



SIEMENS EDA

# ODB++ Viewer User Guide

Cadence® Allegro® Edition

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# Chapter 1

## ODB++ Viewer

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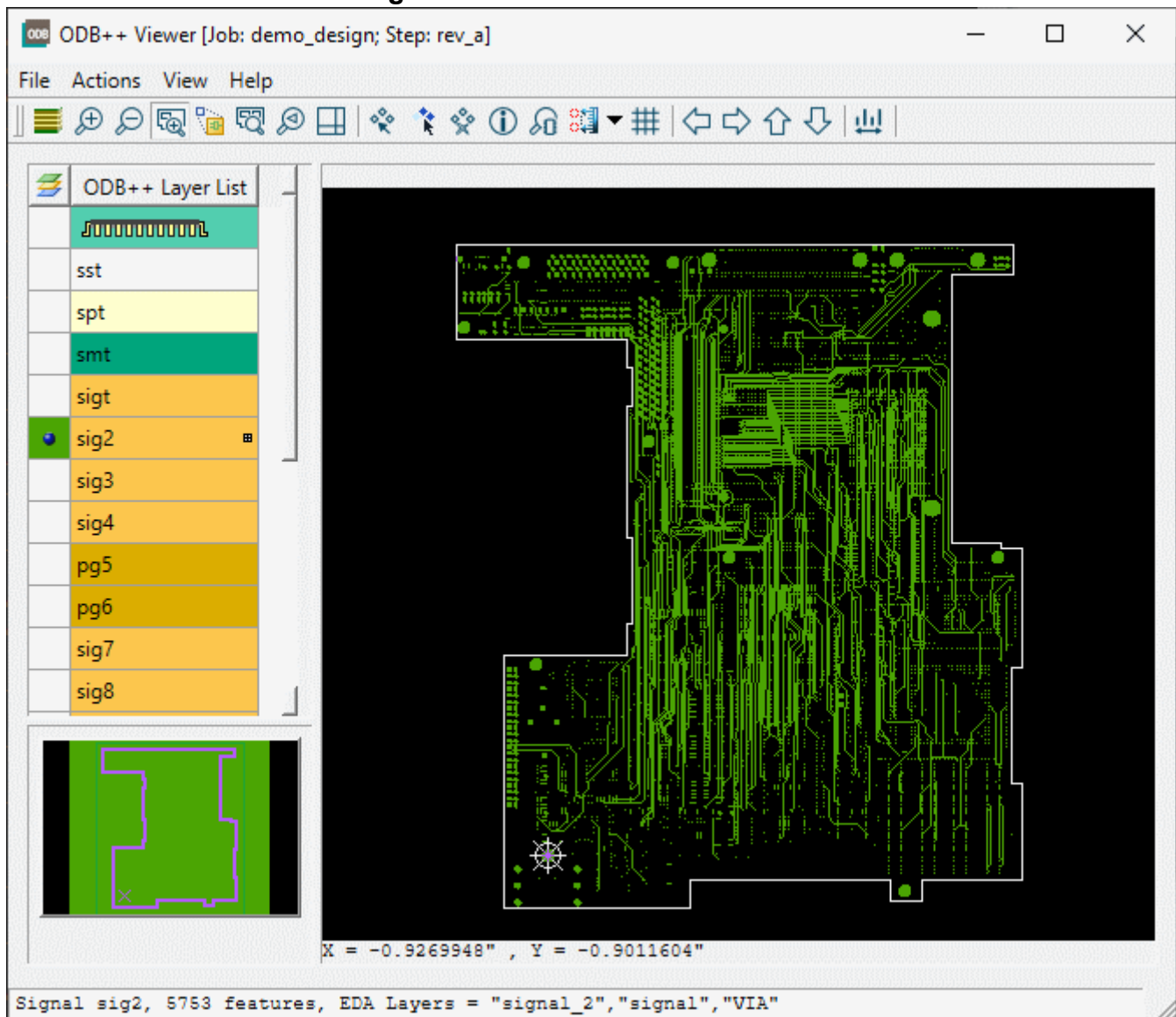
You can use ODB++ Viewer to examine the step of a product model that is stored in an ODB++Design directory structure.

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## ODB++ Viewer Window

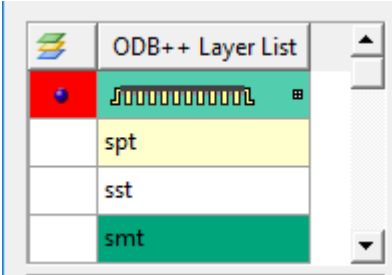

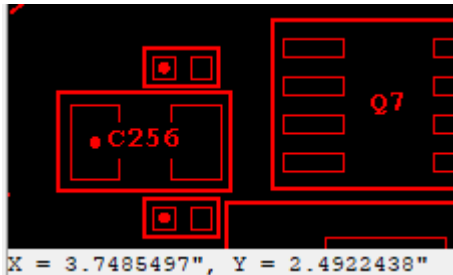
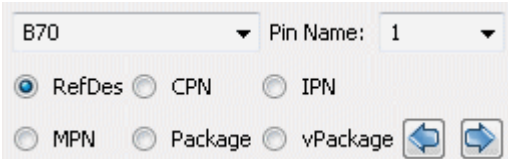



You use the ODB++ Viewer to view the graphic of the product model step, and information about the layers of the step.

Figure 1-1. ODB++ Viewer Window



## Objects

**Table 1-1. ODB++ Viewer Window - Panes**

Pane	Description
<p>ODB++ Layer List</p> 	<p>Used to choose layers to be displayed in the board viewer.</p> <p>The color of the cell in the layer column () indicates the color in which the layer is displayed.</p> <p>You can use the feature histogram or the component histogram of a layer to highlight groups of entities in the graphic area.</p> <p>See <a href="#">“Using the Features Histogram to Select or Highlight Features”</a> and <a href="#">“Using the Components Histogram to Select or Highlight Components”</a> in <i>Getting Started With ODB++ Design</i>.</p>
<p>Board Viewer pane</p> 	<p>Displays the graphic representation of the chosen layers.</p> <p>The X and Y coordinates of the current mouse pointer position are displayed below the graphic.</p>
<p>Component Filter</p> 	<p>To display this pane, choose <b>View &gt; Component Filter</b> or click the <b>Component Filter</b> tool () .</p> <p>See <a href="#">Using the Component Filter Pane to Find Components</a>” in <i>Getting Started With ODB++ Design</i>.</p>
<p>Overview pane</p> 	<p>Use the <b>Zoom area</b> tool () to drag a rectangle in this pane, or in the board viewer, to zoom to that area in the board viewer.</p>



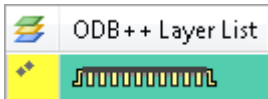
**Table 1-1. ODB++ Viewer Window - Panes (cont.)**

Pane	Description
<p>Data bar</p> <pre>Highlighted: 119; BOT #41 TP106 Part: ??? Pkg: TP30 BOT 1 Pins X=3.162 Y=-2.377 L=0.075 W=0.075 H=0 Rot=0.0 T= P=0</pre>	<p>The data bar at the bottom of the window displays information about highlighted features or components.</p> <p>When multiple features or components are highlighted by double-click, the number of highlighted features or components is prefixed to the details of the first feature or component.</p>

**Table 1-2. ODB++ Viewer Window - File Menu Options**


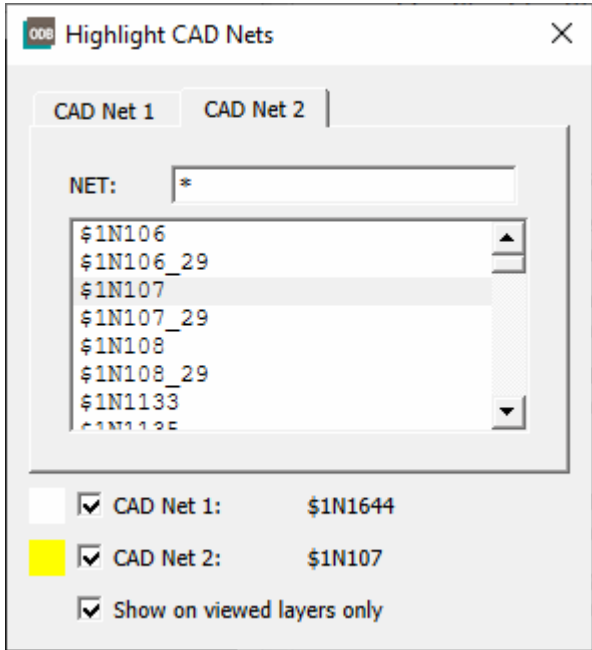





Tool	File Menu Option	Description
-	Open Job	Opens the Product Model List dialog box so you can open a product model whose steps you want to view.
-	Open Step	Lists the steps of the current product model, so you can open the step you want to view. This option is unavailable if the product model has only one step.
-	Exit	Exit the ODB++ Viewer.

**Table 1-3. ODB++ Viewer Window - Actions Menu Options**

Tool	Actions Menu Option	Description
-	View Orientation	Open the “ <a href="#">View Orientation</a> ” dialog box that enables you to rotate, mirror, or flip the board view.
 	Highlight Highlight-2	<p>Click the tool and click a feature to be highlighted in the colors set for Highlighted and Highlighted-2.</p> <p>A symbol in the Color of features for each layer column of the ODB++ Layer List indicates whether one or two features are highlighted on the layer.</p> 




**Table 1-3. ODB++ Viewer Window - Actions Menu Options (cont.)**

Tool	Actions Menu Option	Description
	Highlight NET	<p>Open the Highlight CAD Nets dialog box in which you can use two tabs to highlight CAD nets in two different colors.</p> <p>Choose a tab and select a CAD net to be highlighted, or press Shift or Ctrl to select multiple nets.</p> <p>The legend lists the names of the selected nets separated by semi-colons (;). The color in which the selected nets are displayed is indicated.</p>  <p>To view the features of the highlighted net on the currently displayed layers only, select the option “Show on viewed layers only”.</p>
	Clear Highlighted	Clear highlighting applied using Highlight or Highlight-2.
   	Measure Between Points Measure Between Features Measure Between Nets Measure Annular Rings	<p>Opens a sub-menu where you can choose whether to measure between points, features, nets, or annular rings.</p> <p>See “<a href="#">Measuring Distances</a>” in <i>Getting Started With ODB++ Design</i>.</p>




**Table 1-3. ODB++ Viewer Window - Actions Menu Options (cont.)**

Tool	Actions Menu Option	Description
	Snap	Open the <a href="#">Snap</a> dialog box in which you can define snap and grid options.

**Table 1-4. ODB++ Viewer Window - View Menu Options**

Tool	View Menu Option	Description
-	Step & Repeat Table	See “ <a href="#">Viewing the Step and Repeat Table</a> ” on page 14.
	Matrix	Opens the “ <a href="#">Matrix</a> ” window displaying the layer construction, layer types and subtypes, polarity, drill intersection with board layers (for drilled via holes), and sub-panel nesting.
	Zoom In, Zoom Out	Zoom in or zoom out.
	Zoom Area	Invoke the zoom area tool for drawing a zoom rectangle in the board viewer or overview pane.
	Zoom PopView	Display a magnified view of a section of the board. You can open more than one popview window at the same time. See “ <a href="#">Zooming and Panning</a> ” in <i>Getting Started With ODB++ Design</i> .
	Zoom Home	Zoom to a view that fits the board in the graphic area.
	Previous Zoom	Returns to the zoom factor that was in effect before the most recent zoom action.
	Pan XY	Open the Pan XY dialog box.  Type the X and Y coordinates to be brought to the center of the graphic area and click <b>Goto</b> .
	Pan Left, Pan Right, Pan Up, Pan Down	Pan left, right, up, or down. (shortcuts: keyboard arrow keys).


**Table 1-4. ODB++ Viewer Window - View Menu Options (cont.)**

Tool	View Menu Option	Description
	View Properties	Open the “ <a href="#">Component Information</a> ” or “ <a href="#">Feature Information</a> ” dialog box to view detailed information about the selected item.
	Component Filter	Open the component filter pane. See “ <a href="#">Using the Component Filter Pane to Find Components</a> ” in <i>Getting Started With ODB++ Design</i> .
	Color Settings	Open the “ <a href="#">Colors</a> ” dialog box that enables you to set colors for displaying items in the graphic area.
-	Component Options	Open the “ <a href="#">Component Display Options</a> ” dialog box that enables you to configure some aspects of how components are displayed in component layers.
-	Show Populated Components Only / Show All Components	Toggle between showing all components and showing only populated components.
-	Control	Open the “ <a href="#">Control</a> ” dialog box that enables you to control the display of data in the graphic area.





**Table 1-5. ODB++ Viewer Window - Help Menu Options**

Tool	View Menu Option	Description
-	View Help	Opens documentation for the ODB++ Viewer. (shortcut: F1)
-	About	Displays ODB++ Viewer version and system information.


**Table 1-6. ODB++ Viewer Window - Board Viewer Right-Click Menu Options**

Option	Description
Zoom area	Invokes the zoom area tool so you can drag a zoom rectangle in the board viewer pane or overview pane. Equivalent to clicking the <b>Zoom Area</b> (  ) tool.
Popview	Display a magnified view of a section of the board. You can open more than one popview window at the same time. See “ <a href="#">Zooming and Panning</a> ” in <i>Getting Started With ODB++ Design</i> .





**Table 1-6. ODB++ Viewer Window - Board Viewer Right-Click Menu Options**

Option	Description
Measure	<p>Invokes the measure tool so you can measure the distance between two points.</p> <p>Equivalent to clicking the <b>Measure</b> (  ) tool.</p> <p>See “<a href="#">Measuring Distances</a>” in <i>Getting Started With ODB++ Design</i>.</p>
Highlight	<p>Invokes the highlight tool so you can highlight a feature or component.</p> <p>Equivalent to clicking the <b>Highlight a feature or a component</b> (  ) tool.</p>
Clear highlighted	<p>Clears all highlighted features and components.</p> <p>Equivalent to clicking the <b>Clear Highlighted</b> (  ) tool.</p>
Toggle pile-up selection	<p>Overlapping features make it difficult to choose an individual feature from among them. Pile-up selection mode provides a list of overlapping features that are at the board location at which you clicked, from which you can choose the feature you want.</p> 


**Table 1-7. ODB++ Viewer Window - Board Viewer Shortcuts**

Shortcut	Description
Ctrl+a	Invokes the Zoom area tool for one actuation. After you have dragged a rectangle in the board viewer pane or in the overview pane, the tool that was previously in effect is in effect.
Ctrl+d down arrow	Pan down with 90% overlap.
Ctrl+e	Click on the board graphic and press Ctrl+e to pan the board viewer pane to center that point in the pane.
Ctrl+h Ctrl+Home	Zooms to a view that fits the entire board in the graphic area.
Ctrl+i Page Up	Zooms in. Equivalent to clicking the <b>Zoom In</b> tool (  ).


**Table 1-7. ODB++ Viewer Window - Board Viewer Shortcuts (cont.)**

Shortcut	Description
Ctrl+l left arrow	Pan left with 90% overlap.
Ctrl+m	Toggles between a four layer display and more than four layers.
Ctrl+o Page Down	Zooms out. Equivalent to clicking the <b>Zoom Out</b> tool (  ).
Ctrl+r right arrow	Pan right with 90% overlap.
Ctrl+Shift+d Shift+down arrow	Pan down with 10% overlap.
Ctrl+Shift+l Shift+left arrow	Pan left with 10% overlap.
Ctrl+Shift+r Shift+right arrow	Pan right with 10% overlap.
Ctrl+Shift+Space	Returns to the zoomed display in memory after zooming other areas.
Ctrl+Shift+u Shift+up arrow	Pan up with 10% overlap.
Ctrl+Space	Copies the current zoomed display to memory.
Ctrl+u up arrow	Pan up with 90% overlap.
Ctrl+w	Toggles the view of features among these modes: <div>  , outline  , or width off  </div>

**Table 1-7. ODB++ Viewer Window - Board Viewer Shortcuts (cont.)**

Shortcut	Description
middle-click	The middle button can be used for these pan and zoom functions: <ul style="list-style-type: none"><li>• <b>Center in Graphic Area</b> — Middle-click a point in the graphic area. The click point is panned to the center of the graphic area.</li><li>• <b>Zoom Out</b> — With the middle button, drag a diagonal up and to the right, ending at the point you want in the center of the graphic area.</li><li>• <b>Zoom In</b> — With the middle button, drag a diagonal down and to the left, ending at the point you want in the center of the graphic area.</li><li>• <b>Zoom to Area</b> — With the middle button, drag a diagonal down and to the right, so that the start and end of the line you drag define a rectangular area to which you want to zoom.</li><li>• <b>Zoom Home</b> — With the middle button, drag a diagonal up and to the left. The view zooms so that the whole board is displayed centered in the graphic area.</li></ul>
Shift+Home	Zooms to a view that fits the highlighted component in the board area. Equivalent to clicking the <b>Zoom Home</b> tool (  )

### Usage Notes

- Click one or more layers in the ODB++ Layer List to display them in the board viewer.
- To use the board viewer shortcuts, you must place the mouse pointer in the board viewer pane.
- Click the **Toggle Units** tool () on the toolbar to toggle the measurement units displayed in the X and Y coordinates under the board viewer, and for the Measure tool, between inches and mm.

## Viewing the Step and Repeat Table

If your product model contains step and repeat data, you can view panelization information in the Step & Repeat Table dialog box.

## Procedure

1. Choose **View > Step & Repeat Table**.

Step	Anchor Point	Nx	Ny	Dx (\" )	Dy (\" )	Angle	Flip
12	0.000000 , 0.000000	1	4	0.000000	0.000000	270	No
pcb	0.000000 , 0.000000	1	4	0.000000	0.000000	90	Yes
New step :	0.000000 , 0.000000	1	1	0.000000	0.000000	0	No

Close

2. View the panelization information in the table:

Column	Description
Step	Name of the step.
Anchor Point	Anchor point of the step.
Nx, Ny	Number of steps in the X and Y directions.
Dx, Dy	Distance between steps in the X and Y directions, in the indicated units of measure.
Angle	Rotation angle for the step inside the panel.
Flip	Indication of whether the step is flipped about the Y-axis.

