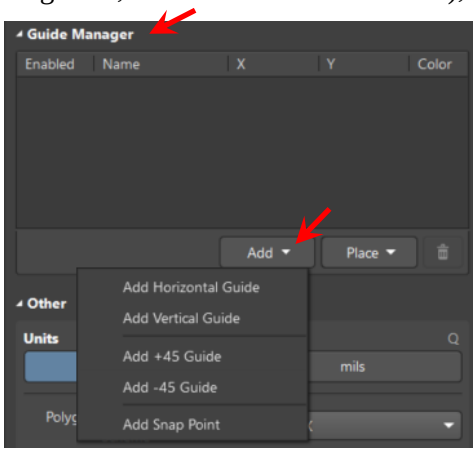
Construction of Electronic Systems

Exercise 6: USB DAQ project
Initial (preliminary) component placement

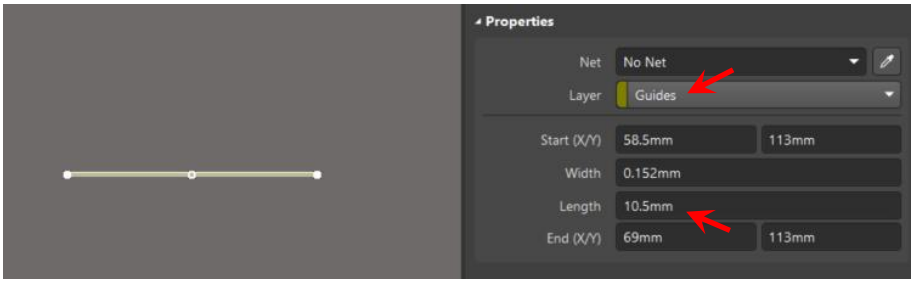
Tips for the precise placement of the components

When dealing with the *precise* placement of the components, do not forget the following tricks and tools:

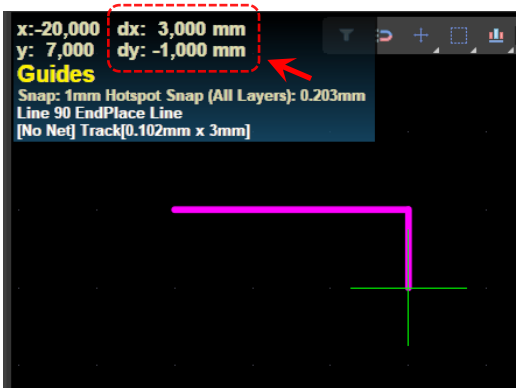
- you can use guides (i.e. guiding lines, see the second lab exercise);



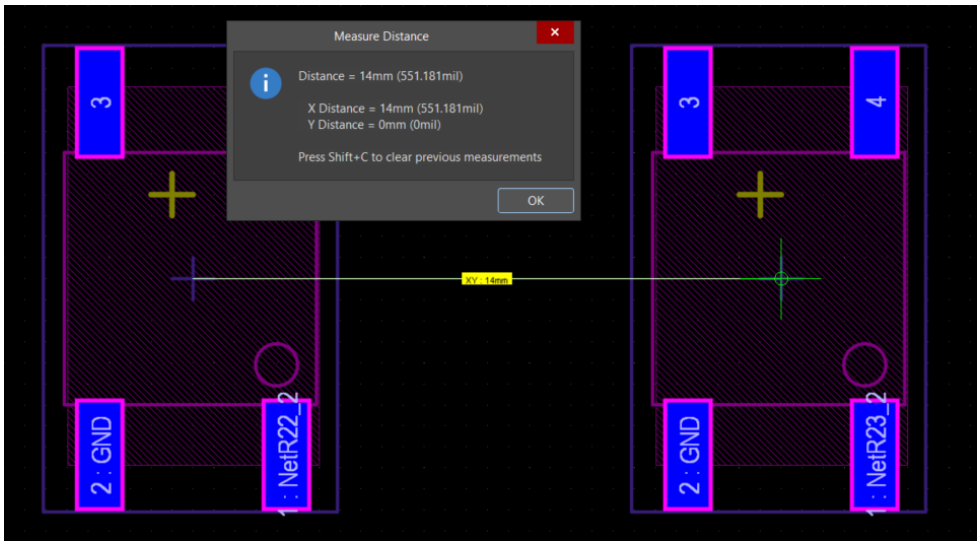
- you can define an additional mechanical layer where you can draw *your own guiding lines* of various shapes;
- you can set the precise length of your guiding lines in the line properties;



- use SHIFT+D to enable the "distance display" in the "heads-up display";



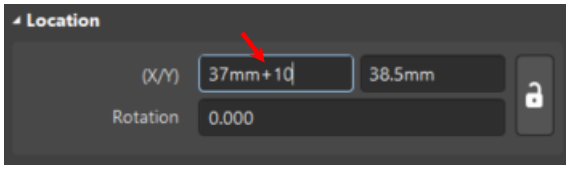
- use the measuring tool (CTRL+M);



- place the coordinate system origin wisely (Edit → Origin → Set);
- you can create *temporary local coordinate systems* by temporarily moving the coordinate system origin and changing the grid size to suit your demands;
- select the coordinate system grid wisely (it is a good idea to use a grid size that offers the same "positioning resolution" as the one used in the preparation scheme document);

  Tip: use CTRL+G to quickly open the grid settings.

- use arithmetic operations to set the component location (addition, subtraction)



- set the cursor snapping options to your needs

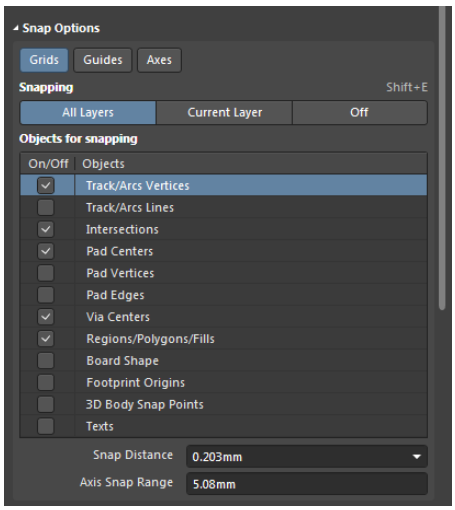


Figure 1 – the cursor snapping options offer a lot of control

- when a component must be aligned with some other 3D body, add 3D snap points wisely so that they can then help you with the alignment in 2D

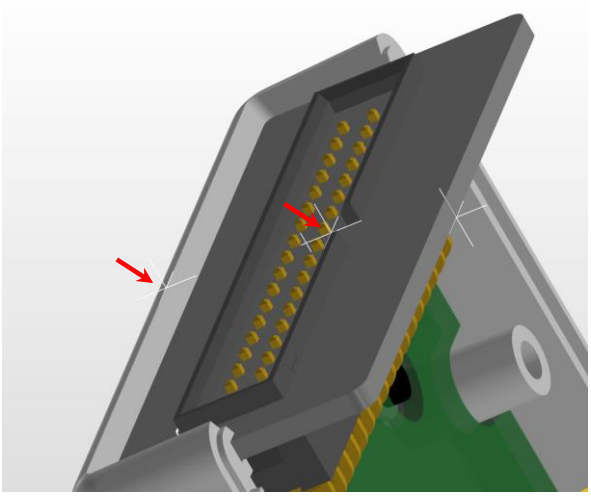


Figure 2 - using snap points to align the IO connector with the outer edge of the enclosure

- use the "Edit → Move → **Move Selection" tool** (shortcut: press **M** and then **S**) because this tool lets you specify the "picking point" (slo. točka prijemališča) of the component, which allows for precise component placement