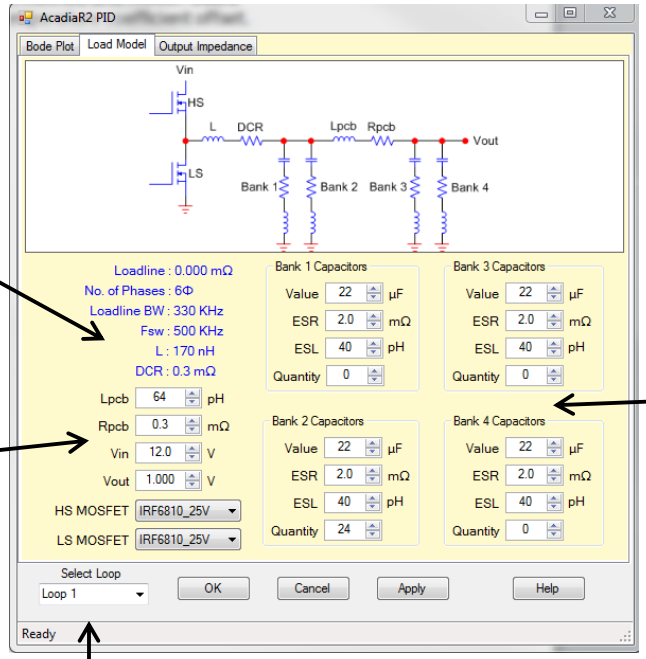
Design Tools
Load Model & Loop Stability

4. Load Model & Loop Stability
Crossover Frequency, Gain Margin, Phase Margin, Output Impedance

This tool is used to configure the digital PID feedback loop. Acadia uses **real-time adaptive PID control** to automatically scale the coefficients and low-pass filters to maintain stability as phases are added and dropped.



Confirm the information in this section is correct. If not go back to **Loadline & Current Sensing** to fix it.

Parasitic inductance and resistance simulate the impedance and losses into the socket

Input and output voltage are used for calculation

Before tuning the bode plot and PID coefficients, fill out the appropriate number of output capacitors.

Bank 1 and Bank 2 are MLCC and bulk capacitors after the inductors.

Bank 3 and 4 are MLCC capacitors inside the socket.

***Note:** Enter the derated capacitance values of the MLCC capacitors for more accurate results.

Select the corresponding feedback loop model.