

Comments on Draft 1:

- a) Line 105 – Current text says: “11) Power over Ethernet (PoE): A technology which enables transfer of electrical power, along with data, to network end point devices through an Ethernet cable. Currently specified by *IEEE 802.3af* and *IEEE 802.3at*.” IEEE802.3af has been superseded by IEEE802.3-2005. It was followed by IEEE802.3-2008. Pointing readers to IEEE802.3af is misleading.
- b) Line 105 – Proposed text: “11) Power over Ethernet (PoE): A technology which enables transfer of electrical power, along with data, to network end point devices through a Category 3 or better cable. Currently specified by *IEEE802.3at-2009*. *IEEE802.3at-2009 supports two types of Powered Devices. Type 1 devices can consume up to 12.95W over Category 3 or better cables. Type 2 devices can consume up to 25.5W over Category 5 or better cables. Co-located Type 2 devices can consume up to 51W.*” Note that IEEE802.3-2012 is expected to be ratified by the end of 2012. It will supersede IEEE802.3at-2009. Clause 33 describes Power over Ethernet.
- c) Line 149 mentions a PSE voltage source of 46V to 50V. IEEE802.3at-2009 allows Type 1 PSEs to output voltages from 44V to 57V, and Type 2 PSEs to output from 50V to 57V AFTER DETECTION AND CLASSIFICATION. Detection and Classification voltages are much lower (below 30V) and needed for compliance. PoH also has 50V to 57V as the valid operating voltages. Limiting the voltage to be 48V+2V removes the possibility of testing with Type 2 PSEs. It also would preclude Type 2 devices that consume close to 25.5W from being powered over long cables, due to the power drop on the cable at 600mA of current and 12.5ohm of cable resistance.
- d) Line 149 suggested text: “1) Products intended to be powered from a PoE or PoH source shall be connected to PSE compliant with the latest IEEE802.3 or HDBaseT standard. AT the time of writing both standards mandate PDs to be able to operate with any post detection/classification voltage between 37V and 57V.”
- e) Line 181: There are really no power meters in the market. Given that several IP phones in the market are bundled with 1-port Midspans, the ideal testing scenario, which would reflect the real world power consumption, would be mandating the utilization of a 1-port Midspan, that is connected to an AC power meter for the purpose of testing efficiency. Given that a lot of the losses on PoE systems derive from the cable, long Category 5 (AWG24) cables should be used for the testing. Please see the testing procedure employed by the Energy Star Small Network Equipment program as a reference (http://www.energystar.gov/ia/partners/prod_development/new_specs/downloads/small_network equip/Draft_5_Version_1.0_ENERGY_STAR_SNE_Test_Method.pdf?d02b-07d6, Figure 1).
- f) Line 194: As mentioned above, the proper way to measure real world efficiency is to use long (100m, if possible) cables. PoE makes little sense when short cables are employed. The whole point of PoE is to power remotely, to allow a single UPS to be used to backup a multi-port PSE, that would then automatically backup all the Phones connected to it.
- g) Line 241: Should be updated based on the comments above.
- h) Line 345: I suggest adding http://www.energystar.gov/index.cfm?c=new_specs.small_network equip as a reference.
- i) A definition should be added to Power over HDBaseT (PoH): A technology which enables transfer of electrical power, along with data, to network end point devices through a Category 5 or better cable. Currently specified by HDBaseT Standard version 1.0. PoH grandfathers the devices defined in IEEE802.3at-2009, and adds Type 3 devices, which can be collocated for delivery of up to 95W over a Category 5 or better cable.”
- j) An acronym for PoH should be added.

Thanks a lot for considering the comments,

Daniel Feldman 神判遊子

VP Business Development, AMSG
Microsemi Corporation