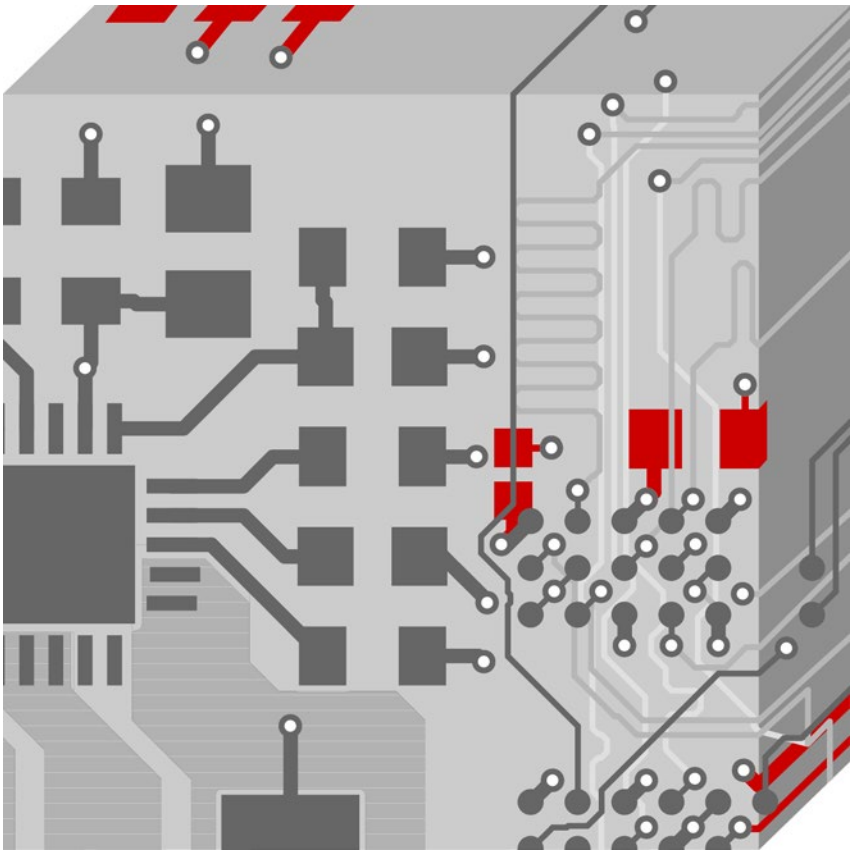
FlowCAD

Design for Fabrication Checks (DFF)



OrCAD / Allegro PCB Editor

Application Note | V2.0

FlowCAD

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1 Available Checks and Required License

A basic set of around 250 checks is available within all OrCAD / Allegro PCB Editor licenses.

The full-blown set of around 2500 checks is available within the Allegro Venture PCB Designer license.

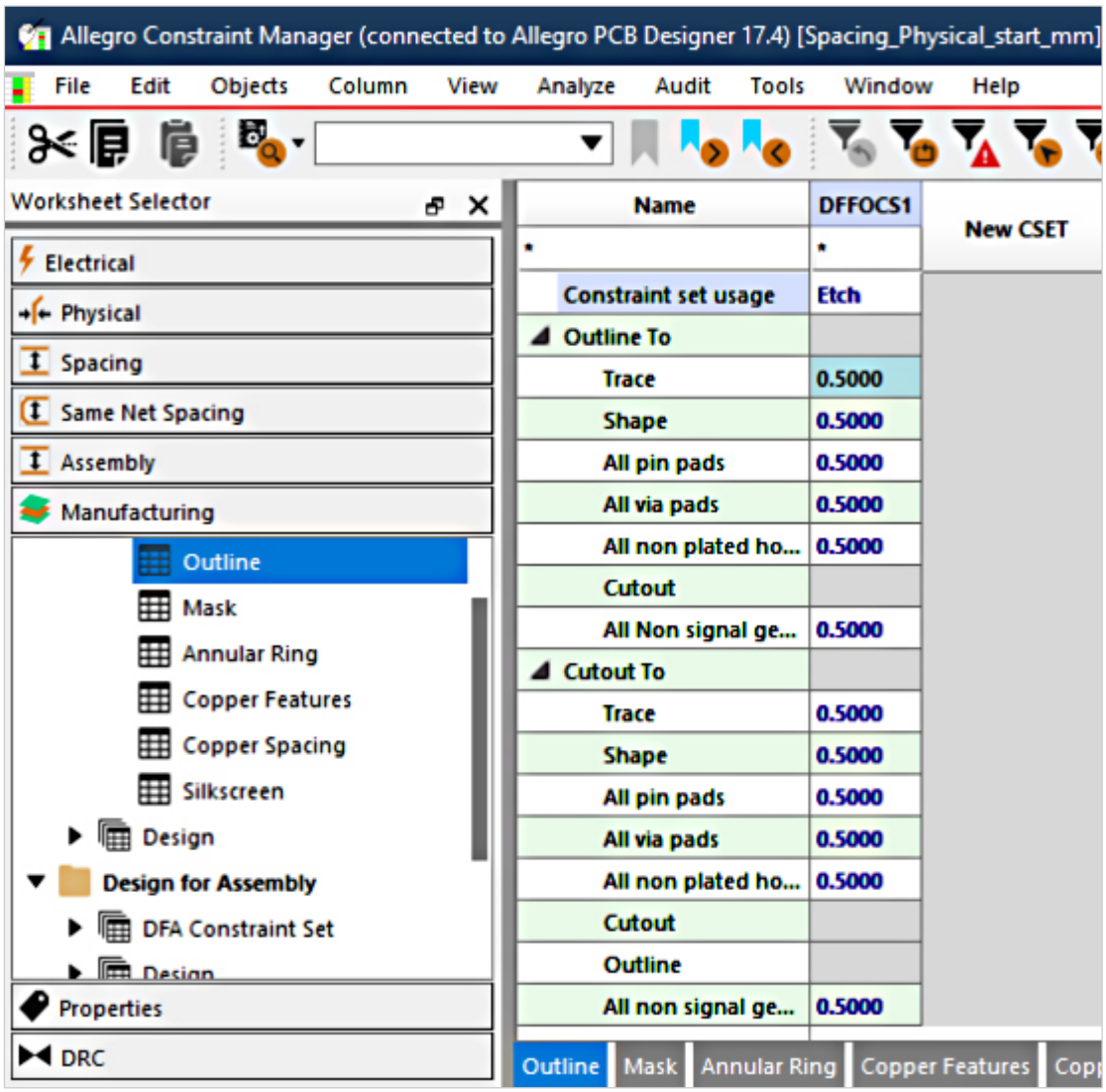
2 Rules Setup

Basic use model of the DFF check is the same as for other Constraints.

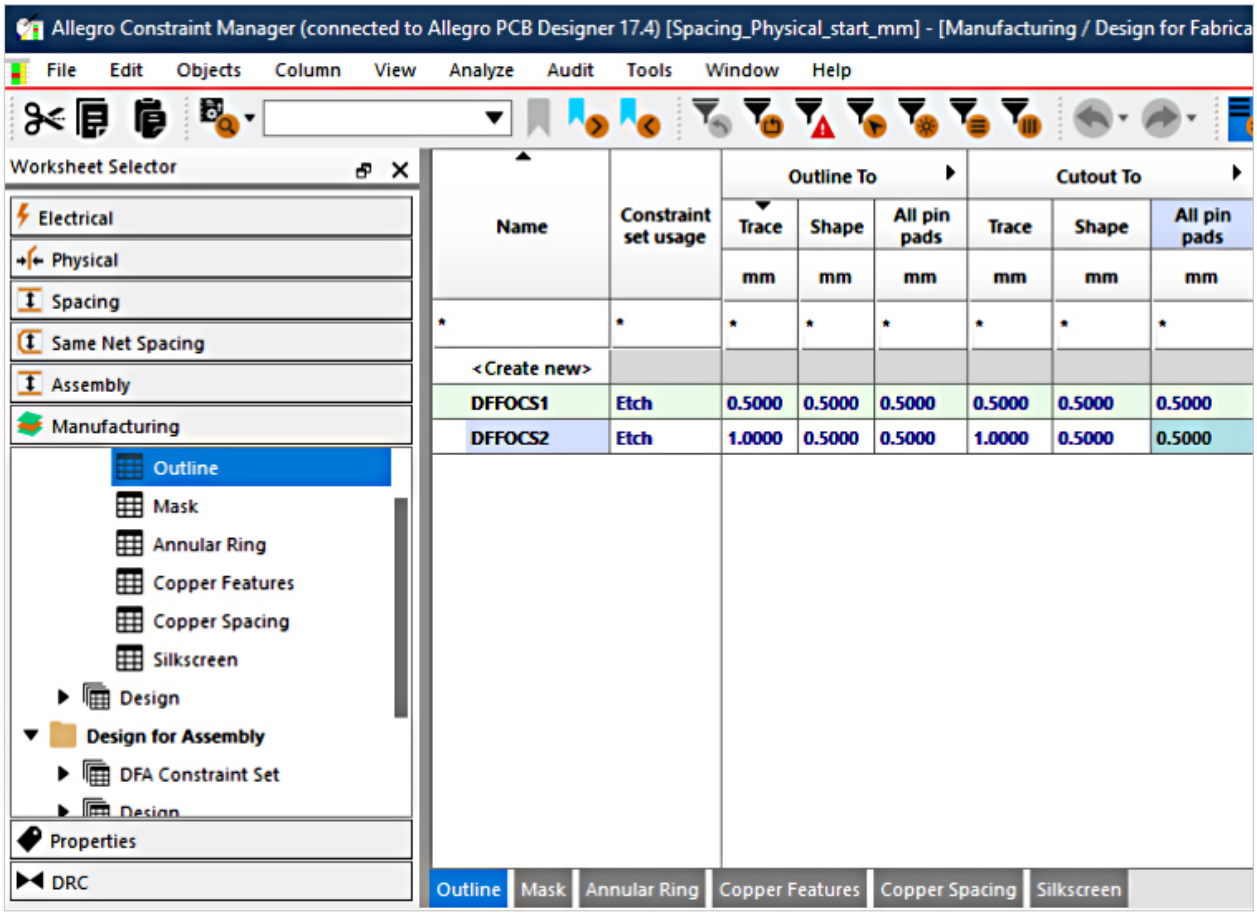
First the DFF checks are defined in the DFF Constraint Set section of the Manufacturing domain. Then the rules are applied to the design features.

To use the same look and feel like in the other Contraint Manager domains it is useful to change the view of the manufacturing constraints. To do this, **View / Transpose View** can be used.

Standard DFM look

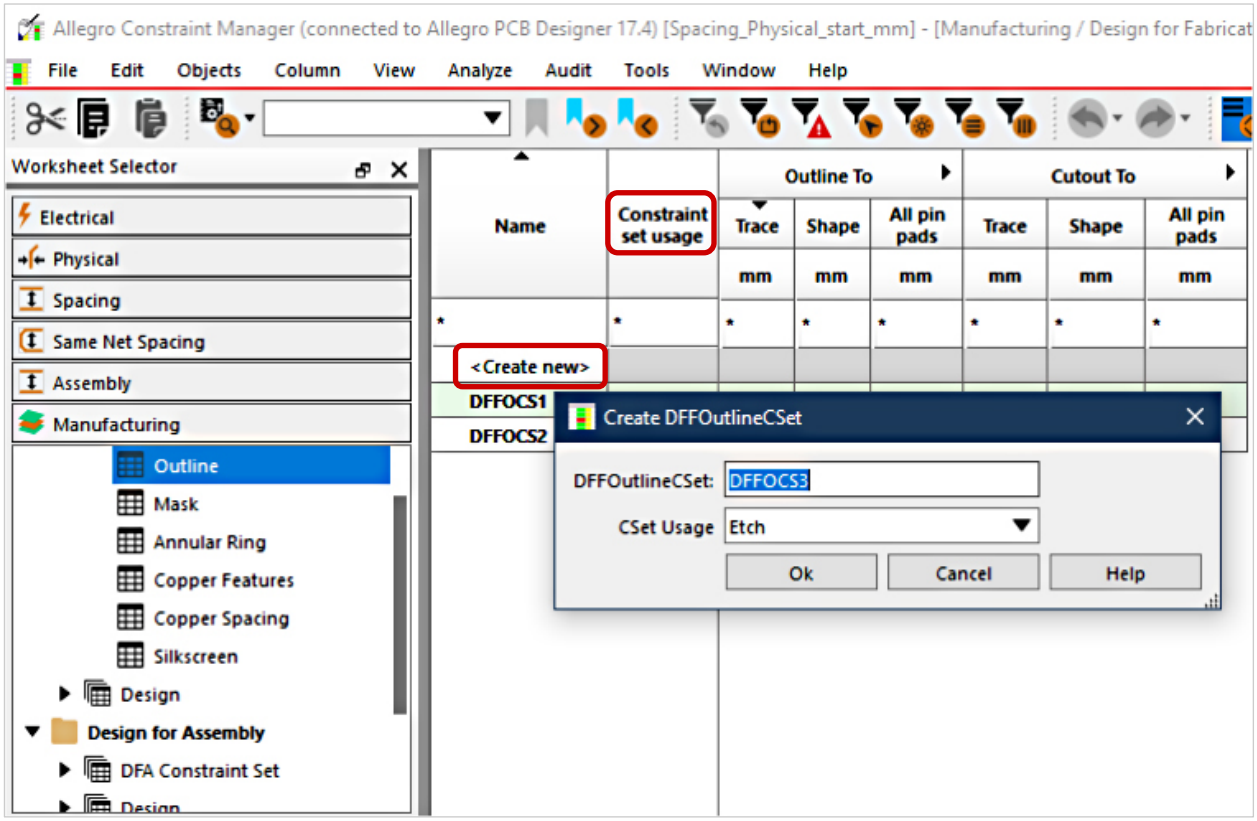


Transposed DFM look



In the Transposed View the usage of the manufacturing constraint is exactly the same as in other Constraint Manager domains.

In the Manufacturing rules domain new rules can be entered by using **Create New**.



Depending on the **Constraint set usage**, the right design features are enabled / disabled. Values can be entered for the enabled features.

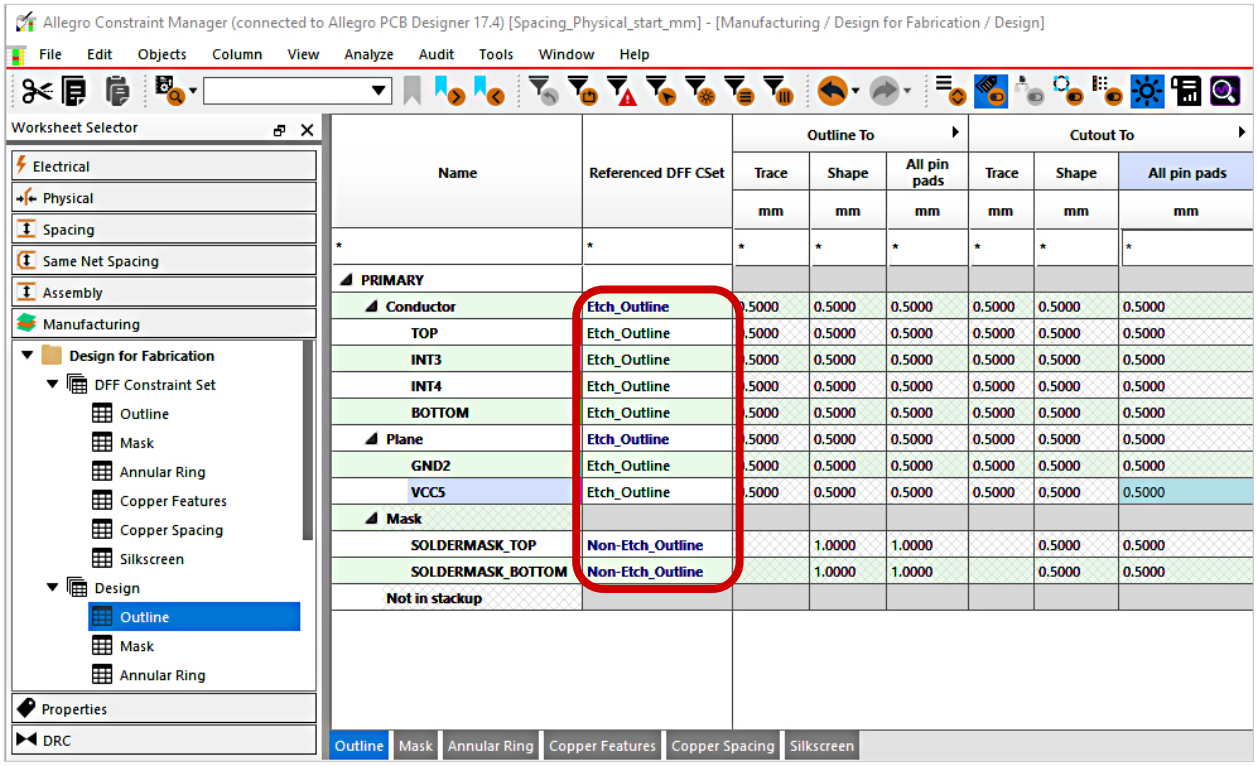
In this example, e.g. 0.5 mm has been defined for spacing between Board Outline and Trace, Shape and Pads.

For Board Outline to Non-Plated Holes 1mm has been set, and so on.

Name	Constraint set usage	Outline To							Cutout To		
		Trace	Shape	All pin pads	All via pads	All non plated holes	Cutout	All Non signal geometry	Trace	Shape	All pin pads
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
*	*	*	*	*	*	*	*	*	*	*	*
<Create new>											
CUTOUT_OUTLINE	Stackup						5.0000				
Etch_Outline	Etch	0.5000	0.5000	0.5000	0.5000	0.5000		0.5000	0.5000	0.5000	0.5000
Non-Etch_Outline	Non-Etch		1.0000	1.0000	1.0000	1.0000		1.0000		0.5000	0.5000

3 Appling Rules

To use the rules, the DFF Constraint sets have to be applied to the design features in the Design Domain section of the Manufacturing domain.

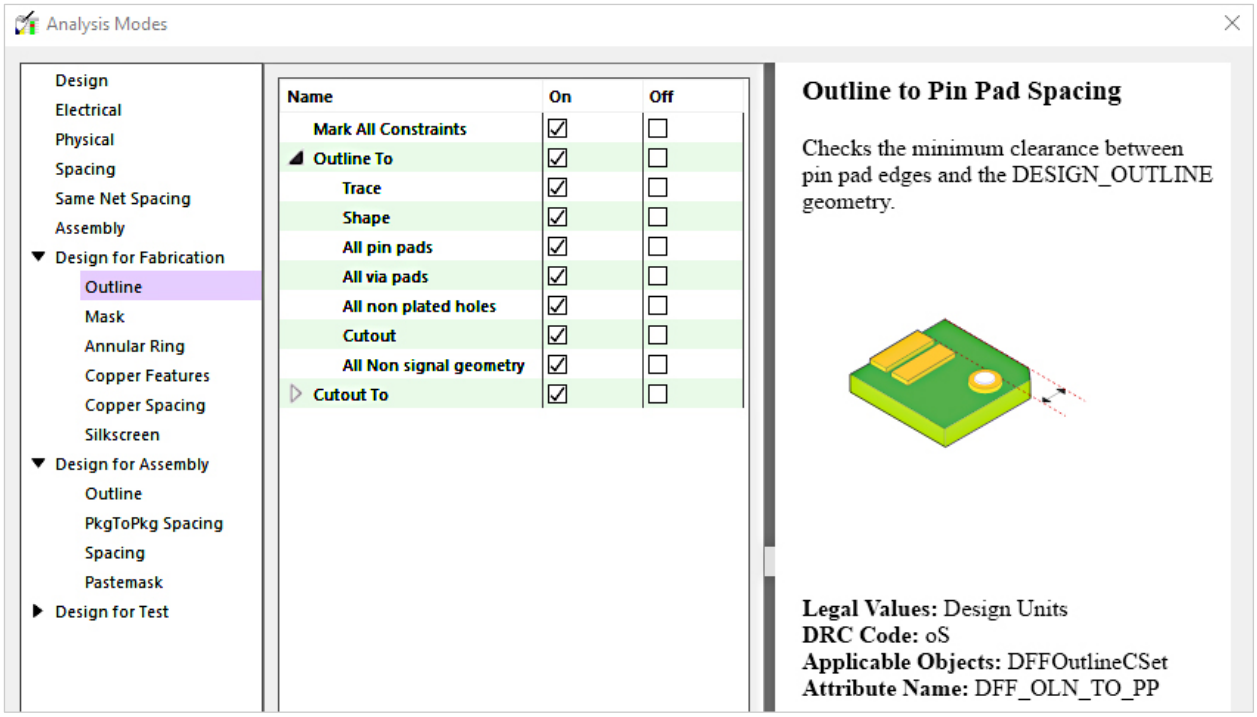


Note

In case of flex designs also the different zone of the design is available to applied different Constraint Sets.

4 Analysis Modes

The checks need to be enabled under **Setup > Constraints > Modes** in the **Design for Fabrication** Section.



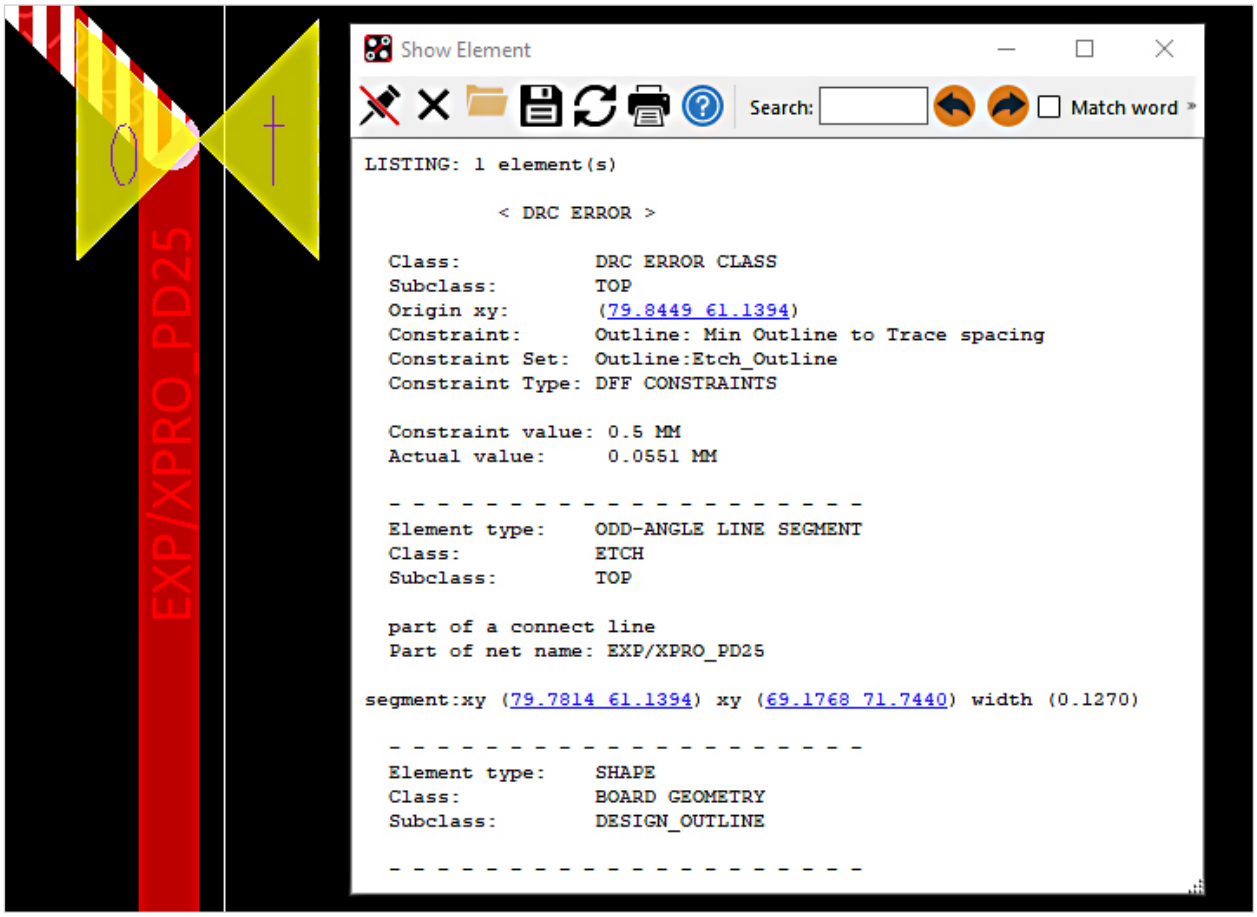
Remark

On the right side of the Analysis Modes UI, there are also hints available for the different checks.

5 DRC Reporting

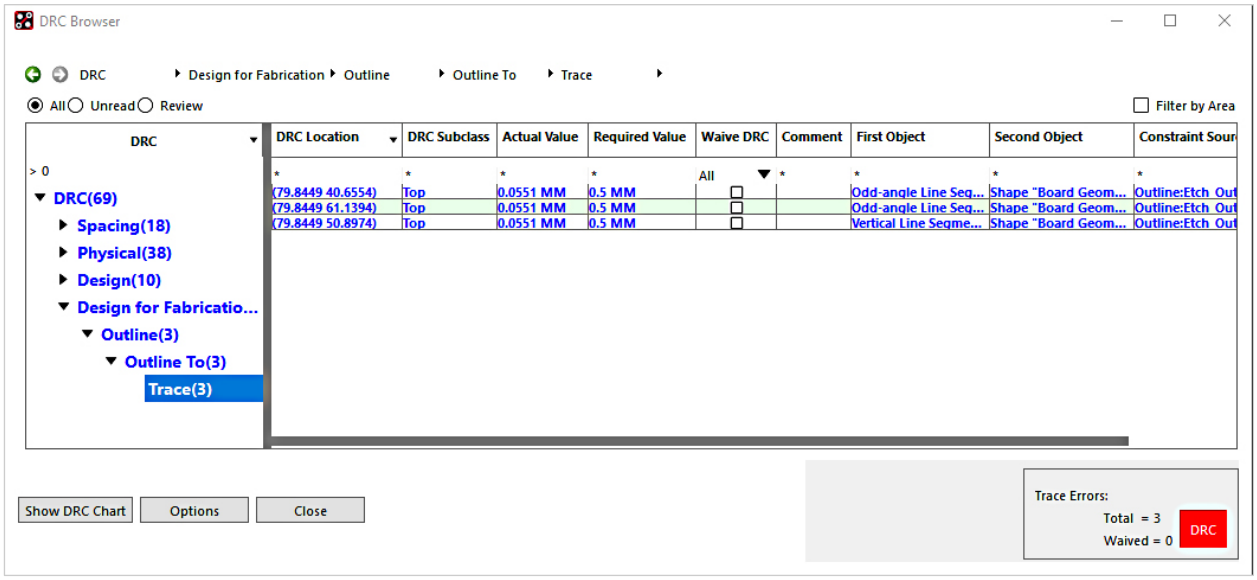
5.1 DRC Display on Canvas

In the design canvas the DRC are highlighted by error markers like other design rule violations.



5.2 DRC Browser

The DRC Browser under **Tool > DRC Browser** offers a good overview of design rule violations in the design. This is especially useful for reviews. In the DRC Browser it's also possible to waive DRCs.



6 Further Documentation

Further Documentation can be found in the » Cadence DFM Rules Guide.

7 More About

FlowCAD offers a webinar recording that informs about the requirements of PCB manufacturing, assembly and testing directly during PCB design. Learn how design loops and prototypes can be avoided by In-design DFM checks.

» Watch the FlowCAD Webinar in English language | in German language