

May 17, 2011

California Energy Commission  
Dockets Office, MS-4  
Re: Docket No. 09-AAER-2  
1516 Ninth Street  
Sacramento, CA 95814-5512  
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**DOCKET**

**09-AAER-2**

DATE May 17 2011

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**Re: Panasonic Comments on Phase II Draft Amendments on Battery Chargers**

Panasonic appreciates the opportunity to comment on the California Energy Commission Docket No. 09-AAER-2. Specifically, we would like to clarify the intended product scope of the CEC draft proposed amendments for Phase II – Battery Chargers And Lighting Controls. Although never specifically mentioned in these amendments, we believe the CEC does not intend to regulate ordinary Universal Serial Bus (USB) ports as battery chargers. USB ports are employed nearly universally to connect peripheral devices to a vast array of consumer electronics and IT products, with several billion USB devices sold annually. Although not its primary function, the USB port may supply limited power in order to recharge various battery-operated devices. The USB 2.0 standard requires a High-power Hub Port to be able to supply 500 mA at a nominal 5 VDC which is equivalent to 2.5 watts. This power is usually used by the connected peripheral for basic operation.

Many of Panasonic's TVs have included USB ports to connect a variety of peripherals such as wireless modems, wireless keyboards, and flash drives for displaying photos. Our latest 3D TVs are used with new "active shutter" glasses with rechargeable batteries. These glasses come with cables which may be used to connect the glasses to the USB port on the TV in order to charge the battery. This very small battery is only capable of supplying 0.259 watt-hours (3.7 V x 70 mAh). It is charged in approximately two hours, so it would absorb energy during charging at a hypothetical rate of 0.13 watts assuming an ideal charging efficiency of 100% and a constant charging rate for simplification. The actual wattage would be more when the real efficiencies and battery charging losses are considered.

This is only one example among many where a small battery-operated device may be charging while connected to a USB port. In this example, the glasses only charge when the TV is in ON mode. When the TV is turned to Sleep mode, the USB port is disabled thus preventing any charging. Depending on the size and type of TV, the On mode power may be 100 watts or so. (The current CEC limit for a 42-inch TV is 183 watts.) If the glasses were charging, it would be quite difficult to obtain a reproducible measurement of the additional charging wattage since it is often less than one percent of the overall On mode power. Typical production unit variations can be greater than this amount needed for charging the glasses.

An additional complication occurs when the TV is in On Mode since its power will vary significantly as the video signal content changes. This can easily be several tens of watts as the TV

display changes from nearly black to bright full-white images, thus entirely swamping out the small battery charging power.

Finally, given the unlimited variety of devices containing different batteries which could be connected to any USB port, it would be quite impossible to measure the actual charging power. Each battery has its own capacity and charging characteristics resulting in a different power during both active charging and maintenance.

Panasonic believes the CEC has no intention to include USB ports in the proposed amendments for Phase II – Battery Chargers And Lighting Controls. We would greatly appreciate CEC clarification and guidance on this matter.

Sincerely,

Mark J. Sharp  
Group Manager

cc: Harinder Singh  
Ken Rider