

**APW9010 and discrete fan circuit Eff.  
comparison at ATX 400W gold**

# 10% load

- Fan spec: 12V/0.3A
- Fan voltage on discrete circuit: 4.523V
- Fan voltage on APW9008S sleep mode : 1.28V. Non sleep mode: 4.1V
- APW9008S sleep mode, **reduce 0.8W Pin, 1.5% Eff. up.**  
 Non-sleep mode reduce **0.5W Pin, 0.9% Eff. up.**

10% load	Discrete		APW9010			
	$V_{FN}=4.5V$		Sleep mode		Min. fan seep	
	Pin [W]	Eff.	Pin [W]	Eff.	Pin [W]	Eff.
90Vac	47.4	84.4%	46.5	86.0%	46.9	85.3%
100Vac	47.3	84.6%	46.4	86.2%	46.8	85.5%
115Vac	47.1	84.9%	46.3	86.4%	46.6	85.8%
230Vac	48.4	82.6%	47.4	84.4%	47.7	83.9%
245Vac	48.2	83.0%	47.4	84.4%	47.7	83.9%
264Vac	48.1	83.2%	47.2	84.7%	47.6	84.0%

## 20% load

- Fan spec: 12V/0.3A
- Fan voltage on discrete circuit: 4.511V
- Fan voltage on APW9008S sleep mode : 1.28V. Non sleep mode: 4.1V
- APW9008S sleep mode, **reduce 1W Pin, 1% Eff. up.**  
 Non-sleep mode reduce, **0.6W Pin, 0.6% Eff. up.**

20% load	Discrete		APW9010			
	$V_{FN}=4.5V$		Sleep mode		Min. fan seep	
	Pin [W]	Eff.	Pin [W]	Eff.	Pin [W]	Eff.
90Vac	90.7	88.2%	89.7	89.2%	90.1	88.8%
100Vac	90.4	88.5%	89.4	89.5%	89.8	89.1%
115Vac	90	88.9%	89	89.9%	89.4	89.5%
230Vac	91	87.9%	90	88.9%	90.5	88.4%
245Vac	90.8	88.1%	89.8	89.1%	90.4	88.5%
264Vac	90.7	88.2%	89.7	89.2%	90.2	88.7%

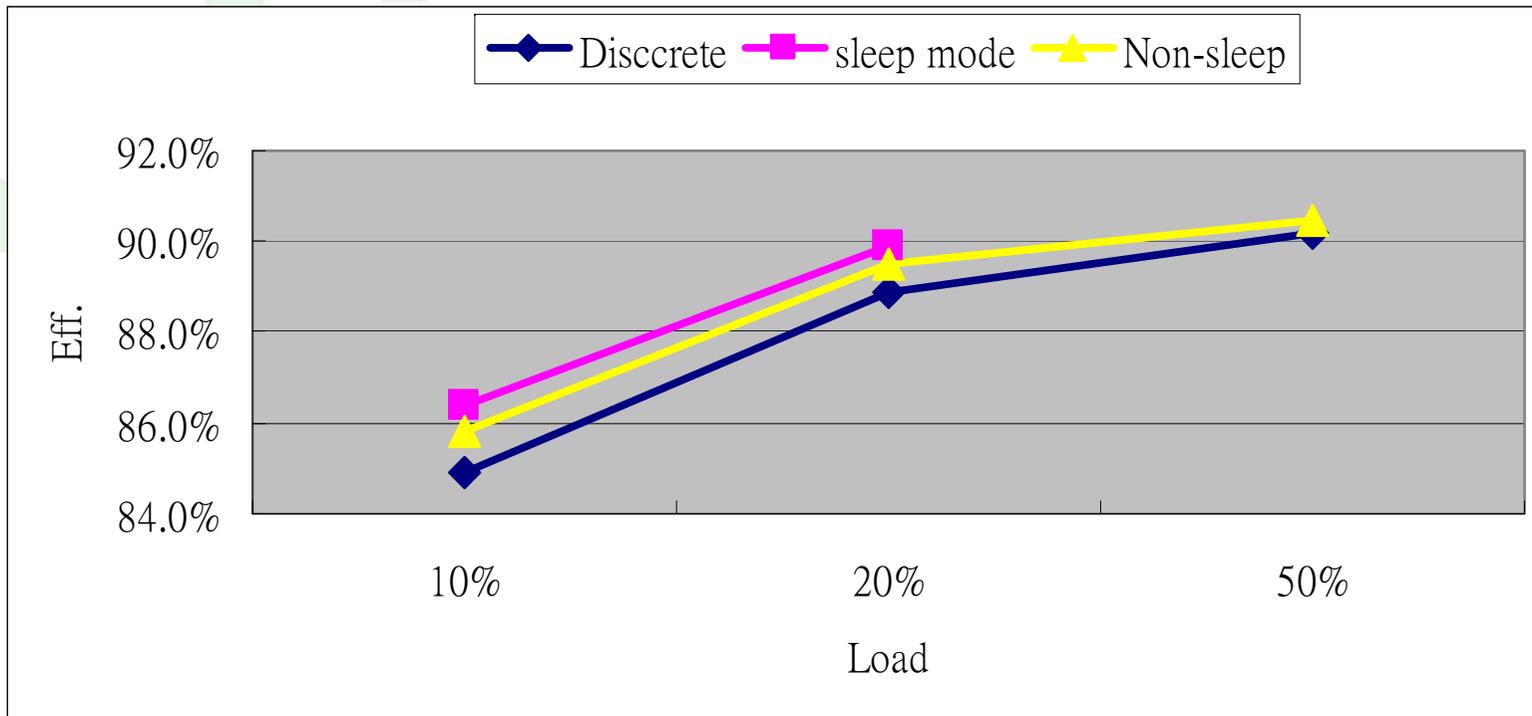
## 50% load

- Fan spec: 12V/0.3A
- Fan voltage on discrete circuit: 4.516V
- Fan voltage on APW9008S : 4.1V
- APW9008S, **reduce 0.7W Pin, 0.3% Eff. up.**

50% load	Discrete		APW9010	
	$V_{FN}=4.5V$		$V_{FN}=4.1V$	
	Pin [W]	Eff.	Pin [W]	Eff.
90Vac	223.8	89.4%	223.2	89.6%
100Vac	223	89.7%	222.3	90.0%
115Vac	221.8	90.2%	221.1	90.5%
230Vac	219.3	91.2%	218.6	91.5%
245Vac	218.9	91.4%	218.4	91.6%
264Vac	218.5	91.5%	217	92.2%

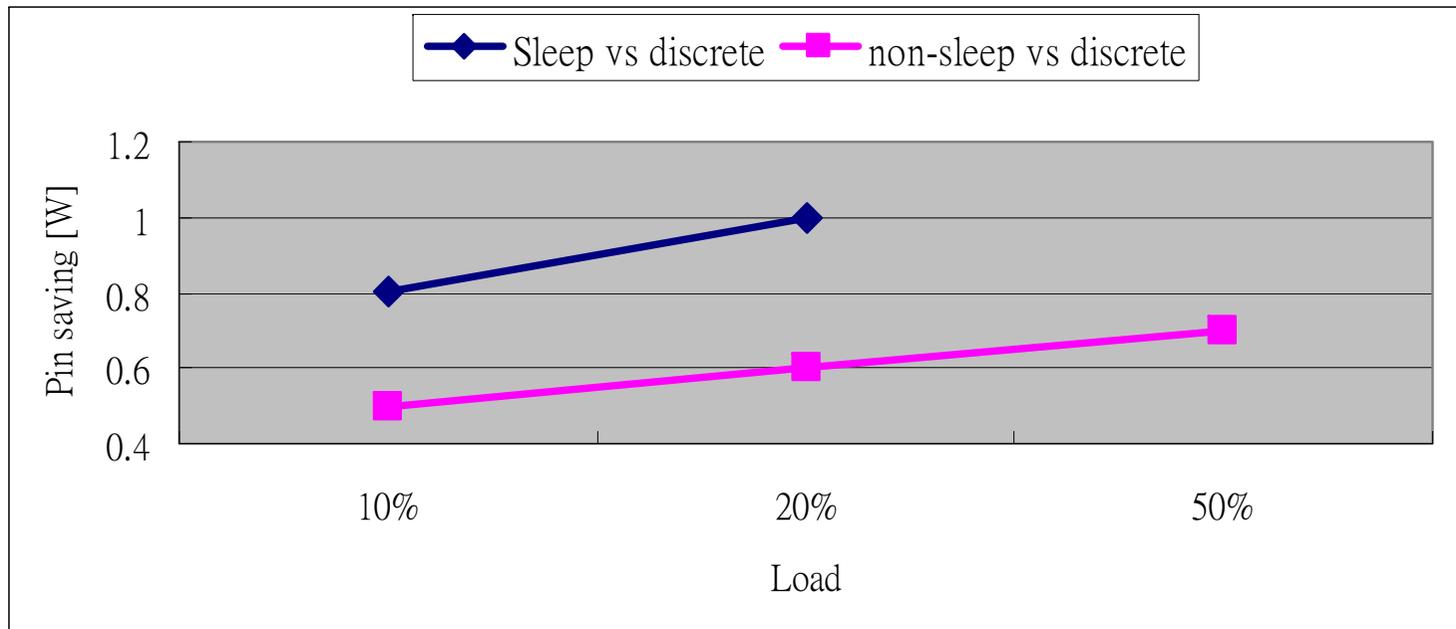
# Total Eff. comparison

■ 115Vac, 10%, 20%, 50% Load



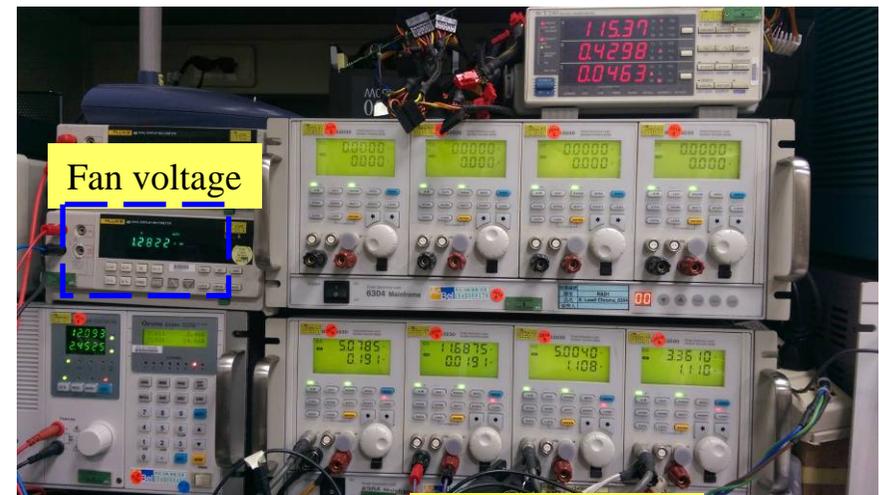
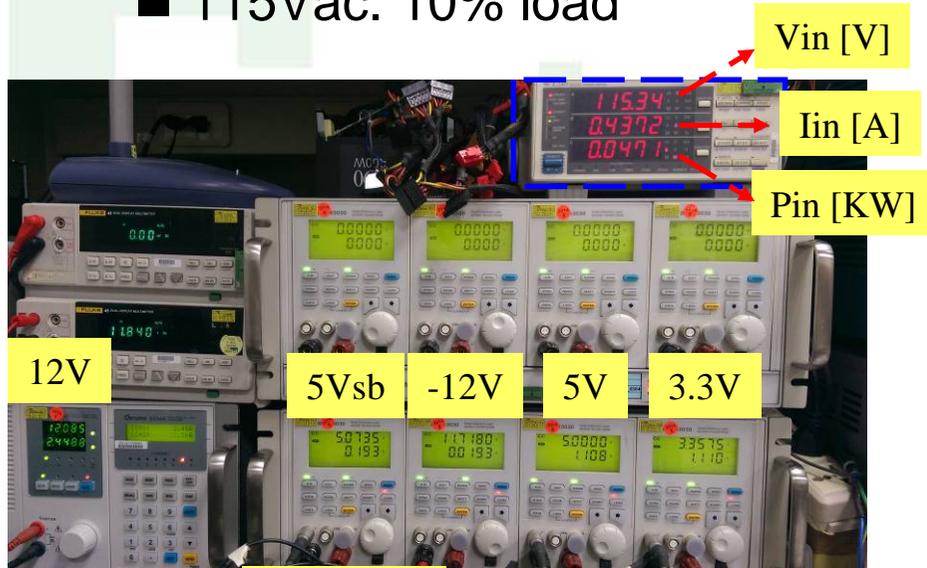
# Pin saving comparison

■ 115Vac, 10%, 20%, 50% Load



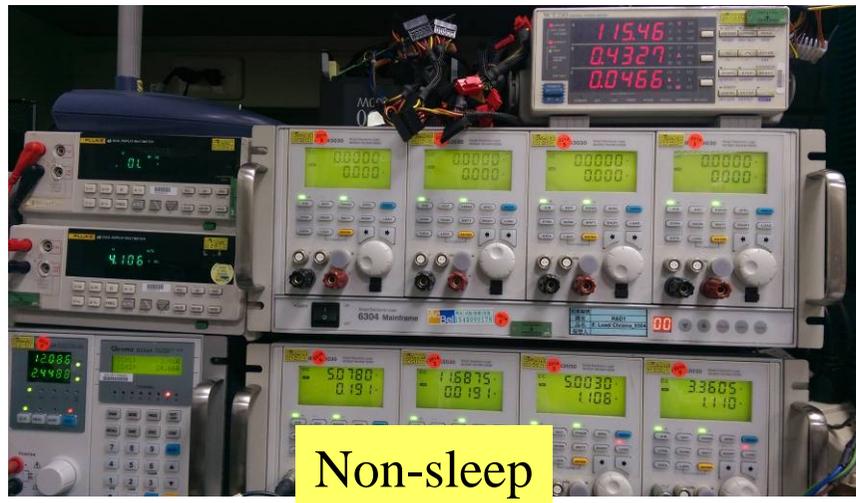
# Test result

■ 115Vac. 10% load



discrete

Sleep Mode



Non-sleep

ANPEC Always Around



# Test result

- 115Vac. 20% load



discrete



Sleep Mode



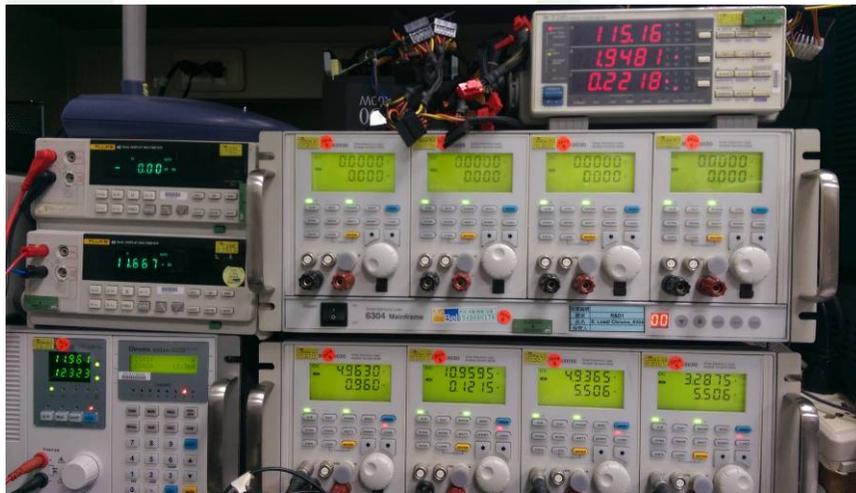
Non-sleep

ANPEC Always Around

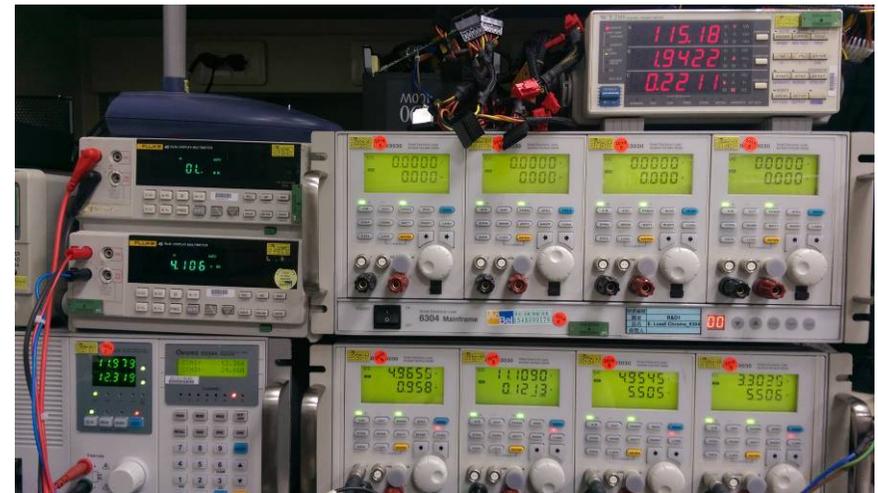


# Test result

- 115Vac. 50% load



discrete



Non-sleep

## Conclusion

此ATX 400W Gold 機種，若使用 APW9010

1. 10% load : sleep mode 能節省0.8w 輸入功率，整體效率約增加1.5%，  
non-sleep 能節省0.5w 輸入功率，整體效率約增加0.9%.
2. 20% load : sleep mode 能節省1w 輸入功率，整體效率約增加1%，  
non-sleep 能節省0.6w 輸入功率，整體效率約增加0.6%.
3. 50% load: 能節省0.7w 輸入功率，整體效率約增加0.3%.