GigHz
A Global Engineering partner

An ISO-27001 ISMS Certified Company

EDA Conversion for DMS Board

Scope: Electronic Design Automation Conversion

Application: Advanced Driver Assistance Systems

Our mission involves the transformation of Printed Circuit Board (PCB) files for the Driver Monitoring System (DMS) from Cadence to Altium Designer via EDA conversion. DMS is a technology embedded in modern car systems to observe and analyze the driver's actions, focus, and general state. Using sensors and cameras, the system tracks facial features, eye movements, and behavior. This data is analyzed to determine the driver's alertness level, issuing alerts or interventions if signs of drowsiness, distraction, or safety concerns are identified.

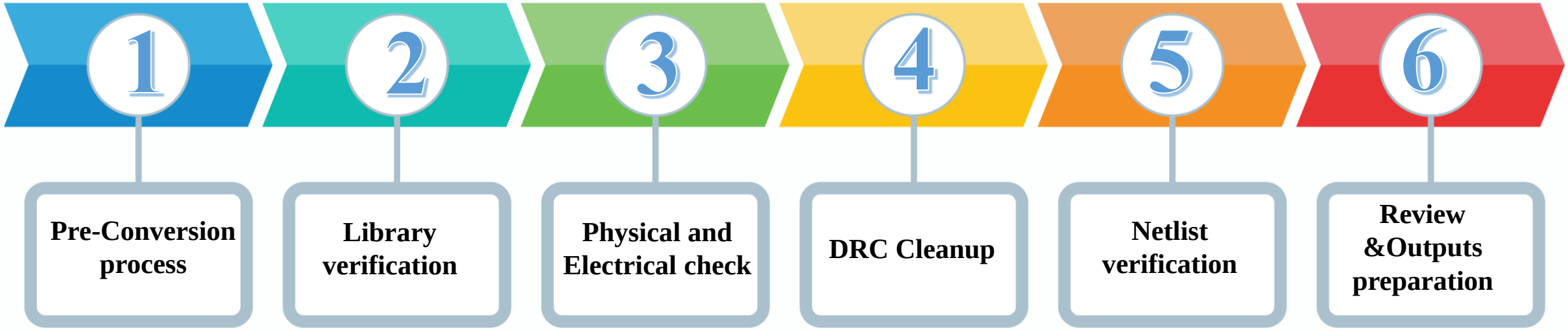
Challenges

We were tasked with converting their PCB files from Cadence to Altium Designer.

Challenges:

- Attain 99.99% physical accuracy in the Altium design compared to the provided design file
- Achieve a 100% electrical match between the converted Altium design and the provided design file.
- Contains lot of Length Matching Groups
- To match the exact Footprint Libraries (Pad's Round Corners)
- Netlist syncing up

EDA Conversion-SoW

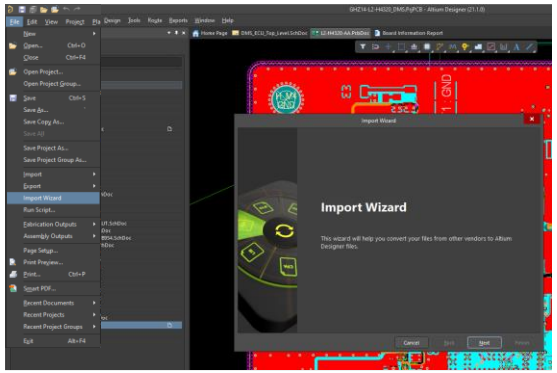


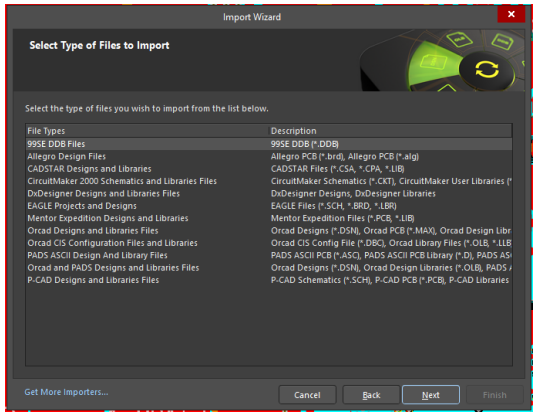
Pre-Conversion Process

- **Pre conversion verification:**

  - Prepare and Review the cadence files as per the formats for Altium conversion.

	Cadence	Altium
Schematic File	.dsn	.schdoc
PCB File	.brd	.pcbdoc





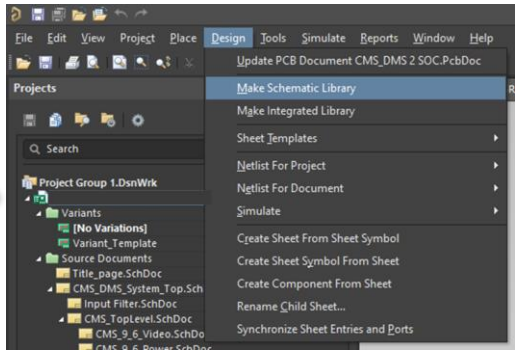
Import to the Altium:

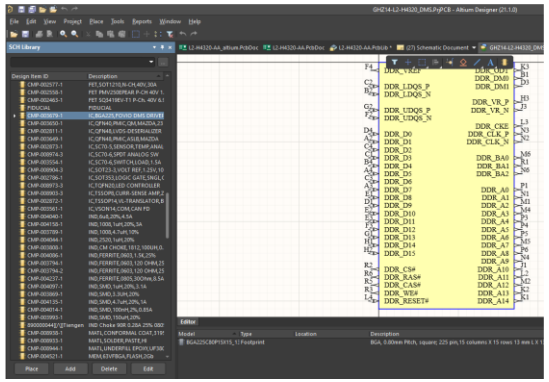
- Schematic and PCB Conversion in Altium designer

Library verification

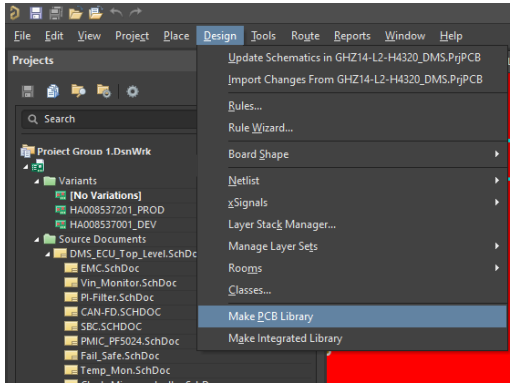
- Creating Symbol and Footprint Libraries from the Schematics and PCB Layout
- Library Verifications and modifying as per Standards
- Physical and Electrical comparison of Libraries

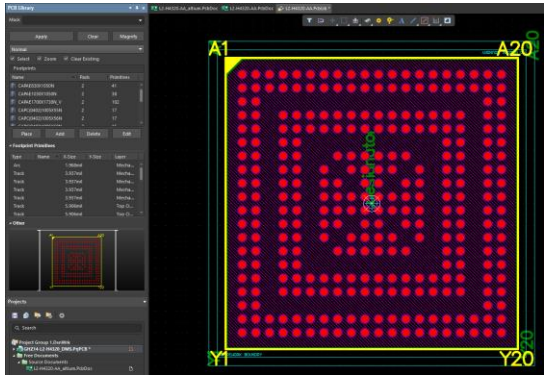
Schematic Library





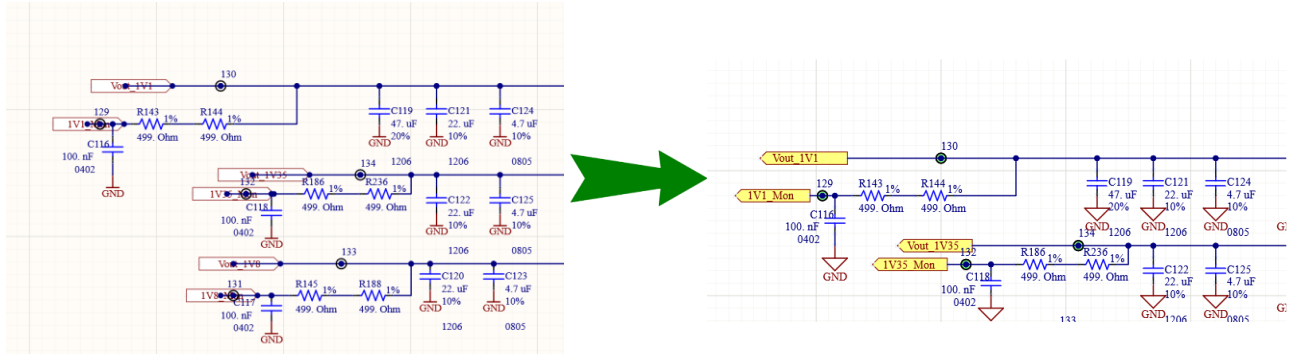
PCB Library

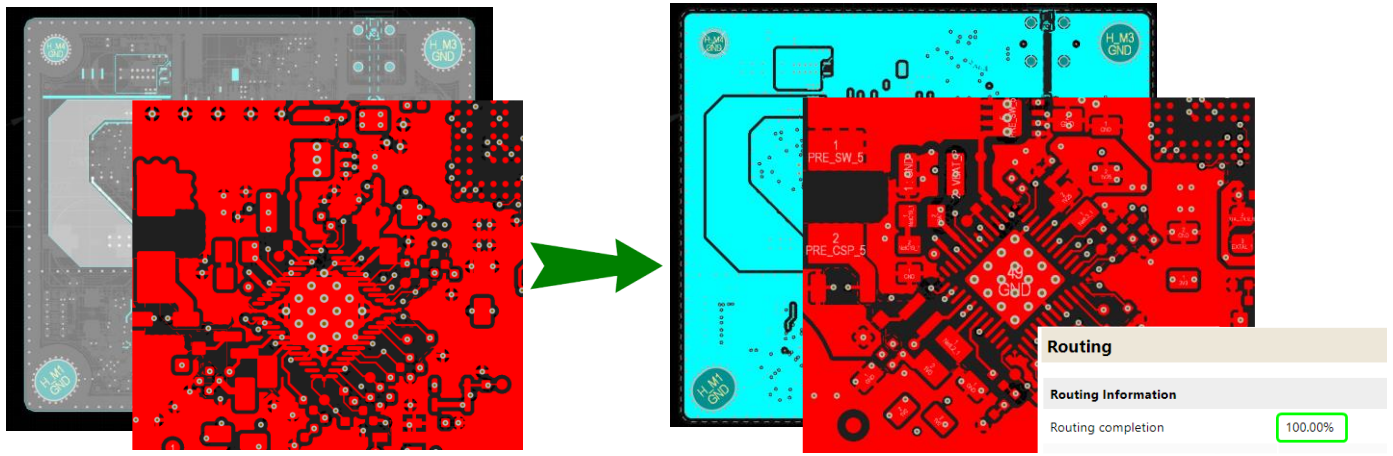




Physical & Electrical Check

- Physical and Electrical comparison of Schematics & PCB Layout and Error and Physical Clean up in both schematics and PCB Layout.





DRC Clean up

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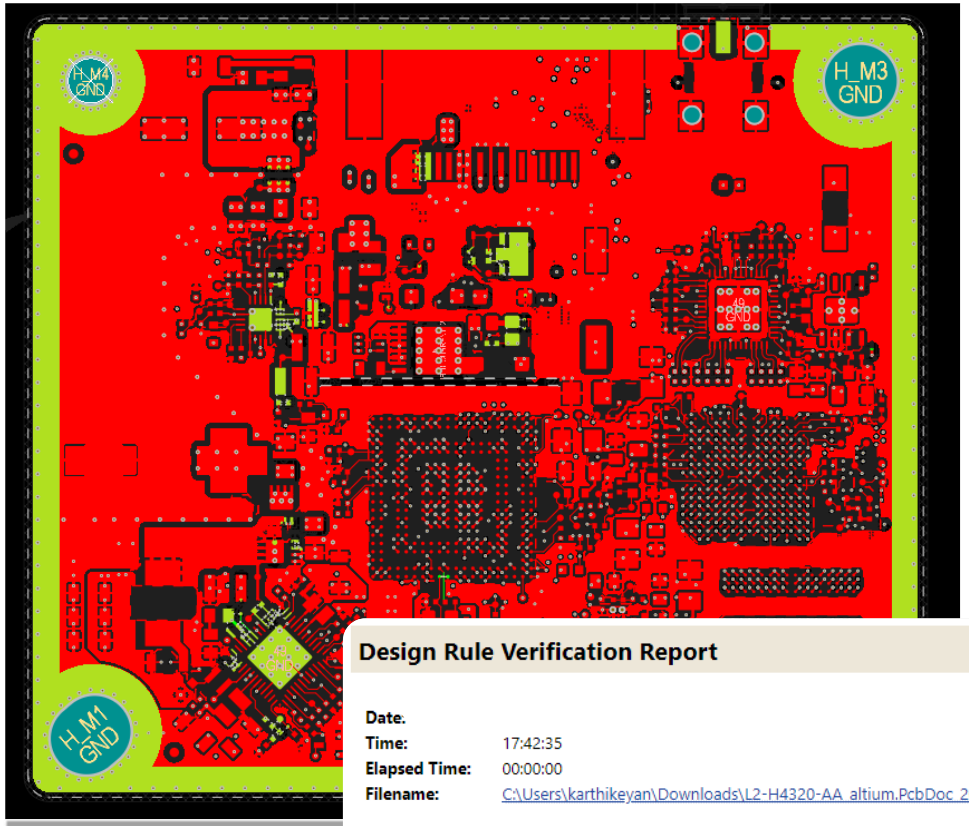
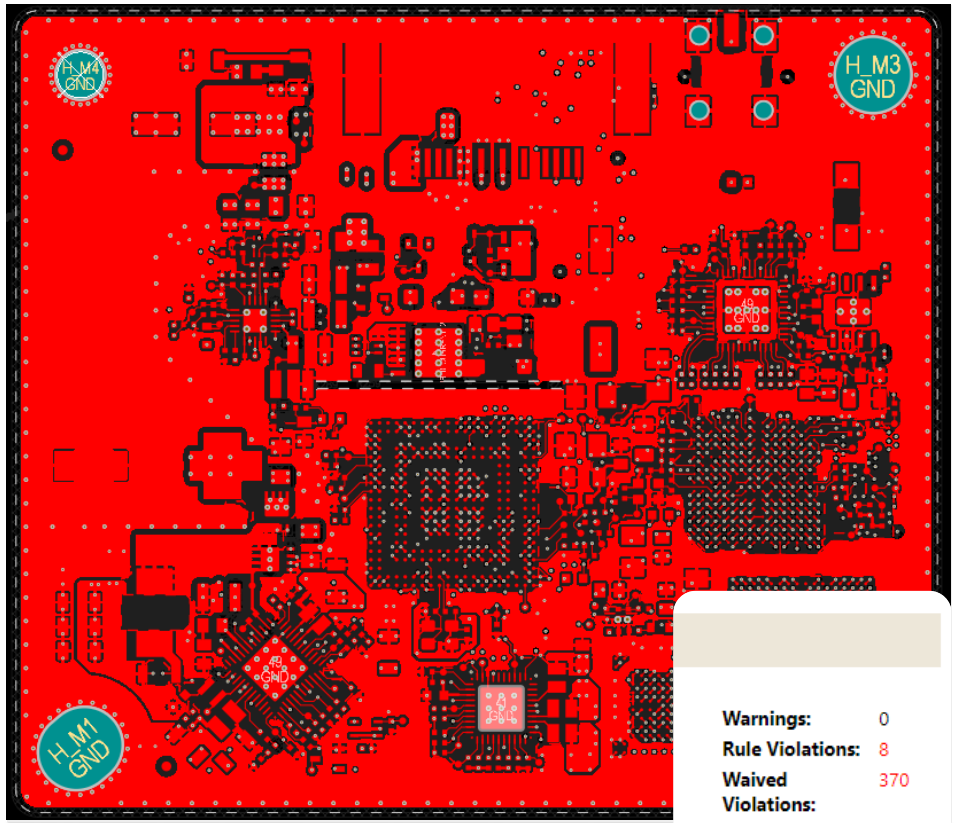
- Define rules and DRC clean up



Design Rule Verification Report

Date:	
Time:	17:42:35
Elapsed Time:	00:00:00
Filename:	C:\Users\karthikeyan\Downloads\L2-H4320-AA_altium.PcbDoc 2023-11-29.pcbdoc

ERROR : More than 500 violations detected, DRC was stopped



Warnings:	0
Rule Violations:	8
Waived Violations:	370

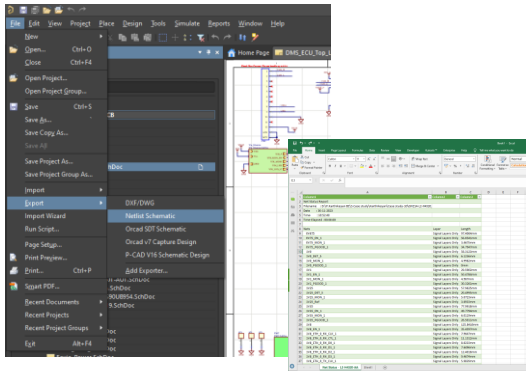
Netlist Verification

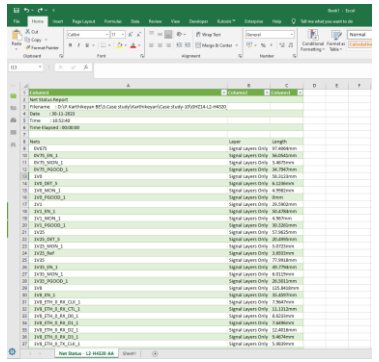
- Generate a netlist in Altium Designer and then proceed to compare it with the netlist provided by the client.

Netlist generation in Altium

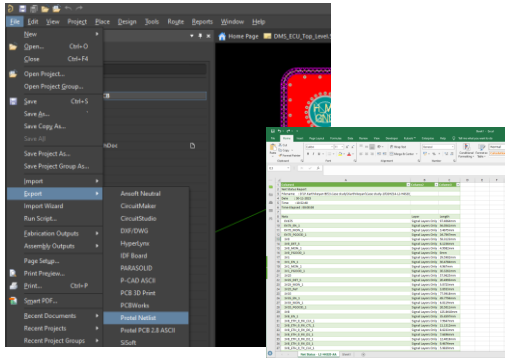
Netlist From Client

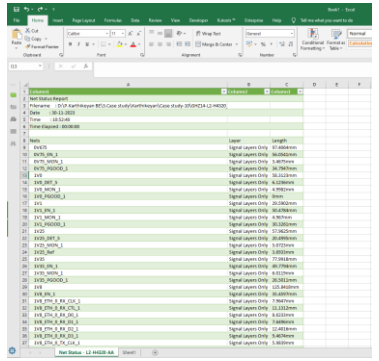
Schematic Netlist





PCB Netlist





Review & Outputs

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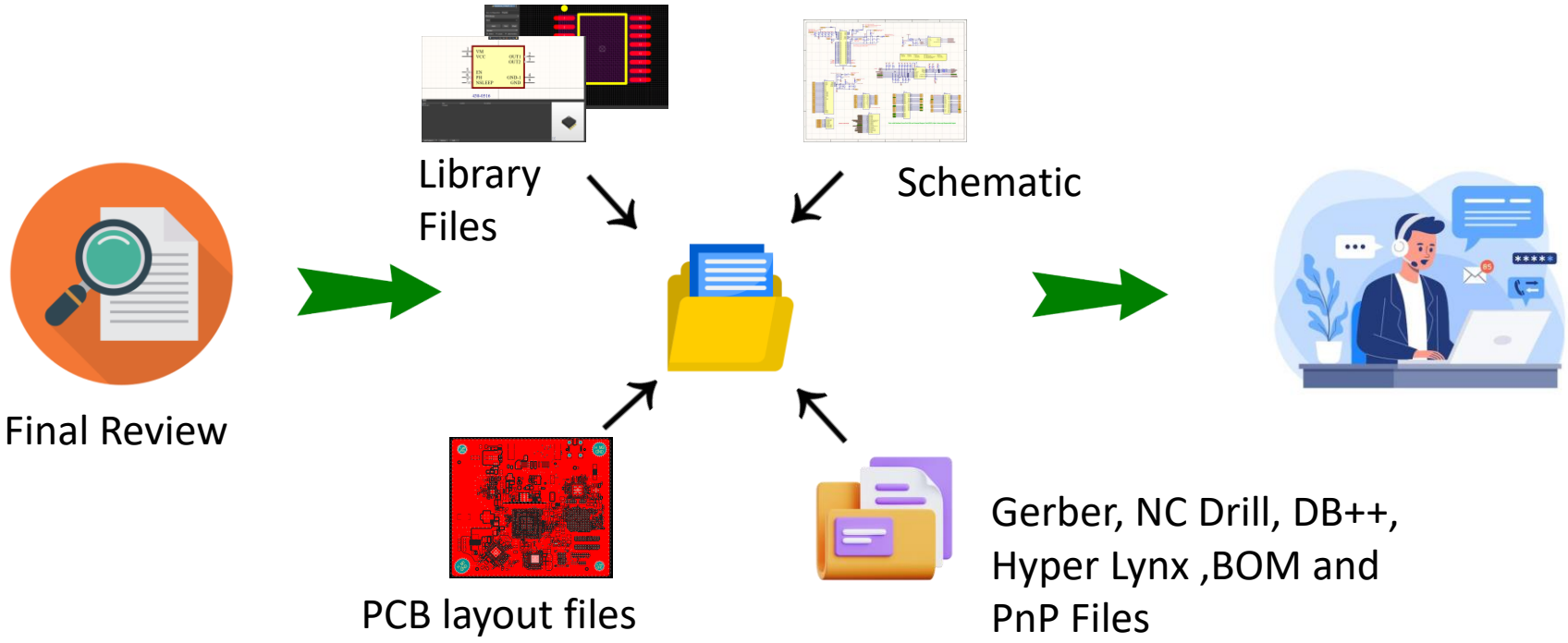
- Data syncing up (Combining schematic and PCB as project)

- Final Review compare with original file and Output files Preparation for Deliverables



Results-In Altium Designer

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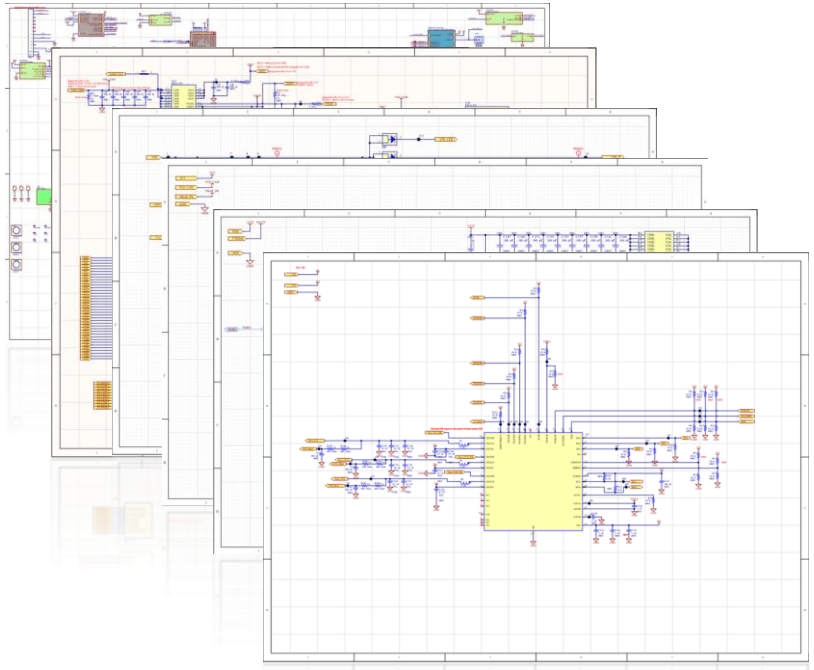
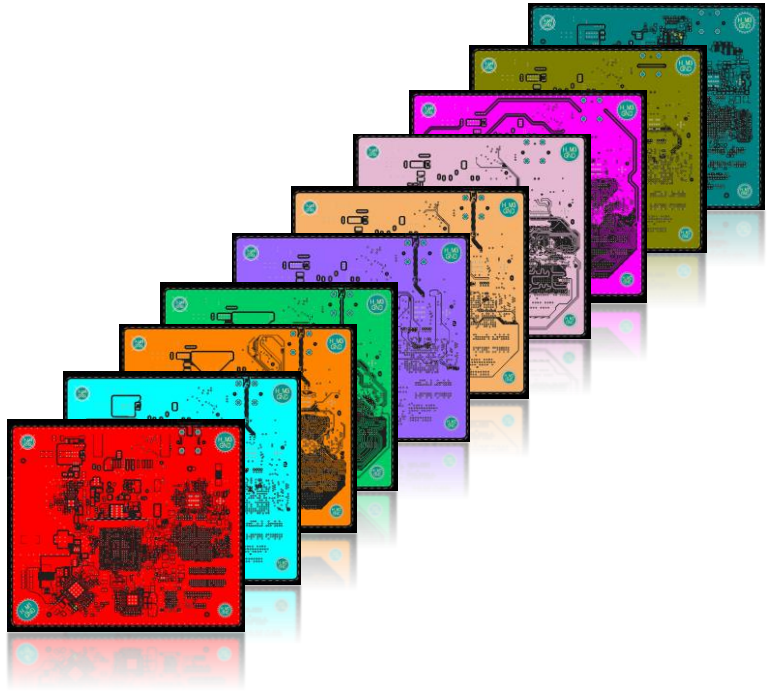
Schematics



PCB layout



EDA conversion of Cadence to Altium designer results that matched electrically by 100% and Physically by 99.99%

Client Testimonial

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Offered is a testimonial from a delighted client, serving as compelling evidence of the Effectiveness of EDA Conversion.

"Working with GigHz was a transformative experience. Their seamless conversion of our PCB design files from Cadence to Altium Designer showcased a rare blend of efficiency, precision, and dedication. They delivered within the agreed timeframe, offering cost-effective solutions that perfectly aligned with our budget constraints. The quality of their work, evident in the meticulous attention to detail and flawless execution, exceed our expectations. GigHz is a testament to a harmonious balance of time efficiency, cost-effectiveness, and uncompromised quality - an invaluable partner for anyone navigating the complexities of electronic design and PCB development."

Conclusion

We demonstrated our commitment to excellence and technical expertise by delivering EDA conversion and results that precisely matched with Client's requirements.

Our collaboration integrates expertise with personalized service, alongside technical proficiency.

Our dedication is evident in the provision of top-notch EDA conversion PCB layouts, not only cutting costs but also highlighting our capability and dependability in consistently achieving outstanding results. Emphasizing quality and adhering to timelines are central to our approach.