PhoenixSim Example Instruction

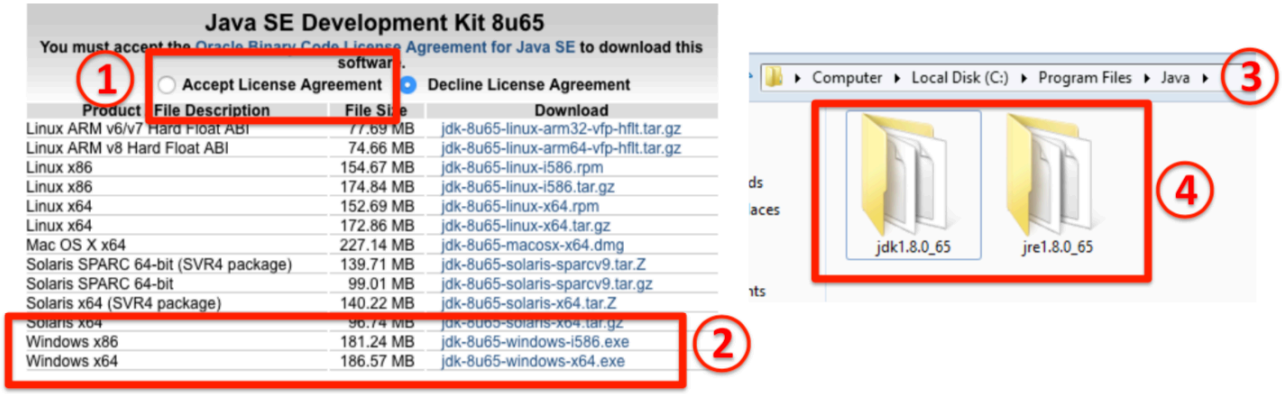
System requirements

Prerequisites: please make sure that your system default Java version is **Java 8**.

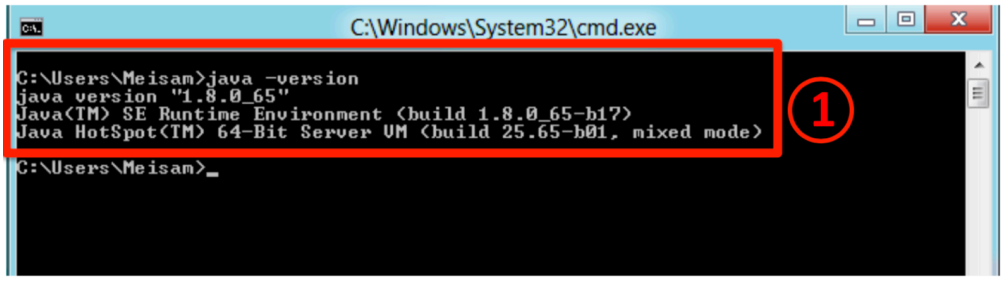
To download and install Java Development Kit:

http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

Then accept the license agreement and choose the appropriate version and download it. Click on the downloaded file and confirm the installation.



In order to test to see if the java is appropriately installed on your computer, you can go to the start menu and type cmd and run the command line window. Then type: `java -version` and hit the enter button. If the computer confirms the version of java, then java is correctly set up in your computer.



You will also need to install the Java Runtime Environment from here:

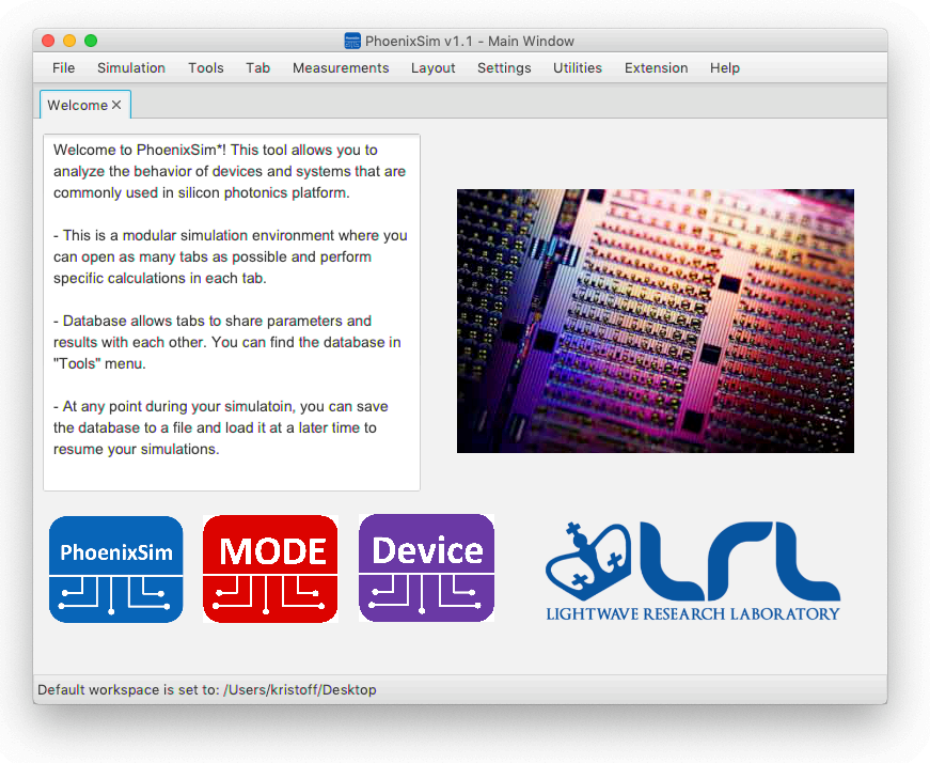
https://www.oracle.com/technetwork/java/javase/downloads/jre8-downloads-2133155.html

Running a simulation in PhoenixSim

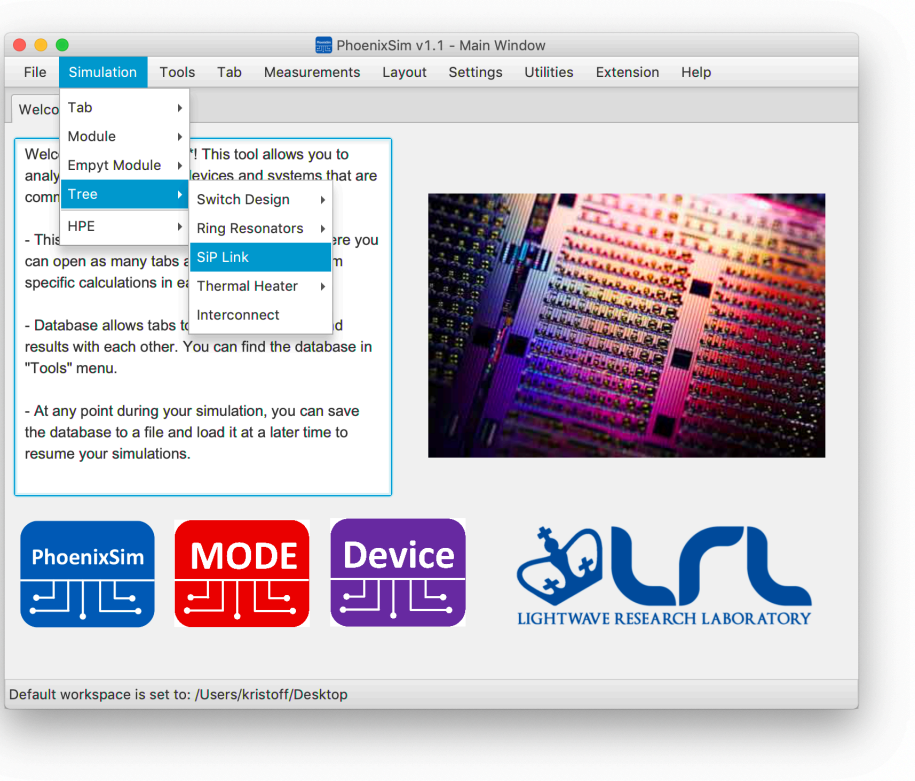
Get the latest version of PhoenixSim from this link:

https://drive.google.com/open?id=1sUptbY34UvM4Gy2pESNxKavBPntdQmcp

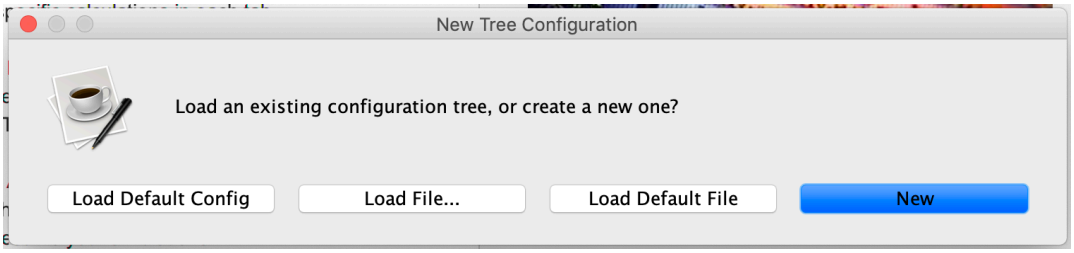
This is the main window of PhoenixSim:



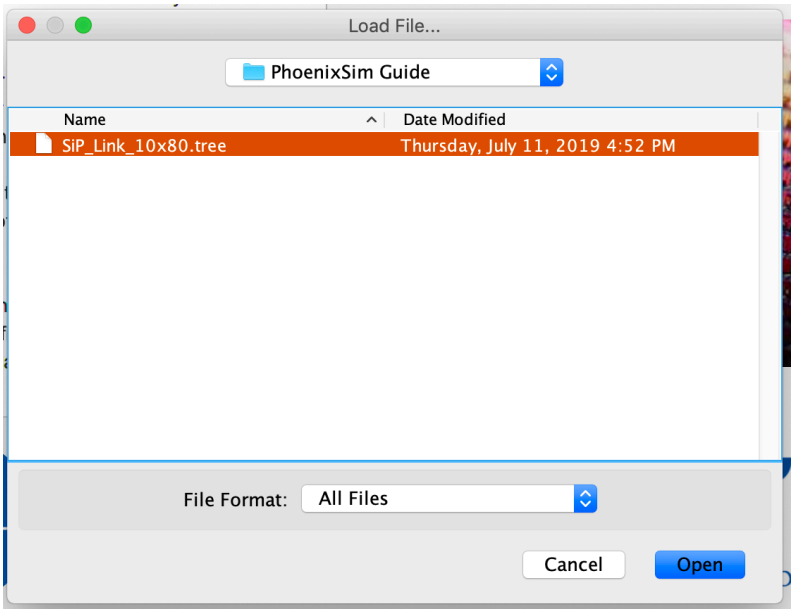
To start a photonic link simulation, simply click **Simulation** from the menu bar, then **Tree** —> **SiP Link**



A dialog will pop up. Click **Load File...**

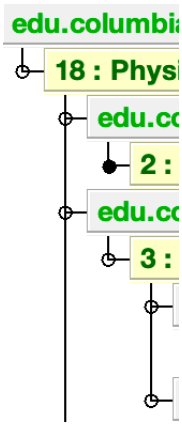


Then select the experiment file "SiP_Link_10x80.tree", select **Open**.

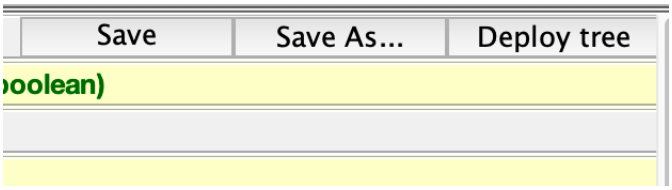


After successful loading, you'll see a tree containing all the simulation models. To expand a node container you can simply click the small black dot, or click the **Deploy Tree** in the upper right corner to expand all the node containers.

Tree Node Containers:

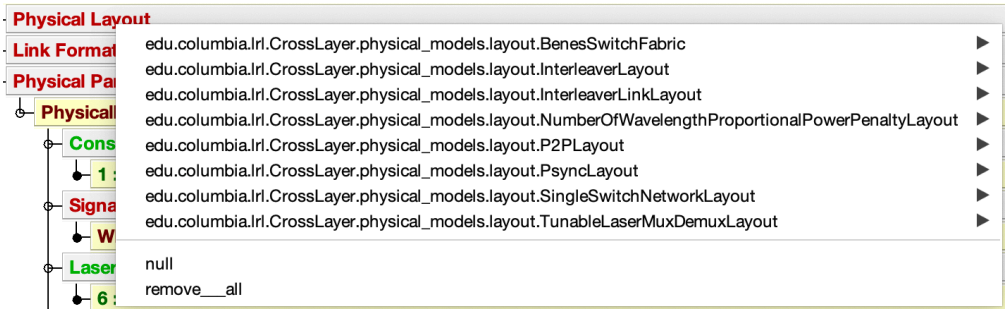


Deploy Tree:

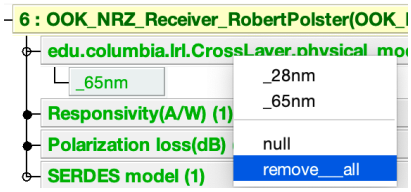


To add a parameter, enter your value in any corresponding text field, then click **Add**.

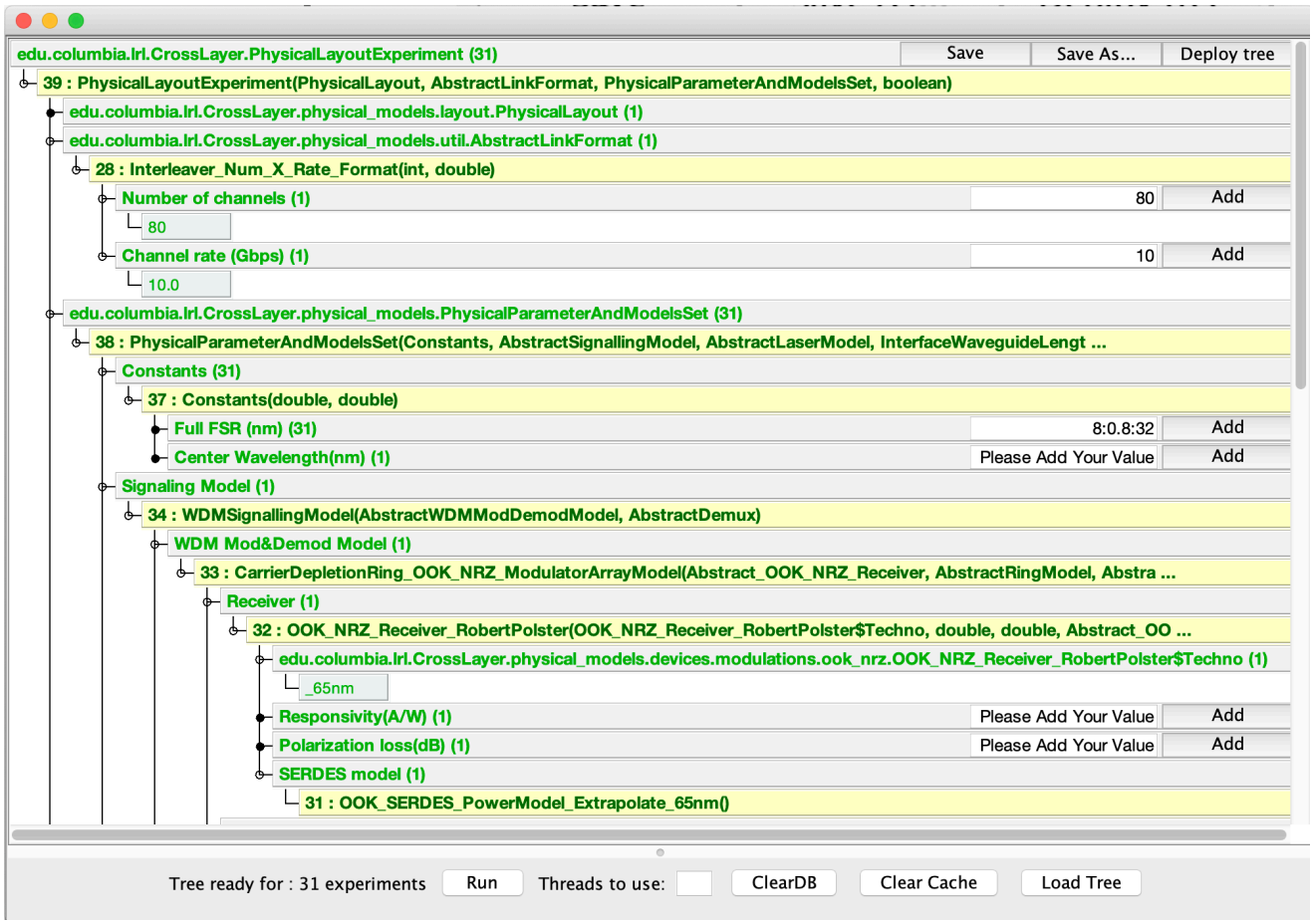
To add a link model, right-click the node constructor and left-click any models to add.



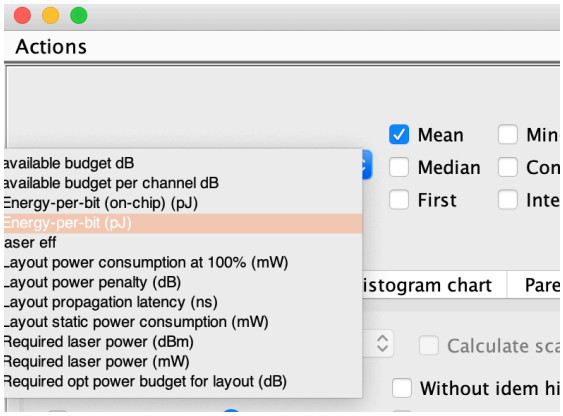
To delete a parameter(or a model), right-click the corresponding value and select **Suppress value**(**constructor**). To delete all the parameters of a node, right click the node container and select **remove___all** .

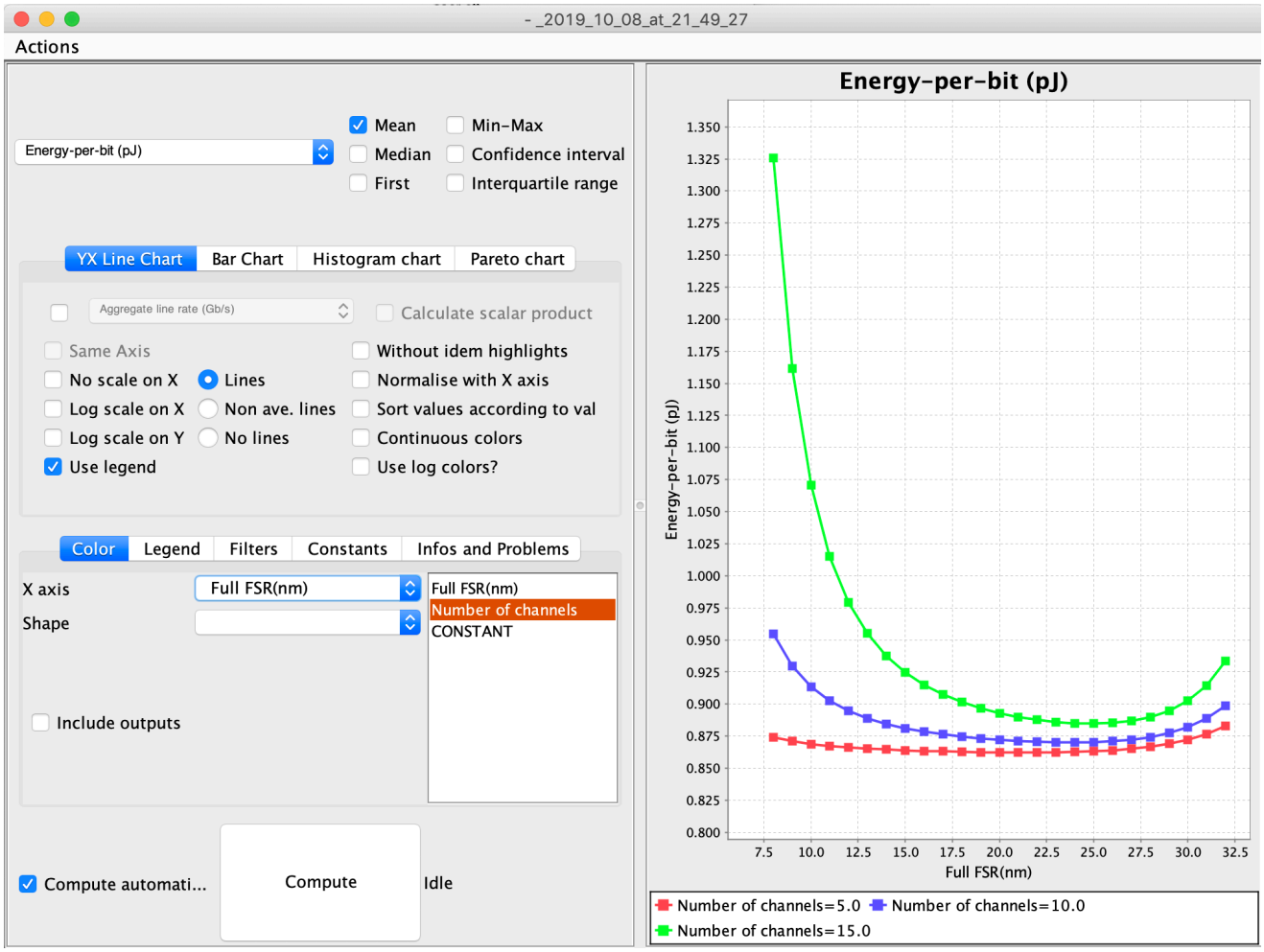


When the experiment is ready, all the nodes will turn green and the status bar will show "Tree ready for : xx experiments". Click **Run** at the bottom to start the simulation.

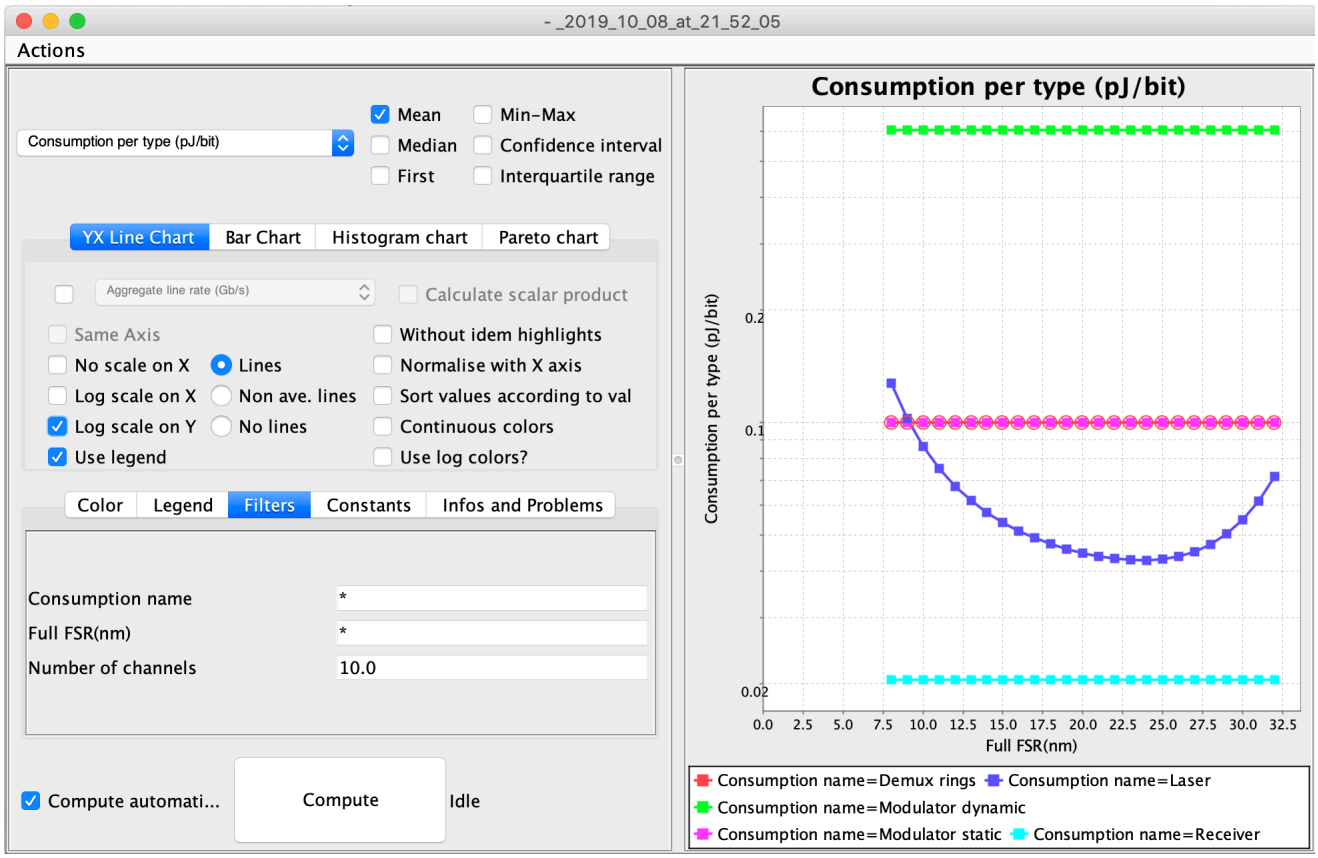


The result manager will automatically pop up when the simulation finishes. To investigate the power consumption of the full link, select **Energy-per-bit (pJ)** from the drag-down menu.





Power consumption for different types can also be examined:


- _2019_10_08_at_21_52_05
Actions
Consumption per type (pJ/bit)
Mean
Min-Max
Median
Confidence interval
First
Interquartile range
YX Line Chart
Bar Chart
Histogram chart
Pareto chart
Aggregate line rate (Gb/s)
Calculate scalar product
Same Axis
Without idem highlights
No scale on X
Lines
Normalise with X axis
Log scale on X
Non ave. lines
Sort values according to val
Log scale on Y
No lines
Continuous colors
Use legend
Use log colors?
Color
Legend
Filters
Constants
Infos and Problems
Consumption name
*
Full FSR(nm)
*
Number of channels
10.0
Compute automati...
Compute
Idle
Consumption per type (pJ/bit)
Consumption per type (pJ/bit)
0.2
0.1
0.02
0.0 2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0 32.5
Full FSR(nm)
Consumption name=Demux rings
Consumption name=Laser
Consumption name=Modulator dynamic
Consumption name=Modulator static
Consumption name=Receiver