

# Design Tools

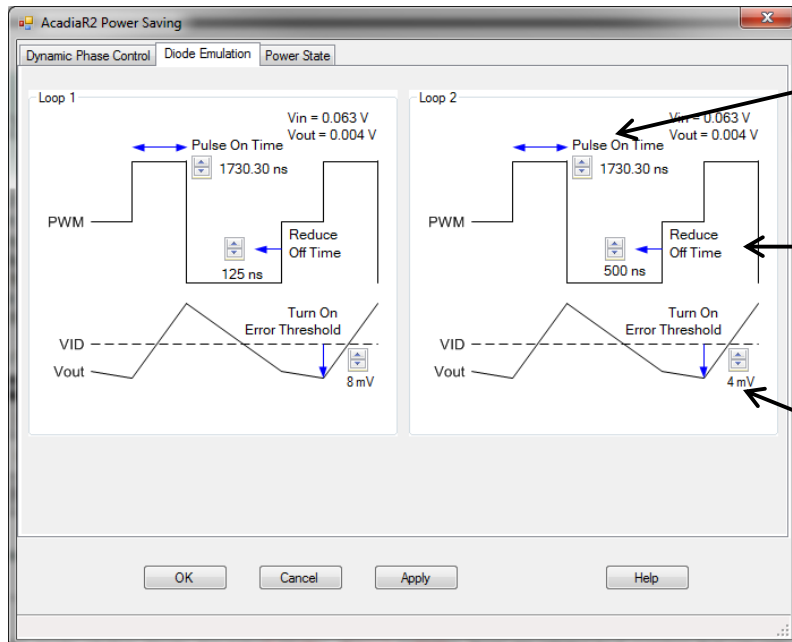
## Power Saving



### 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.