DESIGN.
FABRICATION.
TESTING.

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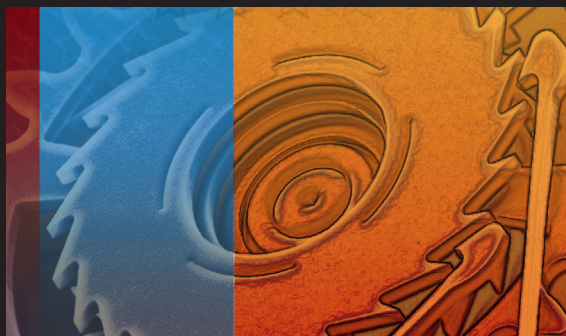
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SAMPLES Design Submission Requirements

As part of our SAMPLES program, Sandia provides MEMS Design Tools to help you mitigate potential design issues that could negatively impact your final product. These resources include the Design Rule Checker (DRC) and SNL Checkent.

DRC and SNL Checkent outputs will now be required to be included in every design submission package. We recommend that you run these checks often during the design process, and on each component or device, rather than waiting for full module assembly. This practice should help you avoid errors early on and save yourself time later when fixing those errors.

In order to submit your design for fabrication, you must be able to run your design through our online pre-submission checklist with **no errors**. This implies your final drawings have been successfully run through both the Design Rule Checker and SNL Checkent. If you encounter any errors or warnings, please contact drt@drc.sandia.gov to address these potential problems.

The only way your submission will be accepted if it did not pass the DRC and SNL Checkent is if requests for exceptions are included in the submission and approved. Consequences of non-compliances may include exclusion from a fabrication run, which ultimately delays the delivery of parts.

Folded Self-Intersecting Polygons

One error we frequently encounter in design submission is the presence of folded self-intersecting polygons. This type of error is created in AutoCAD when a poly line is drawn back over itself before closing the polygon. Folded self intersecting polygons result in GDS conversion errors that will interfere with the reticle (mask) manufacturing process. They are generally not visible to the designer and can only be detected with the Design Rule Checker (DRC).

When the DRC returns an ERR_GDSII_CUT result it indicates the presence of a folded self intersection polygon in your design. The orange highlighted suspect polygon must be evaluated with the Pedit AutoCAD command in order to determine the exact location of the folded poly line. After selecting the "edit vertex" then "next" options, a "X" marker will navigate from one vertex point to another around the polygon. When the marker moves twice between two vertex points you have identified the poly line causing the error.

Design Rule Check Result List		
Rule	Qty	Description
ERR_GDSII_CUT	1	GDSII conversion error in module drawing1

OK   Cancel

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