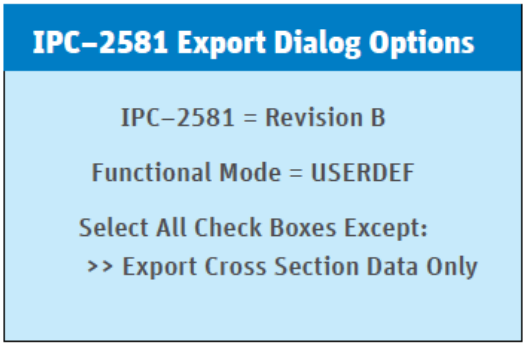
Ansys

APPLICATION BRIEF

Cadence Translation into Ansys SIwave using IPC-2581 Revision B

As the electronics industry continues to evolve, the need for collaborative information sharing between multiple vendors has never been greater. To promote interoperability, Ansys supports several generic formats within the electronic design automation (EDA) industry. Format-specific information can be found by clicking on the following links: **IPC-2581**, **ODB++** and **Gerber RS-274X**.

Each format provides its own unique benefit depending on the task at hand for the engineer. Ansys recommends using IPC-2581 Revision B for translating Cadence® SPB (Cadence® APD, Cadence® SiP and Cadence® Allegro®) designs into Ansys SIwave. Another approach that works but requires a little additional processing is offered from the ODB++ Solutions Alliance and uses ODB++ version 8. Ansys does not recommend using Gerber RS-274X for SIwave because it neutralizes and flattens the data. This impacts how SIwave interprets geometry types such as planes, pads, vias and traces. Gerber RS-274X works well for creating 3D MCAD geometry when an ACIS-based solid model such as a SAT file is required. A user can feel confident using Gerber for Ansys HFSS, Ansys Q3D Extractor and Ansys Maxwell projects.



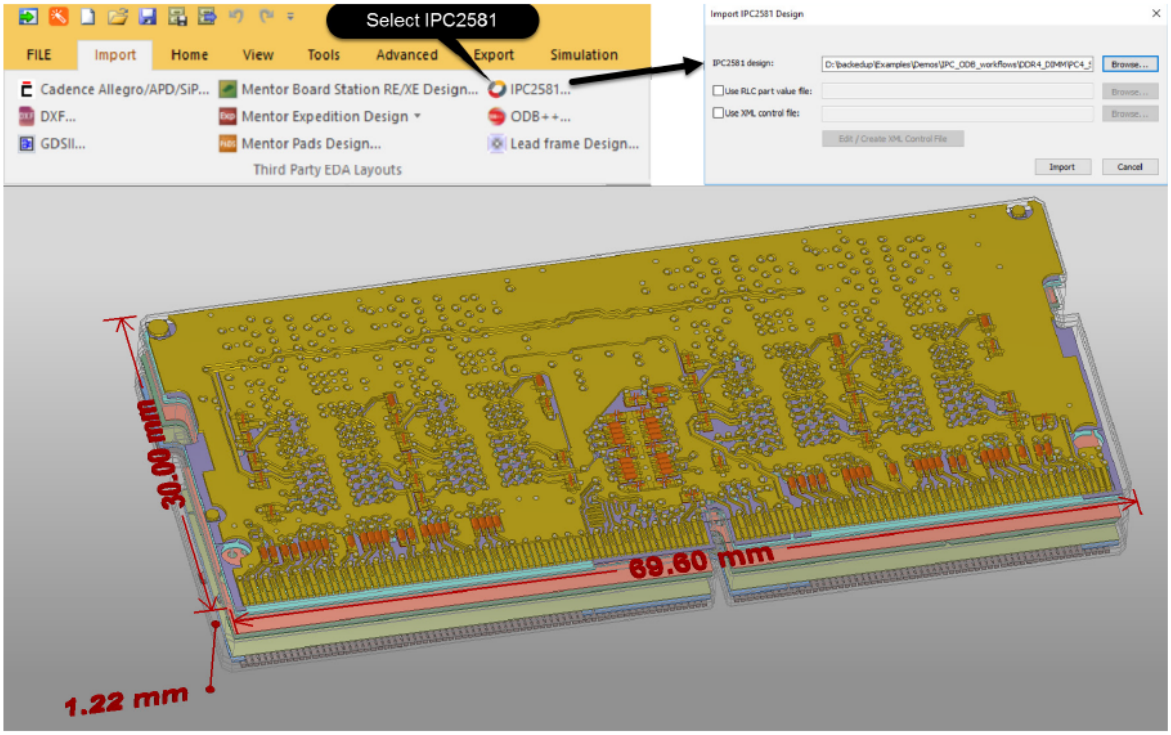
Recommended translation paths from Cadence SPB into SIwave:

- IPC-2581 Rev. B. *Best.*
- ODB++ v8. *Requires some additional geometry processing.*
- Gerber RS-274X. *Not recommended with SIwave solver; create 3D ACIS geometry files such as SATs.*

The first step of the translation process is launching the appropriate Cadence SBP product, such as Allegro, APD or SiP. Within the Cadence product, go to the “IPC-2581 Export” dialog box and choose the following options:

- IPC2581-B.
- USERDEF.
- Select check boxes as shown.

Now the user is ready to import the geometry into SIwave. Launch the SIwave application and go to the import tab and select IPC-2581. This will open a dialog box for the user to point to the recently created Cadence IPC-2581 XML file. Note that when using IPC-2581 Revision B, the usage of an RLC or XML control file should not be necessary but can be very beneficial when trying to set up libraries of parts and stackups for automation purposes.



Import of IPC-2581 data into Ansys SIwave.

Once the geometry has been imported, the user should verify that the information has been correctly imported by reviewing the stack up, padstacks, components, net names, power/ground nets, etc. All of this can be automated for each user to accommodate their company's PLM processes. This enables automation for library development based on a bill of materials and removes many of the redundant processes that exist when spinning multiple board designs.

ANSYS, Inc.
Southpointe
2600 Ansys Drive
Canonsburg, PA 15317
U.S.A.
724.746.3304
ansysinfo@ansys.com

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