

# ADIVA MicroVia Checks

# Notice

Representations in this User Guide are meant as an overview and quick reference. Full details can be found in the On-Line manuals located at the *ADIVA Corporation* website - [www.adiva.com](http://www.adiva.com)

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# ADIVA MicroVia Checks

Running MicroVia checks in Adiva is a simple process of selecting a Custom Checking command file and letting it complete the defined checking process.

When checks are complete, a **Violation Checklist** will automatically appear reporting all checks that were run and their results. The comment section of the **Violation Checklist** will display the holes size or the range of hole size that was used for that particular check.

All **Violation Checklist** functionality is available as defined in the **Adiva DRC Check User Guide**.

# ADIVA MicroVia Checks

## Getting Started...

Contained in the default **c:\adiva\data** directory is a Custom\_Checking Command file **95-micro-via.mac** that pre-defines as an example what a typical MicroVia check may look like. This check command file is designed to run basic Annular Ring checks on all hole types except for vias.

The via annular ring checks are itemized to run on holes sizes 0.009 inches in diameter or smaller and on hole sizes 0.010 inches in diameter and higher. This way a user can define specific annular ring parameters for these different hole sizes.

These values can be adjusted and saved by the user to fit their personal checking environment.

An example of this check command file is shown on the next slide. Commands in **BOLD** are the itemized via commands. Notice they are itemized for layer type (outer, inner, plane) and for hole size.

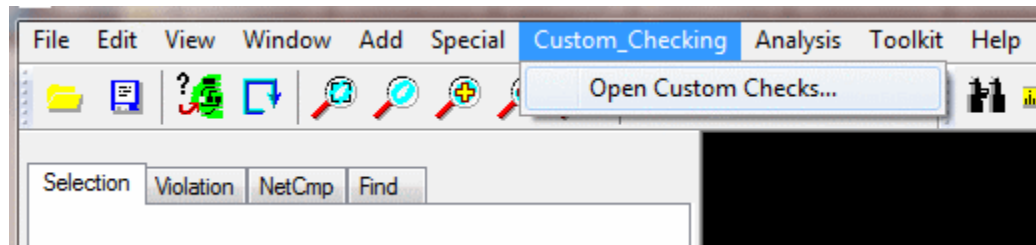
Adjust **check\_parameters** and **hole\_size\_ranges** to fit your situation. **Hole\_size\_range** where the min and max values are equal are equivalent to only the one hole size.

```
# Micro-Via Annular Ring Checking Command File - ADIVA Version 8.8+
#
LayerRect
PadStackResolution 4      # Sets check resolution accuracy to 1/4 mil
PadStackLayersOn        # Turns on all artwork layers for Annular Ring Analysis
#
### Basic Outer/Inner/Plane Layer Annular Ring ###
#
PadStackAnnRingOuterClassP 0.005000
PadStackAnnRingOuterClassOther 0.005000
PadStackAnnRingInnerClassP 0.004000
PadStackAnnRingInnerClassOther 0.004000
PadStackAnnRingPlaneClassP 0.004000
PadStackAnnRingPlaneClassOther 0.004000
#
# Set ranges for vias to pick up everything 0.010 in diameter and above
#
# <macro_name> <check_parameter> <min hole size> <max hole size>
#
PadStackAnnRingOuterClassV_R 0.005000 0.010 0.500
PadStackAnnRingInnerClassV_R 0.004000 0.010 0.500
PadStackAnnRingPlaneClassV_R 0.004000 0.010 0.500
#
### Micro-Via Annular Ring - 0.009 and below diameter ###
#
PadStackAnnRingOuterClassV_R 0.002000 0.000 0.009
PadStackAnnRingInnerClassV_R 0.002000 0.000 0.009
PadStackAnnRingPlaneClassV_R 0.002000 0.000 0.009
#
### Plane Anti-Pad Layer Annular Ring ###
#
PadStackCopperAndAntiPadCirToPth 0.015000
#
#
ViolSave padstk_uvia.vio  # saves a violation file containing the results from above
ShowViolChecklist        # opens the Violation Checklist
#
# END
```

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## Run the Check...

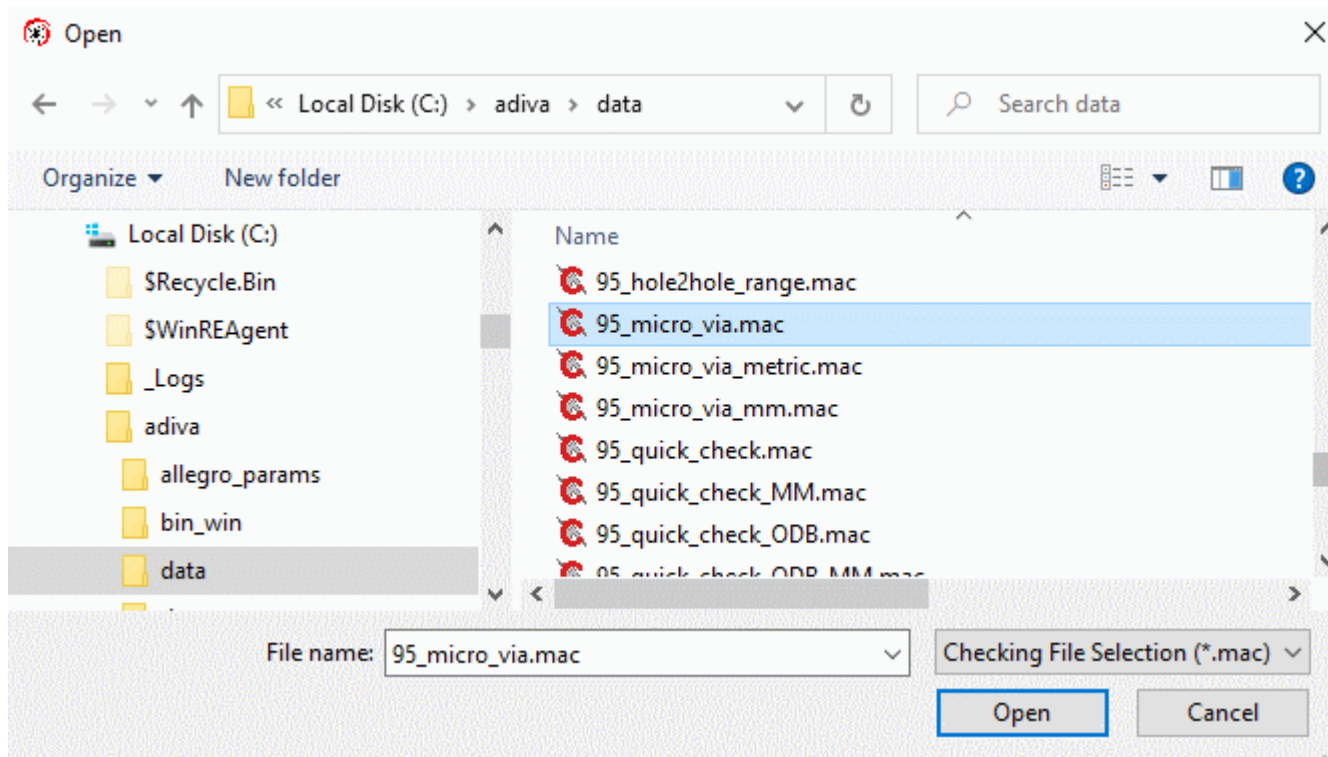
In the main Adiva GUI, select **Custom\_Checking** then **Open Custom Checks...**



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## Run the Check...

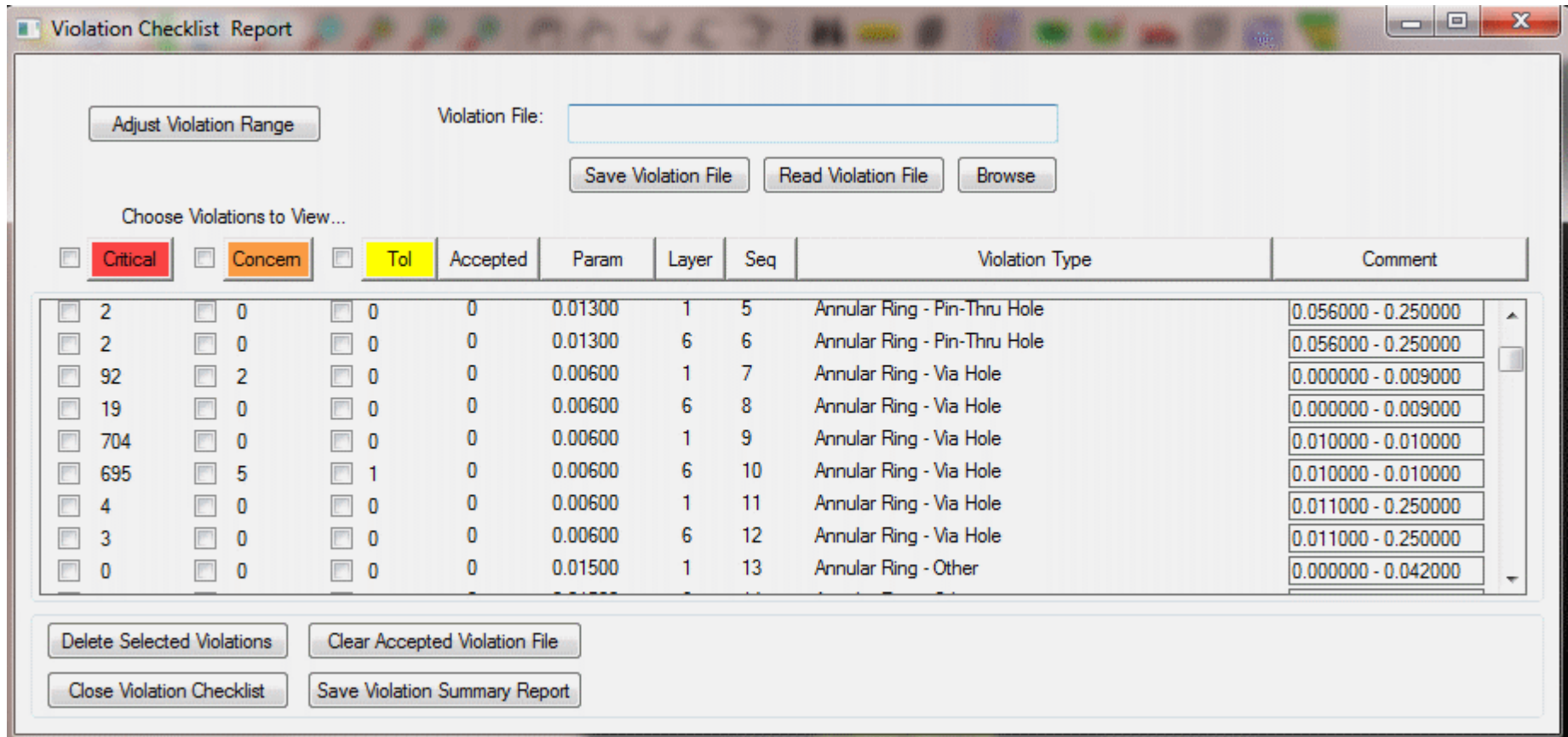
A File Open dialog will appear, choose **95\_micro\_via.mac** from Adiva's **c:\adiva\data** directory...



# ADIVA MicroVia Checks

## Run the Check...

The chosen command file will automatically begin and when it completes, the **Violation Checklist** will appear listing any violation found. The **Comment** column will reference the hole size range used by the particular check listed...



The screenshot shows a software window titled "Violation Checklist Report". At the top, there is a button "Adjust Violation Range" and a text field "Violation File:" with "Save Violation File", "Read Violation File", and "Browse" buttons below it. Below this is a section "Choose Violations to View..." with three radio buttons: "Critical" (selected), "Concern", and "Tol".

<input type="checkbox"/>	Critical	<input type="checkbox"/>	Concern	<input type="checkbox"/>	Tol	Accepted	Param	Layer	Seq	Violation Type	Comment
<input type="checkbox"/>	2	<input type="checkbox"/>	0	<input type="checkbox"/>	0	0	0.01300	1	5	Annular Ring - Pin-Thru Hole	0.056000 - 0.250000
<input type="checkbox"/>	2	<input type="checkbox"/>	0	<input type="checkbox"/>	0	0	0.01300	6	6	Annular Ring - Pin-Thru Hole	0.056000 - 0.250000
<input type="checkbox"/>	92	<input type="checkbox"/>	2	<input type="checkbox"/>	0	0	0.00600	1	7	Annular Ring - Via Hole	0.000000 - 0.009000
<input type="checkbox"/>	19	<input type="checkbox"/>	0	<input type="checkbox"/>	0	0	0.00600	6	8	Annular Ring - Via Hole	0.000000 - 0.009000
<input type="checkbox"/>	704	<input type="checkbox"/>	0	<input type="checkbox"/>	0	0	0.00600	1	9	Annular Ring - Via Hole	0.010000 - 0.010000
<input type="checkbox"/>	695	<input type="checkbox"/>	5	<input type="checkbox"/>	1	0	0.00600	6	10	Annular Ring - Via Hole	0.010000 - 0.010000
<input type="checkbox"/>	4	<input type="checkbox"/>	0	<input type="checkbox"/>	0	0	0.00600	1	11	Annular Ring - Via Hole	0.011000 - 0.250000
<input type="checkbox"/>	3	<input type="checkbox"/>	0	<input type="checkbox"/>	0	0	0.00600	6	12	Annular Ring - Via Hole	0.011000 - 0.250000
<input type="checkbox"/>	0	<input type="checkbox"/>	0	<input type="checkbox"/>	0	0	0.01500	1	13	Annular Ring - Other	0.000000 - 0.042000

At the bottom of the window, there are four buttons: "Delete Selected Violations", "Clear Accepted Violation File", "Close Violation Checklist", and "Save Violation Summary Report".

Operate the **Violation Checklist** as defined in the **Adiva DRC Check Guide**



# END

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