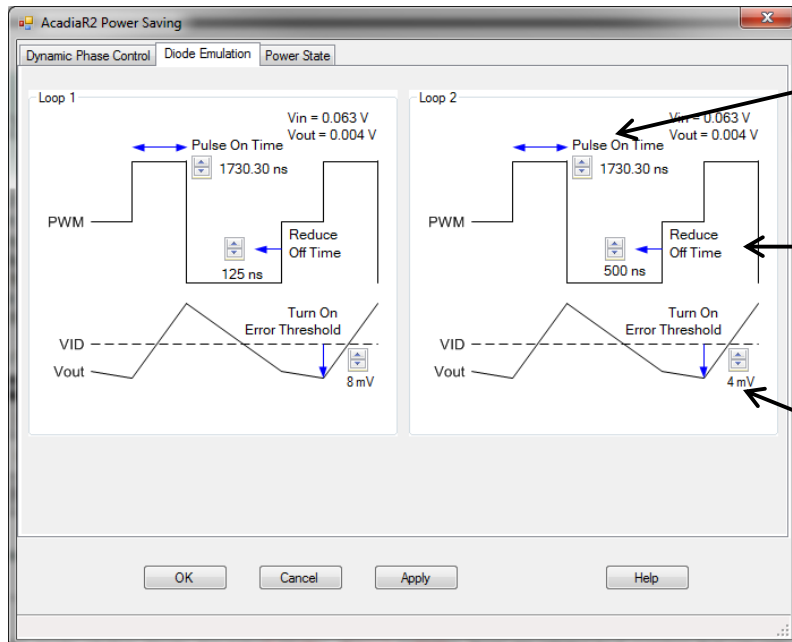# Design Tools
Power Saving

7. Power Saving
Power Saving Mode, Diode
Emulation, Current Threshold

Use this tool to control phases, diode emulation, and power saving states when the device is running light load.

Turn On Error Threshold
Sets the constant on time for the PWM in diode emulation mode.

Reduce Off Time
Industry standard for entering tri-state delays causes negative current build up, switch node ringing, and reduced efficiency. Reducing off time compensate for the tri-state delay by reducing low-side FET on-time by an equivalent amount

Turn On Error Threshold
This variable combined with constant on time determine the desired peak-to-peak voltage ripple.
*PWM turns on when Vout falls below this threshold

Diode Emulation
Under very light loads, Acadia can operate as a constant on-time controller (PS2/PS3) to reduce MOSFET switching losses. The user sets the desired output voltage error threshold and an on-time duration to reduce switching frequency.