7 September 2010

**Interpretation Number:** 1-11/10

Topic: PSE Open Circuit Detection Voltage
Relevant Clause: Clause 33.2.5.1
Classification: Request for Interpretation

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**Interpretation Request**

# IEEE Standards Interpretation Request

Requests for interpretations should only be submitted for seeking clarification of:

- The meaning of portions of standards as they relate to specific applications; and/or
- The exact nature of the contents of the standard.

If the interpretation request meets the above criteria, complete the following and send to the Manager, Governance.

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**IEEE Std:** 802.3at-2009 **™ - (include year)**

**Standard Title: Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications**
**Amendment 3: Data Terminal Equipment (DTE) Power via the Media Dependant Interface (MDI) Enhancements.**

**Topic: PSE Float voltage**

**Clause, Subclause, Annex, Figure, or Table:**
**33.2.5.1 PSE detection validation circuit**
**On page 38, in the middle of the page, the text states:**

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**"The open circuit voltage and short circuit current shall meet the specifications in Table 33–4."**

**And the first entry in Table 33-4 is shown below:**

Table 33–4—PSE PI detection state electrical requirements

| Item | Parameter | Symbol | Unit | Min | Max | Additional information |
|---|---|---|---|---|---|---|
| 1 | Open circuit voltage | $V_{oc}$ | V | | 30.0 | In detection state only |
| 2 | Short circuit current | $I_{sc}$ | A | | 0.005 | In detection state only |

**However, when performing PoE testing with a piece of commercial test equipment, a component which place a voltage below 30V in detection state when connected to an open circuit was said to be non-compliant. Please read the test equipment vendor's statement below:**

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**"…that if you examine the open circuit detection waveform, you will see that it never drops below 14 or 15 volts (zero back-off). From Xxxxx' point of view, this is a specification compliance problem."**
**(The equipment provider's name has been removed, otherwise the text is as supplied from the vendor.)**

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**I would like an interpretation from the IEEE as to whether it is allowable to provide a PSE voltage up to 30.0 volts during detection when the PSE is connected to an open circuit or if such behavior is a violation of the IEEE standard.**

**(Attach your request – if you have more than one request, please label each request as "Interpretation Request #1," "Interpretation Request #2," etc. Please refrain from using proper names, company names and pronouns. Interpretation requests should be as generic as possible. You may attach graphic files in JPEG, EPS, TIFF or PDF format.)**

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**NOTE FOR RESPONDERS: Attach your response here. If you are responding to more than one interpretation request, please label your responses as "Interpretation Response #1," "Interpretation Response #2," etc.**