# Creating and Modifying 'Mask Layouts' for Sensor Designs

Please refer to the 'mask layouts' of our sensor designs as a starting point. They have been provided as image templates.

1. Decide on the largest and/or most common/prevalent *resolution* λ_{macro} expected for the mask layout. For example, 1 mm for most design features.

2. Estimate the bounding size of the mask layout. For example, layout height H_{layout} = sensor width = 25 mm, layout width W_{layout} = sensor length = 45 mm.

3. Using image editing software, create an image of height $H_{layout} / \lambda_{macro}$ pixels and width $W_{layout} / \lambda_{macro}$ pixels. Set its *image resolution* to $1 / \lambda_{macro}$ pixels, for reference. Keep in mind the software units. For example:
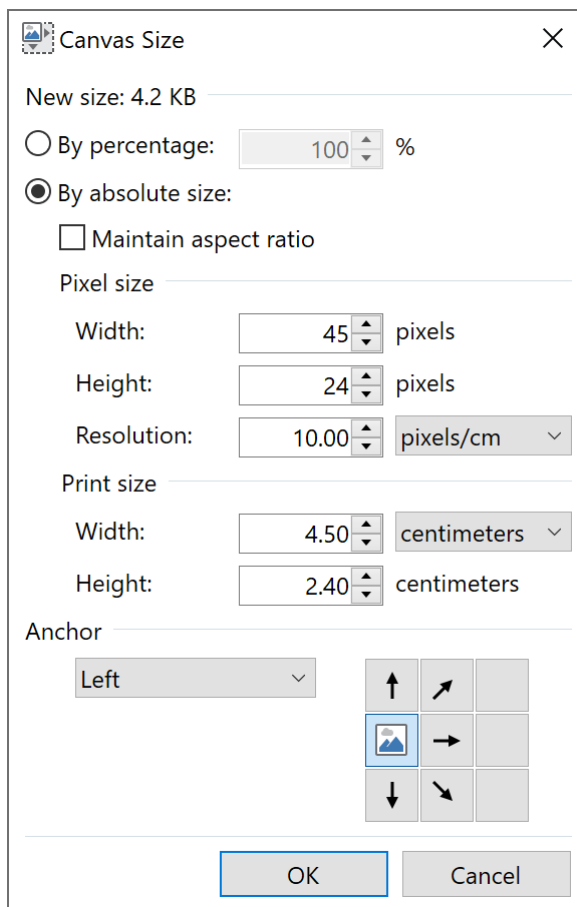
4. Enable the pixel grid and rulers, if available. Using the grid will make the mask layout easier to draw.

▦	Pixel grid
⌐	Rulers
✓	Pixels
	Inches
	Centimeters
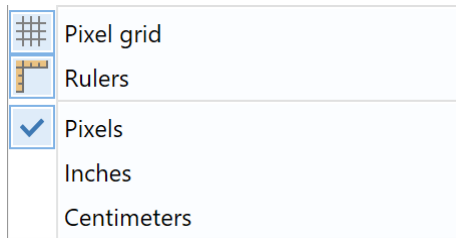
5. On a pixel scale, create the largest design features (of resolution λ_{macro}, that is) first. For example:

6. Resize the image to be of height $H_{layout} / \lambda_{micro}$ pixels and width $W_{layout} / \lambda_{micro}$ pixels, where λ_{micro} is the smallest underlying resolution. Update its *image resolution* to $1 / \lambda_{micro}$ pixels, for reference, again. Keep in mind the software units. Use the *nearest neighbor* resampling method and maintain the *aspect ratio*. For example:
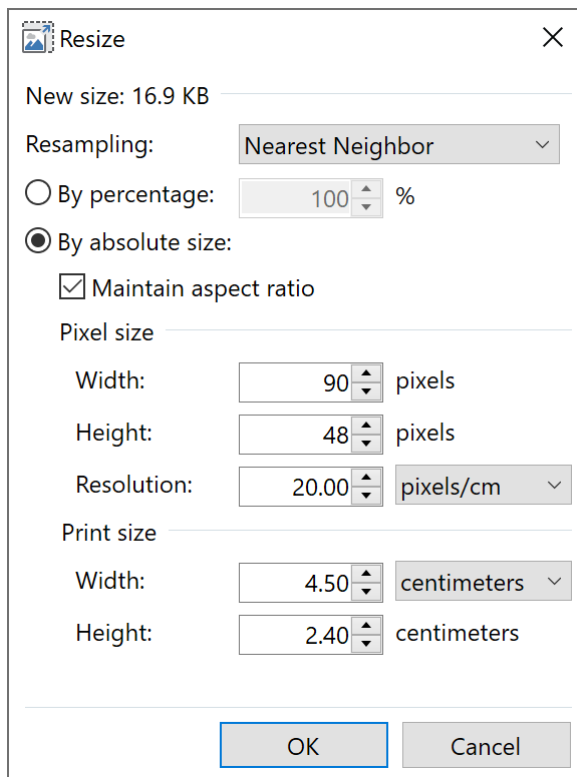
7. On the new pixel scale, create the smallest design features (of resolution λ_{micro}, that is). For example:

Tip: Use named image layers (as analogous to *SolidWorks* features). For example: