simulation, ECAD links, and compliance reporting. The single desktop allows users to insert and co-simulate among multiple design types. Click to see what's new for the following:

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Electronics Desktop

- HPS integration improvements
- Integration with Cloud Burst
- New unit family Attenuation
- Fields post-processing marker enhancements
- Reliability and usability fixes for AEDT web client (Beta)

3D Modeler

- Allow snapping to component drawings
- Component placement improvements
- Discovery link improvements
- Lightweight geometry support through mesh links
- Remove ACIS and interop from install
- Hoops Translator upgrade and improvements

HFSS

- General Enhancements:
 - RLC definition for port impedance
 - Gradient surface roughness model
 - High order elements for RF discharge
 - Make active by default Beta feature for enhanced circuit element implementation
 - Shipped example and component library update
 - HFSS APIP
 - Fields calculator with user typing expression in natural order (Beta)
- Electronics Assemblies:
 - 3D System Assembly:
 - Component intersection handling and priority
 - Layout component usability enhancements
 - Mesh feedback enhancements
 - Net visualization enhancements
 - Performance improvements for parallel component adapt
- Antenna Arrays:
 - Sparse array
 - Improved FEBI solver speed in 3D component array
 - Multi-band composite sub-array (Beta)
 - Multiple arrays enhancements (Beta)
- SBR+ enhancements:
 - Improved impedance boundary
 - Near Field accuracy advanced settings from beta to commercial
 - Enhanced SBR+ rough-surface model for all simulation modes, including RCS
 - Start bounce selection for GO blockage computation

HFSS 3D Layout

- General Enhancements:
 - "Auto" initial mesh type
 - HFSS: TAU support for mesh fusion
 - Mesh fusion and PAdapt in Layout
 - Usability and performance enhancements
 - Layout measurement tool
 - Hierarchical parallel adapt refinement in Layout (Beta)
 - Q3D Layout integration (Beta)

- IC Mode:
 - IC Layout Mode
 - Raptor X in AEDT: multinode HPC distribution
 - Memory footprint optimization (Beta)
 - DCIR solve in IC Mode (Beta)
 - OASIS translator support in Layout (Beta)

Icepak

- Full mesh in mesh viewer
- TZR import performance improvements
- CTM v1 enhancements for user-defined tile naming
- Per-solve-setup meshes for view and import
- Mesh fusion robustness enhancements
- JPTD/JEP 30 export
- 3D IC assembly from ET for import to Icepak
- Support modeling PCB layers as lumped
- Zoom-in modeling toolkit
- Network schematic editor using pyAEDT
- Workbench integration of Icepak
- Removal of Icepak from unified package
- Layout components implementation in Icepak with DCIR link (Beta)
- Solution overview report (Beta)

Maxwell

- SVPWM winding source
- Electric machine ROM creation uses Park DQ transformation
- 3D Eddy current solver check box for 'Include DC Fields'
- Enhancements for 'Get Datasets from FFT' in Eddy current solver
- Save fields on selected objects
- General solver performance improvements reducing file I/O
- 2D transient solver performance improvements
- Improved performance for AMD machines (lib support)
- Continuum Air 2D: support skew model (Beta)
- Eddy current A-Phi solution solder added features (Beta)
- Export to RedHawk-SC for induced currents on ECAD PCB (Beta)

AEDT Mechanical

- Layout component one-way coupling with DCIR analysis
- Meshing performance improvements
- Support shell contacts
- AEDT Mechanical Thermal design integration in Workbench

Q3D Extractor

- Complex value support for RL in Edit Sources
- Contact resistance for DCR
- Radiated fields (Beta)

Circuit

General Enhancements:

- EMI receiver RBW enhancements
- Plot results after convergence issues in transient simulation
- Support PSPICE 'ddt' function
- Transient convergence enhancement
- UARK IGBT model
- S-element simulation speed improvement (Beta)

SPISim Enhancements:

- Complete COM support for 802.3ck
- New settings for other 802.3ck standards and OIF/CEI
- Compliance support for UCle

EMIT

- EMIT-STK toolkit support for dynamic scenarios
- EMIT-STK toolkit streamlined installation process
- Support for frequency-dependent saturation profiles
- Improved HFSS and EMIT dynamic link:
 - FFD file imports from HFSS
 - Linked geometry from HFSS
 - Automated antenna placement

Twin Builder

- SVD basis for ROMs
- Error prediction/UQ on response surface ROMs
- ROM error summary in Dynamic ROM Builder
- Export VHDL-AMS components as CS FMU
- Power electronics and electrification enhancements
- Extended support for Modelica Standard Library 4.0

Granta

- Standard updates have continued to provide accurate and reliable simulation ready materials data
- 15 new records

Selected Defect Corrections

Electronics Desktop

- 1023248 – Resolved solver error when using replace with 3D component option using IDF

Circuit

- 647581 – Network Data Explorer window control buttons are visible when launched from SIwave
- 1023305 – Scheduler regression: Circuit project simulation no longer fails with error
- 1144060 – Schematic ID of nets in Circuit remains same if AEDT project is saved, closed, and opened again. Users must check legacy scripts to see if net IDs are correct.

EMIT

- 1036188 – N-to-1 functions when multiple radios are connected via >3-port device
- 1036885 – Emitter plot successfully updates at high frequencies

FilterSolutions

- 897398 – Marker position moves as intended

HFSS

- 1036284 – Boresight selection is now available in infinite sphere setup for co/cross polarization calculation
- 1052060 – Sampled Near Field plots now work for SBR+ solution type
- 1098880 – Source context can now be enabled and preserved in Edit Sources

HFSS 3D Layout

- 1052320 – 3D Line is now supported by fields calculator in HFSS 3D layout

Icepak

- 1090418 – Transient datasets defined for ambient temperature variation work as expected
- 1098497 – Restart issues between two designs consisting of inactive mesh regions resolved

Maxwell

- 1108030 – Resolved RMxpert error in rotor material assignment for Induction motor
- 1123738 – Corrected difference of output value (Maxwell Dynamic link)

Q3D Extractor

- 1091482 – Performance is now significantly improved for harmonic loss coupling from Q3D to Icepak
- 1095939 – Harmonic loss in Q3D now supports negative currents

Known Issues and Limitations

The following items describe specific issues known at the time of release. Workarounds for these items, if available, are included in the respective descriptions. Inclusion in this document does not imply the issues and limitations are applicable to future releases. Go to the Ansys Electronics Desktop Customer Portal (<https://support.ansys.com/portal/site/AnsysCustomerPortal>) for information about service packs and any additional items not included in this document.

Electronics Desktop

- 961861 – G3dMesher hangs when using 1 core per variation on Linux. Workaround: Use more than 1 core per variation.
- 1129596 – When Q3D jobs are submitted to RSM, monitoring the jobs using Web client does not display profile, report, or field plot data.
- 1138184 – When jobs are submitted to HPS, job monitoring with Web client is not working reliably.
- 1101515 – 'Create Group for Assembly' option on Import model dialog box does not work as intended for some CAD formats.
- 1167590 – RSM does not support SLES 15.4 and 15.5. If a message prompts about the OS not being supported on RHEL/Rocky, ensure the "initscripts" package is installed.

Circuit

- 1054556 – Noise Figure is plotted incorrectly on Ubuntu operating system.
- 1094707 – Nexxim currently does not handle very large s-parameter data due to memory bound. Reduce data size when possible.
- 1101163 – GPU acceleration is not supported for AEDT Circuit (QE and AMI) this release.
- 1119457 – Running script functions with -ng flag may fail. This functionality has not been fully implemented. Avoid running script functions with -ng flag.
- 1125435 – Optimetrics hangs after 1 variation when running HSPICE setups.

EMIT

- 1136470 – Error messages appear when trying to simulate an HFSS example project. Workaround: Save the example project to a private folder, close the project, and re-open before running.
- 1152399 – Drag-and-drop stops working during linking. Workaround: Click OK to close the Coupling Editor and then re-open the Coupling Editor. Alternatively, instead of using drag-and-drop, an HFSS design can be linked to EMIT by right-clicking the Coupling node and selecting Add Coupling Link.
- 1172456 – Unable to re-link an HFSS design after deleting it from an EMIT design. Workaround: Rename the HFSS design before adding it to the EMIT design.

HFSS

- 961861 – In certain Linux environments, particularly where there are affinity settings from the OS or from a scheduler, the G3dMesher may hang on shutdown due to an issue with a thread pool. When solving on Linux, the number of variations solved in parallel should never be more than half the number of total cores requested.
- 1128521 – SBR+ simulations with non-standard materials (e.g., with negative permittivity or permeability or negative loss tangent) will produce incorrect results. Workaround: Model the material by defining reflection and transmission coefficients explicitly using a Fresnel Table boundary assignment. One way to compute such coefficients is via a Floquet-port analysis.
- 1136470 – Error messages appear when trying to simulate an HFSS example project. Workaround: Save the example project to a private folder, close the project, and re-open before running.
- 1154178 – Due to floating point accuracy, the calculated number of SBR parametric array elements may be off by 1 in either length or width. Workaround: Add a very small additional length or width to the array so that the number of elements is correct in both the UI and the solver's profile.

HFSS 3D Layout

- 1146564 – Bondwires not correctly exported to HFSS MCAD from SIwave / 3D layout when exported as true cylinder. Workaround: Export bondwires as faceted models. Avoid exporting bondwires as true cylinder. This issue has been fixed in 25.2.

Icepak

- 1066694 – Thermal modifiers applied to the PCB layer material properties are not supported for trace mapping.
- 1158638 – When launching a simulation on a remote Linux node using Remote Solve Manager, the Icepak solver fails to run. Workaround: Run distributed analysis that uses MPI.
- 1158647 – Mesh fusion uses internal coupling interfaces to couple the solution between mesh fusion subdomains, between which the meshing are non-conformal. If solar loading is assigned to some geometries and some or all of these geometries happen to be on internal coupling interfaces, the solar loading will be ignored.

Mechanical

- 1066694 – Thermal modifiers applied to the PCB layer material properties are not supported for trace mapping.

Q3D Extractor

- 1129596 – When Q3D jobs are submitted to RSM, monitoring the jobs using Web client is not displaying profile,report, field plot data.

SIwave

- 1144701 – In rare cases, solderballs maybe placed internally to a pad or ports not connected to bondwires in MCAD export from SIwave. HFSS MCAD export is missing solve setup.
- 1146564 – Bondwires not correctly exported to HFSS MCAD from SIwave / 3D layout when exported as true cylinder. Workaround: Export bondwires as faceted models. Avoid exporting bondwires as true cylinder. This issue has been fixed in 25.2.