

HP Comments for Final Draft 9/15/06

Although you may have heard similar comments during the recent industry calls, we would like to reinforce several points that are extremely important to Hewlett Packard.

E* Gold? - If the EPA is unwilling to waive the 80+ PSU for systems that don't require it to make EStar limits, would you consider a higher category of E* for systems whose idle numbers are significantly below the requirement? Perhaps the EPA could consider something like an E* Gold for PCs that are say, > 15% below the EPA limit. AMD has done excellent work in lowering CPU power in idle. If the EPA is serious about rewarding those that are the most efficient, AMD and anyone else that can accomplish this deserve recognition.

Power Supply Efficiency - Many of the 80-Plus compliant power supplies we have evaluated are significantly less efficient when operated under 20% of rated load. For any supplies rated above 260W, the idle power level (65W) will actually be an output power less than 20% of the rated power. We are seeing that the 80-Plus designs are just barely meeting 80% (many are at 80.1% @ 20% load) and the efficiency is falling off rapidly.

For example, our highest rated power supply is 365W. Assuming a 78% efficiency and a 65W input power limit; the actual output power is less than 14% of rated load.

We will not have sufficient test data to support this until the next PS build (~ 1 month) to get a feel for what the actual efficiencies will be at less than 20% load. All data compiled to date has been from products built under strict control using components from the same vendors and lots. The next build will be the first build where the power supply manufacturers mix component vendors to see the effect on efficiencies. This will give us a better idea of how the use of multiple approved suppliers and the stack up of component tolerances will impact power supply efficiency during mass production.

We believe the EPA assumption that power supplies would "exceed the 80% efficiency by at least a few percent" is incorrect. We have been working hard with the PS vendors to increase the efficiencies at lighter loads, but we have not found any methods to accomplish this without hurting the limit as well).

We believe we need at least an additional 5 watts in each category to address this concern.

Desktop Category B Definition - We have numerous large customers purchasing a Category B product that need a discrete video card but not the additional memory or hard drives which would allow it to be considered a Category C product. Therefore, we would like to see Category B revised to allow for an adder for discrete graphics. Data is currently being collected and will be provided by Monday 9/18.

Wake on LAN - Our desktop and notebook products ship with WoL enabled. Our data indicates that we need this adder in both standby and sleep modes. In our notebook design, unused devices are turned off. To support WOL, we have to turn on the NIC as well as other devices to support NIC, 0.7W adder for WOL support is necessary and may requires more power to support Intel AMT technology which will be enabled in 2007.

Please add the 0.7 W adder back to the sleep mode for both desktops and notebooks.

Audit - The proposed power consumption limits will be difficult to attain. Numerous configurations will require evaluation and many of the options we configure will be provided by third parties. These third party options (video cards, memory, NIC's, etc.) will likely be revised during their life span which we would like to label as many products as possible. As previously discussed, we have some concerns related to the market surveillance testing you will likely conduct after these products enter the market. As you know, power consumption of the processor and other key components will vary from part to part. Some parts will have more variance than others. When combined (the parts we can control and the parts we can't control) there could be significant differences (up to 15%) in power consumption between identically configured products. Although we understand and accept that we will be required to test the configurations we choose to label with the Energy Star mark, we believe it will be necessary to identify some level of tolerance to the limits for the market surveillance process.
+10% would be a reasonable limit for market surveillance testing.

Notebooks - We believe you are pushing too hard in this area. These products are already using the leading edge technology in power management and should be recognized not penalized. We need to employ these technologies to improve battery life, reduce heat, minimize size/weight and meet customer expectations. By tightening the limits as you propose you are only reducing the visibility of your mark since only the most minimally configured units could comply.

If you have any questions, please call.

Regards,
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Board	GPU	Memory	G/M Clocks (MHz)	Connectors	Idle Power (W)	Max Power (W)
ADD2 DVI N ATX	-	-	-	sDVO, DVI-D	1.3	1.9
ADD2 DVI N ATX RoHS	-	-	-	sDVO, DVI-D	1.3	1.9
ADD2 DVI R LP	-	-	-	sDVO, DVI-D	1.3	1.9
ADD2 DVI USDT	-	-	-	sDVO, DVI-D	-	-
ATI X300SE 64 MB ATX	RV370	64 MB DDR2	325/200	PCIe, VGA, S-video	8.2	15.5
ATI X300SE 64 MB LP	RV370	64 MB DDR2	325/200	PCIe, VGA, S-video	8.2	15.5
ATI X300SE 128MB ATX	RV370	128 MB DDR2	325/200	PCIe, DVI-I, S-video	8.2	15.5
ATI X300SE 128MB LP	RV370	128 MB DDR2	325/200	PCIe, DVI-I, S-video	8.3	15.2
ATI X300SE 128MB ATX RoHS	RV370	128 MB DDR2	325/200	PCIe, DVI-I, S-video	8.3	15.2
ATI X800 ATX	R430	128 MB DDR	400/350	PCIe, DVI-I, VGA, S-video	13.7	49.3
ATI X1300 ATX RoHS	RV515SE	256 MB DDR2	450/250	PCIe, DVI-I, S-video	14.6	25.0
ATI X1300 DH ATX RoHS	RV516	256 MB DDR2	600/400	PCIe, DMS59	12.7	23.7
ATI X1600XT ATX RoHS	RV530XT	256 MB DDR3	590/690	PCIe, 2 DVI-I, S-video	21.2	58.2
ATI X1600XT HDCP ATX RoHS	RV530XT	256 MB DDR3	590/690	PCIe, 2 DVI-I+HDCP, S-video	-	<75 W
NVIDIA NVS 50 PCI ATX	NV18	64 MB DDR	250/200	PCI, DVI-I, S-video	-	12.2
NVIDIA NVS 50 PCI LP	NV18	64 MB DDR	250/200	PCI, DVI-I, S-video	-	12.2
NVIDIA QUADRO NVS 55 LP RoHS	NV34	64 MB DDR	250/200	PCI, DVI-I, S-video	-	12.2
NVIDIA NVS 280 PCI ATX RoHS	NV34	64 MB DDR	250/200	PCI, DMS59	-	~12
NVIDIA NVS 280 PCI LP	NV34	64 MB DDR	250/200	PCI, DMS59	-	~12
NVIDIA NVS 280 AGP ATX	NV18	64 MB DDR	275/200	AGP8x, DMS59	-	~12
NVIDIA NVS 280 AGP LP	NV18	64 MB DDR	275/200	AGP8x, DMS59	-	~12
NVIDIA NVS 280 PCI-E ATX	NV37	64 MB DDR	250/200	PCIe, DMS59	-	~21
NVIDIA NVS 280 PCI-E LP	NV37	64 MB DDR	250/200	PCIe, DMS59	-	~21
NVIDIA GeForce 6200 TC ATX	NV44	64 MB DDIR	350/275	PCIe, DVI-I, VGA, S-video	9.7	18.7
NVIDIA GeForce 6800 ATX	NV42	256 MB DDR	325/300	PCIe, DVI-I, VGA, S-video	17.0	53.4
NVIDIA NVS285 PCIe RoHS	NV44	64 MB DDR	275/275	PCIe, DMS59	-	~21