

## MEETING 2 MINUTES:

Call to Order UPAMD Power Subgroup meeting – Paul Panepinto

5pm Pacific 07 October 2010

- I. Introductions/Attendance  
Alex Schneider, Bob Davis, Edgar Brown, Ignatius Lee and Paul Panepinto participated
- II. Approval of 09/23/2010 Power Subgroup Meeting Notes  
Edgar motioned to approve the 9/23 meeting notes and Bob seconded.
- III. Approval of 10/07/2010 Power Subgroup Agenda  
Alex motioned to approve the 10/7 agenda and Edgar seconded.
- IV. IEEE Call for Patents. See <http://standards.ieee.org/board/pat/pat-slideset.ppt>
- V. Review subgroup preference for single range of voltages
  - a.) Simplifies power adapter design
  - b.) Does it have any negative impact on the load?
  - c.) Other considerations before we begin drafting criteria around power

A very interesting discussion around the options for acceptable voltage(s) was had. 5 options had previously been considered: (a) a single voltage, (b) a single range of voltages (18V-24V), (c) multiple fixed voltages, (d) any requested voltage in a broad range (6V-24V), and (e) multiple ranges (for example, 8V-10V, 18V-24).

Further discussion revealed that the single range of voltages is really a single voltage with a broad tolerance. 21V +/- 3V, for example. The broad range accounts for different quality of connector pins, cable length and current drawn.

A question was raised that this broad tolerance would mean putting the voltage regulation function in the sink. It might be more cost-effective to put that into the more durable power supply. Broader tolerances might imply lower efficiencies.

A discussion was had about allowing for a 65W power adapter. It may not be able to power a 130W load. Since the goal is for every power adapter to work with every sink, someone suggested perhaps 2 classes of power adapter may be needed. However, especially in a multiple output power hub, it would be burdensome to require every port to be able to simultaneously provide 130W power. In most cases, connected devices would be smaller than 130W max. Using communication, if a sink requests more power than is temporarily available, it can either accept the lower power or the power supply can communicate power is unavailable.

Paul suggested that we need input from a much wider group of participants to ensure we sufficiently analyze the 5 options. The decision made on acceptable voltage(s) is fundamental and Paul suggested that the group evaluate each option with respect to several variables (cost, efficiency, size, heat in the load, flexibility, complexity.) Please see the attached template for the analysis.

- VI. Time permitting, we will begin discussion around next goal, power levels for communication
  - a.) Has decision been made for power over communication, 1-wire communication or 2-wire communication options?
  - b.) How does the choice above impact the power requirements necessary for the standard?

We briefly discussed the power requirements for the communications channel. Edgar raised a question about whether the power supply would have to start at one voltage for communication and then switch to another voltage for the sink. Time did not permit further discussion on this point.
- VII. New business?
- VIII. Adjourn  
Alex motioned to adjourn and the meeting ended at 6:47pm Pacific.