Interpretation Number: 1-11/10

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

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\textsuperscript{TM} (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:
“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>
<thead>
<tr>
<th>Item</th>
<th>Parameter</th>
<th>Symbol</th>
<th>Unit</th>
<th>Min</th>
<th>Max</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Open circuit voltage</td>
<td>( V_{DC} )</td>
<td>V</td>
<td>30.0</td>
<td></td>
<td>In detection state only</td>
</tr>
<tr>
<td>2</td>
<td>Short circuit current</td>
<td>( I_{SC} )</td>
<td>A</td>
<td>0.005</td>
<td></td>
<td>In detection state only</td>
</tr>
</tbody>
</table>

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:

“...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 Xxxx’ 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.)

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.)

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.