

Capability Analysis for Multiple Responses

This guide provides instructions on performing a process capability analysis for multiple continuous process variables simultaneously. This platform produces a set of reports and graphs that are designed to compare the performance of the different process variables to each other.

The Capability Analysis Dialog

1. From an open JMP® data table, select **Analyze > Quality and Process > Process Capability**.
2. Select one or more continuous variables from **Select Columns** (continuous variables have blue triangles), click **Y, Process**, and click **OK**.

If specification limits have not been entered as a column property for each of the measures, or if there is an error, you will receive an error window. Click **OK**. The resulting window allows you to correct specification limits or select a data table with the limits stored.

Additional Options:

- To skip the spec limits dialog, click **No (skip columns with no spec limits)** under **Show Spec Limits** in the opening **Dialog Box**.
- To specify subgroupings use **Process Subgrouping**.
- To specify sigma use **Historical Information**.
- To perform capability studies for nonnormal data use **Distribution Options**.

The Process Capability Analysis Report

JMP produces three graphical summaries of the capability of each measure. For these graphs, measures have been standardized to the spec limits.

- **Goal Plot:** Measures with a Ppk > 1.0 are plotted inside the triangle, and measures with a Ppk < 1.0 are plotted outside the triangle. The position of each point relative to the axes provides information on spread (y-axis) and centering (x-axis) of each measure relative to the spec limits. Choose **Shade Levels** under **Red Triangles** to add color.
- **Capability Box Plots:** Box plots for each variable.
- **Capability Index Plot:** The Ppk of each point.

Notes: Use the sliders to change the cutoff for acceptable Ppk. Additional options, such as **Individual Detail Reports** and **Summary Reports**, are available from the top red triangle menu.

Visit **Quality and Process Methods > Process Capability** in **JMP Help** to learn more.

Semiconductor Capability.jmp (Help > Sample Data Folder)

