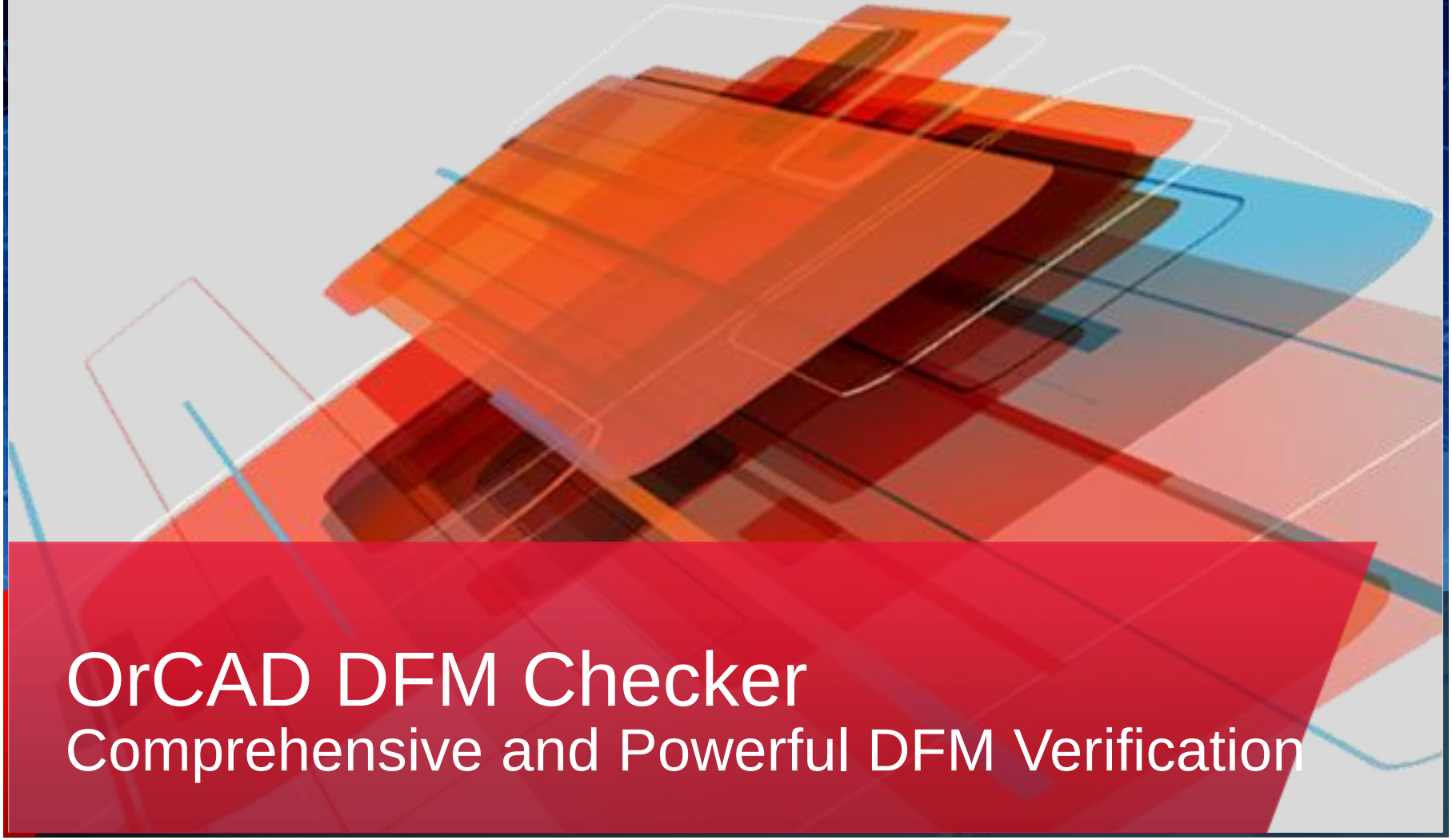

# OrCAD DFM Checker

## Comprehensive and Powerful DFM Verification

Официальный дистрибьютор - ООО «ПСБ СОФТ»
www.pcbsoft.ru
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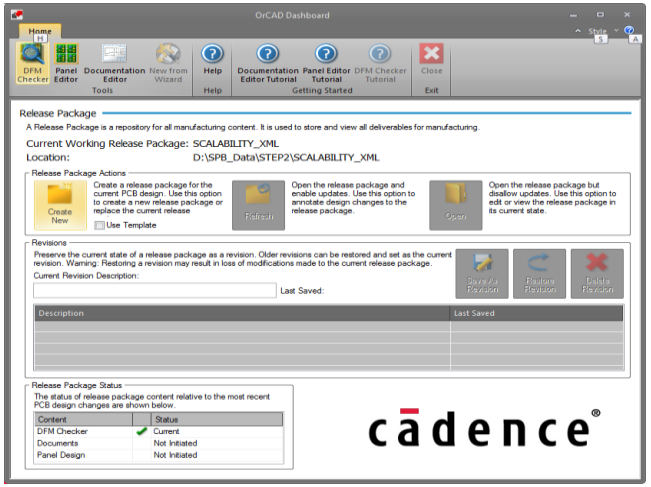
# What is OrCAD DFM Checker?

- PCB analysis technology that identifies fabrication and manufacturing-centric design issues
- Powerful, yet easy-to-use, analysis for all design types from simple to complex
- Easily manages checks through rule sets that can be organized into layer types and sub-categories

Identify design issues that have the potential to lower yields and produce scrap



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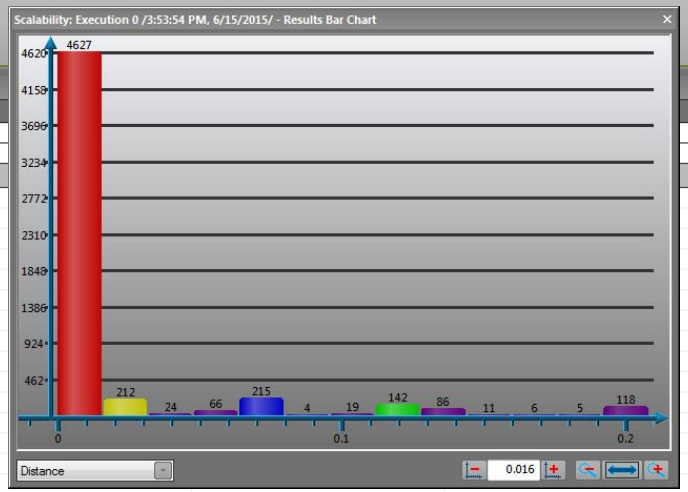



Scalability - Basic Streams DFM

**Execution 0 /3:53:54 PM, 6/15/2015/ - 6118 Errors, 0 Hidden**

**Signal Layer 2 - 603 Errors, 0 Hidden**

**MP - Minimum Pad - 24 Errors, 0 Hidden**

| Id | Size | Layer | X1 | | | Validated | Comment |
|---|---|---|---|---|---|---|---|
| 0 | 0.200 | L11:BOTTOM | 78.886 | | | | |
| 1 | 0.200 | L11:BOTTOM | 78.886 | | | | |
| 2 | 0.200 | L11:BOTTOM | 78.886 | | | | |
| 3 | 0.200 | L11:BOTTOM | 78.886 | | | | |
| 4 | 0.200 | L11:BOTTOM | 78.086 | | | | |
| 5 | 0.200 | L11:BOTTOM | 78.086 | | | | |
| 6 | 0.200 | L11:BOTTOM | 78.086 | | | | |
| 7 | 0.200 | L11:BOTTOM | 78.086 | | | | |
| 8 | 0.200 | L11:BOTTOM | 78.886 | | | | |
| 9 | 0.200 | L11:BOTTOM | 78.886 | | | | |
| 10 | 0.200 | L11:BOTTOM | 78.886 | | | | |
| 11 | 0.200 | L11:BOTTOM | 78.886 | | | | |
| 12 | 0.200 | L11:BOTTOM | 78.086 | | | | |
| 13 | 0.200 | L11:BOTTOM | 78.086 | | | | |
| 14 | 0.200 | L11:BOTTOM | 78.086 | | | | |
| 15 | 0.200 | L11:BOTTOM | 78.086 | 33.620 | 0.254 | | |
| 16 | 0.200 | L11:BOTTOM | 40.614 | 75.576 | 0.254 | | |
| 17 | 0.200 | L11:BOTTOM | 40.614 | 75.976 | 0.254 | | |
| 18 | 0.200 | L11:BOTTOM | 40.614 | 76.376 | 0.254 | | |
| 19 | 0.200 | L11:BOTTOM | 40.614 | 76.776 | 0.254 | | |
| 20 | 0.200 | L11:BOTTOM | 41.414 | 76.776 | 0.254 | | |
| 21 | 0.200 | L11:BOTTOM | 41.414 | 76.376 | 0.254 | | |
| 22 | 0.200 | L11:BOTTOM | 41.414 | 75.976 | 0.254 | | |
| 23 | 0.200 | L11:BOTTOM | 41.414 | 75.576 | 0.254 | | |

**DWOP - Plated Drills without Pads - 12 Errors, 0 Hidden**

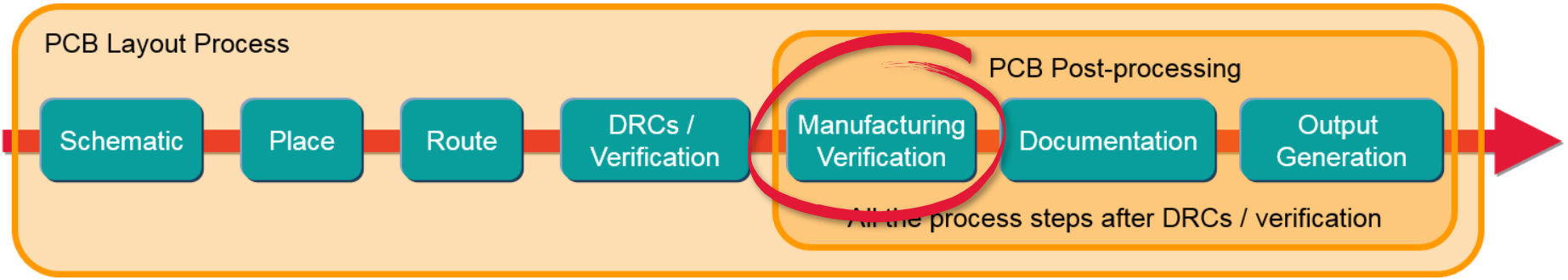
| Id | Layer | Layer | X1 | Y1 | X2 | Y2 | Drill Size | Validated | Comment |
|---|---|---|---|---|---|---|---|---|---|
| 24 | L14:IPC2581DRILL_1-6 | L1:TOP | -21.590 | 8.255 | -21.590 | 8.255 | 2.800 | | |
| 25 | L14:IPC2581DRILL_1-6 | L1:TOP | -21.590 | 97.155 | -21.590 | 97.155 | 2.800 | | |
| 26 | L14:IPC2581DRILL_1-6 | L11:BOTTOM | -21.590 | 8.255 | -21.590 | 8.255 | 2.800 | | |
| 27 | L14:IPC2581DRILL_1-6 | L11:BOTTOM | -21.590 | 97.155 | -21.590 | 97.155 | 2.800 | | |
| 28 | L14:IPC2581DRILL_1-6 | L3:GND | -21.590 | 8.255 | -21.590 | 8.255 | 2.800 | | |
| 29 | L14:IPC2581DRILL_1-6 | L3:GND | -21.590 | 97.155 | -21.590 | 97.155 | 2.800 | | |
| 30 | L14:IPC2581DRILL_1-6 | L5:INNER1 | -21.590 | 8.255 | -21.590 | 8.255 | 2.800 | | |
| 31 | L14:IPC2581DRILL_1-6 | L5:INNER1 | -21.590 | 97.155 | -21.590 | 97.155 | 2.800 | | |
| 32 | L14:IPC2581DRILL_1-6 | L7:INNER2 | -21.590 | 8.255 | -21.590 | 8.255 | 2.800 | | |
| 33 | L14:IPC2581DRILL_1-6 | L7:INNER2 | -21.590 | 97.155 | -21.590 | 97.155 | 2.800 | | |
| 34 | L14:IPC2581DRILL_1-6 | L9:POWER | -21.590 | 8.255 | -21.590 | 8.255 | 2.800 | | |
| 35 | L14:IPC2581DRILL_1-6 | L9:POWER | -21.590 | 97.155 | -21.590 | 97.155 | 2.800 | | |

**MW - Minimum Width - 566 Errors, 0 Hidden**

| Id | Min Width | Layer | X | Y | Max Size | Max Noise | Validated | Comment |
|---|---|---|---|---|---|---|---|---|
| 36 | 0.102 | L1:TOP | 6.706 | 42.194 | 0.127 | 50 | | |
| 37 | 0.102 | L1:TOP | 6.706 | 42.994 | 0.127 | 50 | | |
| 38 | 0.102 | L1:TOP | 6.706 | 55.994 | 0.127 | 50 | | |
| 39 | 0.102 | L1:TOP | 6.706 | 56.794 | 0.127 | 50 | | |
| 40 | 0.102 | L1:TOP | 7.506 | 36.206 | 0.127 | 50 | | |
| 41 | 0.102 | L1:TOP | 7.506 | 37.006 | 0.127 | 50 | | |
| 42 | 0.102 | L1:TOP | 7.506 | 37.806 | 0.127 | 50 | | |
| 43 | 0.102 | L1:TOP | 7.506 | 41.394 | 0.127 | 50 | | |
| 44 | 0.102 | L1:TOP | 7.506 | 42.194 | 0.127 | 50 | | |
| 45 | 0.102 | L1:TOP | 7.506 | 50.006 | 0.127 | 50 | | |
| 46 | 0.102 | L1:TOP | 7.506 | 50.806 | 0.127 | 50 | | |
| 47 | 0.102 | L1:TOP | 7.506 | 51.606 | 0.127 | 50 | | |

# Why Check for Manufacturing Issues?

- Increasing design complexity requires more specialized checking vs. traditional CAD tool DRCs
- Designs that pass standard DRCs may still contain issues that result in low manufacturing yields, or costly scrap
- Correcting fabrication issues can help reduce the amount of design modification done by the fabricator
- If the fabricator is modifying your design, you have lost database integrity



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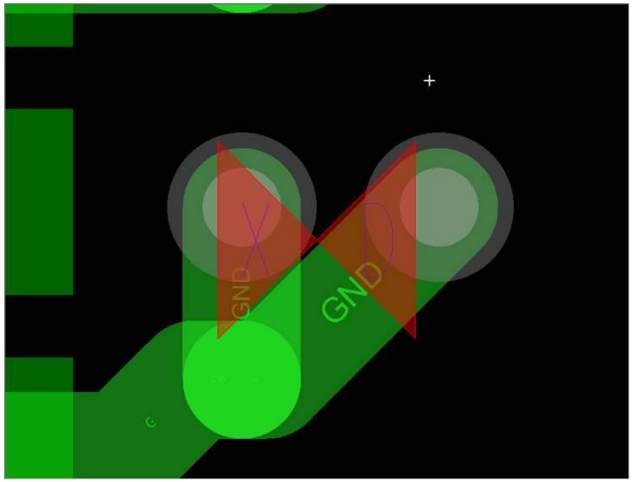
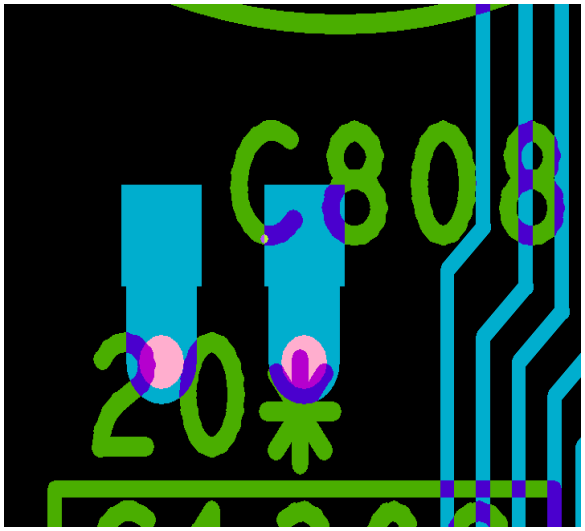
# Key Features

- Quickly locate defects that could result in PCB scrap
- Create and store checking routines for re-use on other designs
- Define areas to run differing analysis such as BGA areas on a standard board
- Validate the results with charting and crossprobing
- Annotate errors for sharing of information in a design group

# Identity DFF / DFM Issues

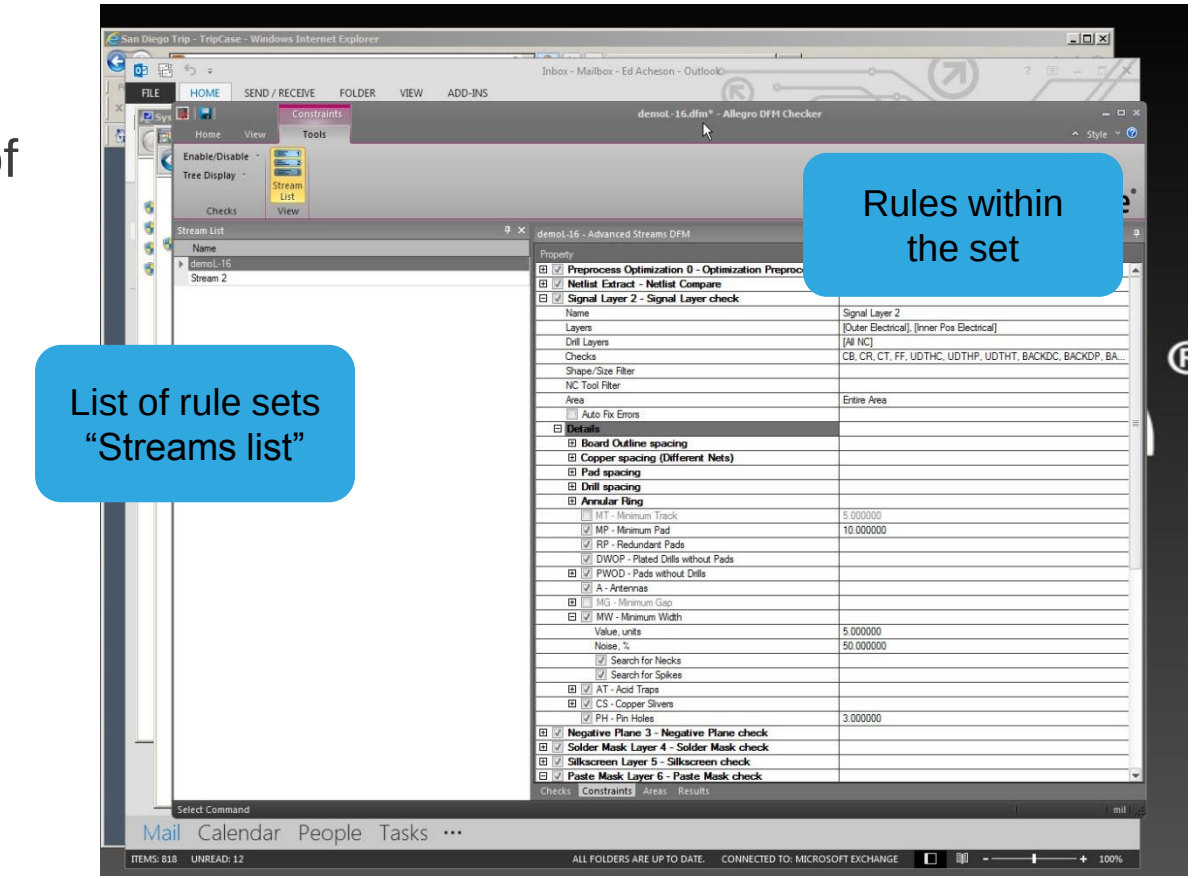
- Quickly locate and correct defects that could result in low manufacturing / assembly yields or scrap
  - Starved thermals
  - Acid traps / slivers
  - Missing traces
  - Incorrect drilling
  - Shorts resulting from layer merge



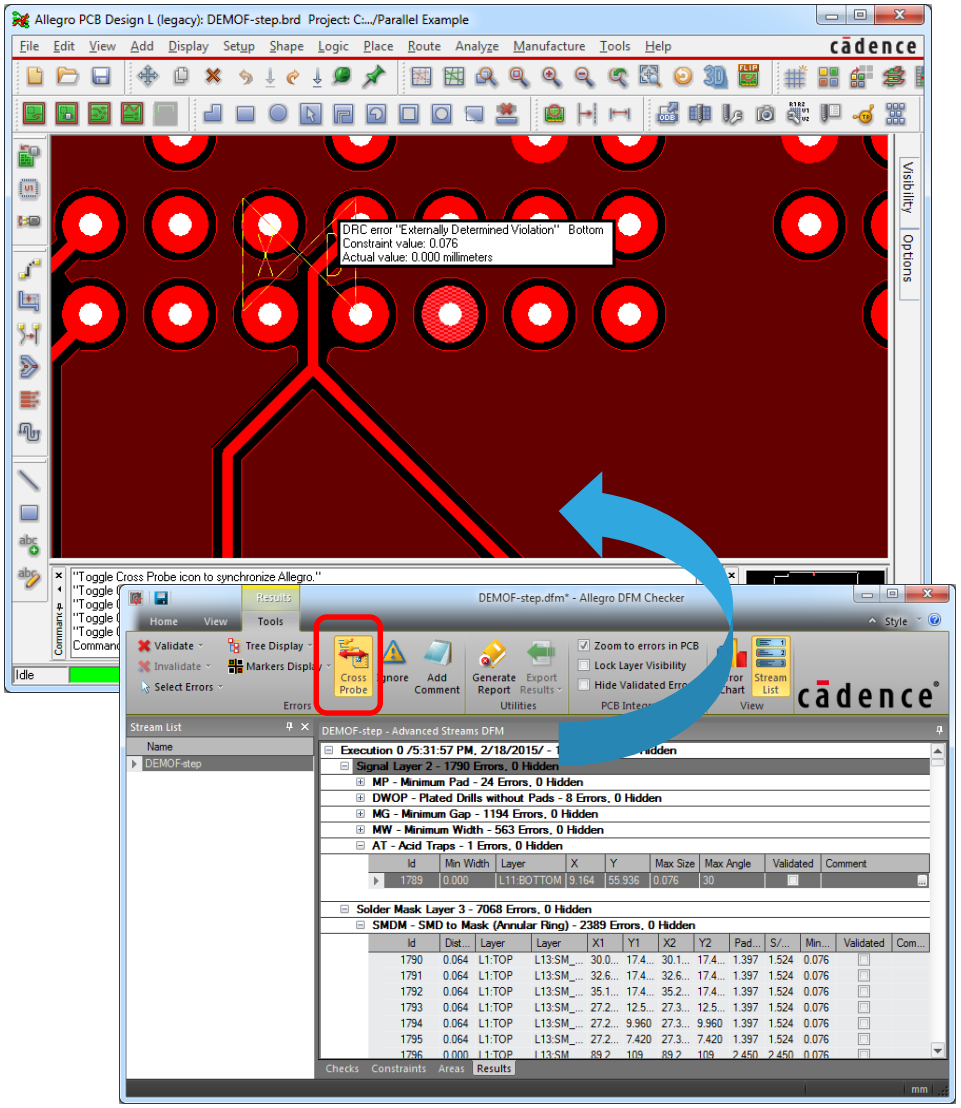
# Store and Reuse Checking Rule Sets

- Create rule sets that can be reused on other designs
  - Rule sets by types of designs
  - Rule sets by manufacturers capabilities

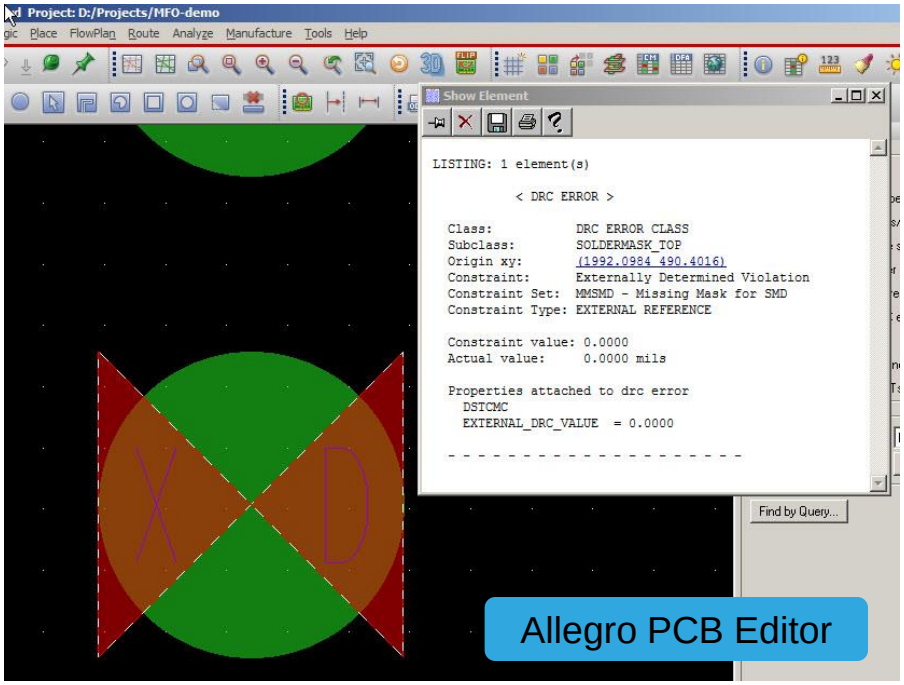


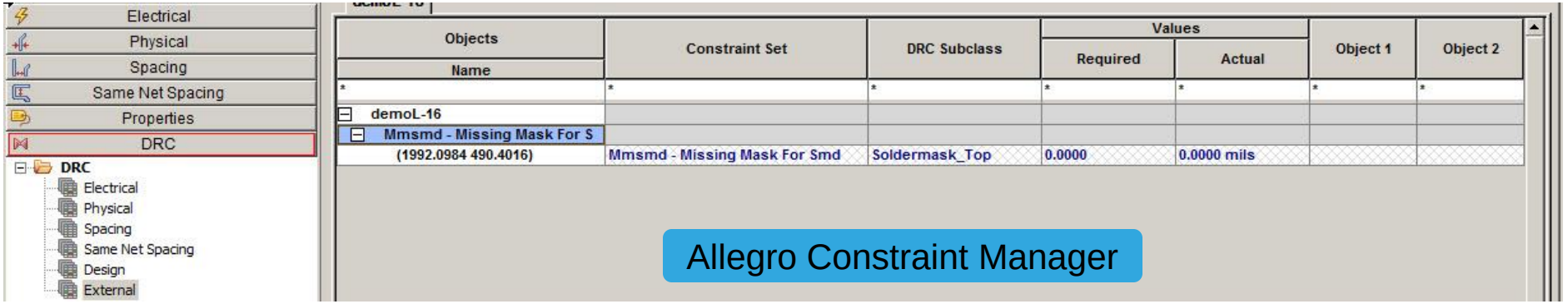
# Cross-probing between DFM checker and PCB Editor

- Constraints and constraint regions extracted by DFM Checker
- Automatically creates a default verification “stream”
  - From the layer structure, constraints and constraint regions
- DRC markers added into PCB Editor
  - Selection in the error lists in DFM Checker will zoom to the error location in PCB Editor
  - Details shown through tooltip in PCB Editor



# Missing mask in PCB Editor

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