Error: The mesh on "PortName" is non-planar

Problem/Description:

A Simulation exits with error

[error] Port refinement, process hf3d error: The mesh on PortName is non-planar. Check the port geometry and verify that the mesh accurately represents the port.

Solution:

This error indicates that HFSS cannot properly mesh the port face

- Usually this error occurs when ports are based on imported geometry that are rectangles with a very big axial ratio, and not aligned with coordinate system axes.
- Error can occur during initial mesh typically when initial classic mesh is used

Tricks to avoid the error without geometry modification:

- Switch model units
- Switch initial mesh from classic to tau

  This step can lead to successful adaptive process, but the simulation may fail later with error message

  Failed to solve port PortName, solving at too low frequency is a possible cause.

  The message may occur at the highest frequency of the sweep

Tricks to avoid the error with geometry modification:

- -Redraw the port geometry in HFSS
- -Select the face of the port
- -Create the face linked coordinate system
- -Draw the rectangle in this new FaceCS snapping to the points of previous geometry
- -Assign new port, draw a new integration line
- -Delete the old port (it is Ok to leave the old geometry as unassigned sheet)