Editorial Comment Bucket

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Agenda

- Patent Policy
  - http://standards.ieee.org/board/pat/pat-slideset.pdf
- Comments

Comment Bucket Buckets

- Easy stuff
  - Comments 5, 134, 253, 131
- Medium stuff
  - Comments 162, 140, 135, 136
- Classification stuff
  - Comments 168, 199, 173

Easy Comment 5

Cl **33**	*SC* **2.8.14**	*P* **45**	*L* **41**	# 5
LANDRY, MATTHEW		SILICON LABS		

Comment Type **E** *Comment Status* **D** *editorial*

Is this a proper use of the 'CAUTION' statement?

SuggestedRemedy

If not, change it to a NOTE.

Proposed Response *Response Status* **O**

see 29

- "CAUTION" usage defined by the IEEE Standards Style Manual
  - http://standards.ieee.org/guides/style/section7.html#1537
  - "Cautions call attention to methods and procedures that have to be followed to avoid damage to equipment."
- Text in question:

> **CAUTION**—When connected together as a system, the PSE and PD might exhibit instability at the PSE side or the PD side or both due to the presence of negative impedance at the PD input. See Annex 33D for PSE design guidelines to ensure stable operation.

- This does not seem to meet the criteria of a CAUTION. Power supply oscillation is unfortunate and should be prevented, but will not necessarily cause damage.
- Change this "CAUTION" to a "NOTE."

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Easy Comment 134

Cl **33** *SC* **2.8** *P* **40** *L* **23** # 134

Schindler, Fred — Cisco Systems

Comment Type **E** *Comment Status* **D** *editorial*

Consider using "k" or something other than "V" to convey that a constant is being used.

SuggestedRemedy

Suggest using "KTran_lo."

Proposed Response *Response Status* **O**

- Text in question

2a	Voltage transient below V_{Port} min	V_{Tran_lo}	%		7.6	2	See 33.2.8.2b

- The usage of 'V' implies a voltage, whereas this term is only a percentage of a voltage.
- Accept the proposed remedy and update references

2a	Voltage transient below V_{Port} min	K_{Tran_lo}	%		7.6	2	See 33.2.8.2b

Easy Comment 253

Cl **33**	*SC* **3.3**	*P* **54**	*L* **23**	# 253

Stanford, Clay — Linear Technology

Comment Type **E** *Comment Status* **D** *editorial*

The parameter name was changed from VI to slope.

Table 33-8 still uses V-I slope.

Pick a consistent name.

SuggestedRemedy

Proposed Response *Response Status* **O**

- Parameter name was changed to better fit equation formatting requirements.

$$\text{V-I slope} = (V_2 - V_1)/(I_2 - I_1) \quad \rightarrow \quad slope = (V_2 - V_1)\_/\_(I_2 - I_1)$$

- Use of "V-I slope" in Table 33-8 is informative to reader, however.
- Can change definition to clarify that slope is the V-I slope

"slope is the effective resistance"

↓

"slope is the V-I slope and effective resistance of the PD detection signature"

Easy Comment 131

Cl **33**	*SC* **2.8**	*P* **40**	*L* **4**	# 131

Schindler, Fred — Cisco Systems

Comment Type **TR** *Comment Status* **D** *editorial*

Combine the two sentences added so that the required intent is conveyed within one sentence.

SuggestedRemedy

Use the sentence: "When a Type 2 PSE powers a Type 1 PD, the PSE shall meet the electrical requirements of a Type 1 PSE, and may choose to meet the electrical requirements of a Type 2 PSE for table 33-5 items 4, 8, and 10."

Proposed Response *Response Status* **O**

- Original text
  - When a Type2 PSE powers a Type1 PD, the PSE shall meet the electrical requirements of a Type1 PSE. Such a PSE may choose to meet the electrical requirements of a Type2 PSE for Table 33-5 items 4, 8, and 10.
- Proposed text
  - When a Type2 PSE powers a Type1 PD, the PSE shall meet the electrical requirements of a Type1 PSE and may choose to meet the electrical requirements of a Type2 PSE for Table 33-5 items 4, 8, and 10.
- The proposed wordsmithing seems clearer and does not change the intent.

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Medium Comment 162

Cl **33**	*SC* **3.5.2**	*P* **61**	*L* **3**	# 162
Jones, Chad		Cisco		

Comment Type **T** *Comment Status* **D** *editorial*

"NOTE—Duty cycle shall be calculated using any sliding window with a 1 s width."
This note contains a shall and the note is in the wrong place.
There is no mention of duty cycle in 33.3.5.2 where it is located.
Lastly can we spell out second?

SuggestedRemedy

change it to "Duty cycle is calculated using any sliding window with a 1 second width."
move it to section 33.3.5.4 just after the first paragraph.

Proposed Response *Response Status* **O**

- This NOTE came about from D0.9/#192.
- 33.3.5.2 describes “input average power,” which is why “duty cycle” is a non sequitur.
- “Shall” statements do not belong in a NOTE.
- Spelling out “s” as “second” can’t hurt.
- Amend the NOTE to read:
  - NOTE—Average power is calculated using any sliding window with a width of 1 second.
- Still need to provide the clarification of what a duty cycle is per D0.9/#192. Suggest adding another NOTE in 33.3.5.4:
  - NOTE—The duty cycle of the peak current is calculated using any sliding window with a width of 1 second.

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Medium Comment 140

Cl **33**	*SC* **2.9**	*P* **45**	*L* **51**	# 140

Schindler, Fred — Cisco Systems

Comment Type **TR** *Comment Status* **D** *editorial*

The text, "The PSE may manage …. the attached PD.", removed from the legacy standard is still valid.

SuggestedRemedy

Restore the text.

Proposed Response *Response Status* **O**

- This text was removed per D0.9/#148.
- Original text:

> The PSE may manage the allocation of power based on additional information beyond the classification of the attached PD. Allocating power based on additional information about the attached PD, and the mechanism for obtaining that additional information, is beyond the scope of this standard with the exception that the allocation of power shall not be based solely on the historical data of the power consumption of the attached PD.

- The second sentence is no longer true because of DLL classification.
- The first sentence, while true, seems extraneous.
- Leave it alone (deleted) or add 1st sentence back into draft?

> The PSE may manage the allocation of power based on additional information beyond the classification of the attached PD.

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Medium Comment 135

Cl **33**	*SC* **2.8.2a**	*P* **42**	*L* **17**	# 135
Schindler, Fred		Cisco Systems		

Comment Type **TR** *Comment Status* **D** *editorial*

The sentence structure does not convey the intent for PSE transient behavior and what action to take when a short circuit condition exists.

SuggestedRemedy

Modify the existing sentence to: "A Type 2 PSE shall maintain an output voltage of no less than VTran_lo below Vport min for transient conditions lasting more than 30 uS and less than 250 us, and meet the requirements of section 33.2.8.8.

Proposed Response *Response Status* **O**

- Original text:
  - A Type2 PSE shall maintain an output voltage no less than V_{Tran_lo} % below V_{Port} min for transient conditions lasting more than 30µs and less than 250µs.
- This text does not explicitly link transient behavior with short circuit behavior.
- Proposed text:
  - A Type2 PSE shall maintain an output voltage no less than V_{Tran_lo} % below V_{Port} min for transient conditions lasting more than 30µs and less than 250µs, and meet the requirements of 33.2.8.8.

Medium Comment 136

Cl **33**	*SC* **2.8.5**	*P* **43**	*L* **23**	# 136

Schindler, Fred — Cisco Systems

Comment Type **TR** *Comment Status* **D** *editorial*

The text: "In a PSE that supports a classification function … may optionally be" provides a formula for ICUT. This ICUT formula is valid whether classification is performed or not.

SuggestedRemedy

Replace this text with: "In a PSE, the minimum value of ICUT may optionally be"

Proposed Response *Response Status* **O**

- Original text:
  - In a PSE that supports a classification function (33.2.7 and/or 33.6), the minimum value of I_{CUT} may optionally be P_{Class}/Vportmin
- P_{Class} is always defined for a PSE, regardless of whether it is Type1 or Type2, if it implements 1-Event, 2-Event, or 0-Event.
- It is therefore unnecessary to restrict I_{CUT} scaling to PSEs implementing classification.
- This is a “may” statement, so removing the narrowing clause will not affect the installed base.
- Proposed text:
  - In a PSE, the minimum value of I_{CUT} may optionally be…

Classification Comment 168

Cl **33**	*SC* **3.4**	*P* **56**	*L* **2**	# 168
Diab, Wael		Broadcom		

Comment Type **T** *Comment Status* **D** *editorial*

Please insert a copy of the Table and associated text from diab_2_1007.pdf in this section with introductory text, prior to the text present as the table covers both PSE and PD implementations.

SuggestedRemedy

Please insert a copy of the Table and associated text from diab_2_1007.pdf at the begining of this section with the following introductory text:

"An 802.3at PD implementing classification shall meet one of the permutaiuons lsted in Table 33-2a"

Proposed Response *Response Status* **O**

- The permutation table is found in 33.2.7 as Table 33-2a.
- Reproducing it in 33.3.4 seems unnecessary.
- D1.0/#159 updates the table and adds a normative statement to 33.2.7:
  - "A PSE or a PD shall meet one of the allowable classification permutations listed in Table 33-2a."
- The first sentence of 33.3.4 directs the reader to go back and review 33.2.7.
- OBE?

Classification Comment 173

Cl **33**	*SC* **2.7.2a**	*P* **38**	*L* **48**	# 173
Diab, Wael		Broadcom		

Comment Type **ER** *Comment Status* **D** *editorial*

As per comments 225 and 161, this text needs to be restructured so that we can write PICs around it. The way it stands, it says you shall implement this and you may then omit. This is hard to write text around. I believe that the editor is trying to describe a state machine.

SuggestedRemedy

Please replace this paragraph with a state machine

Proposed Response *Response Status* **O**

also see 196, 272

- Figure 33-7c describes the state change and decision making procedure of 2-Event classification
- 33.2.7.2a describes the same, but also has normative text referring to the details of the voltage probes
- For clarity, the text can be modified to refer to the state diagram (as the PD section does), and still maintain details on the voltage probing

Classification Comment 199

Cl 33	*SC* 3.1a	*P* 50	*L* 5	# 199
Diab, Wael		Broadcom		

Comment Type **TR** *Comment Status* **D** *editorial*

This section does not accurately reflect the decisions we made in October. Specifically, it mandates that a Type PD implement classification, which breaks 802.3-2005. Moreover, it rules out certain combinations that the table in diab_2_1007.pdf allows, like classifying a Type 2 PD using one event classification and DLL.

It is very difficult to retain this wording here as it is without getting into classification.

SuggestedRemedy

Rewrite this section as follows:

PDs can be categorized as either Type 1 or Type 2 (refer to 1.4). PDs may also implement Physical Layer Classification and/or Data Link Layer Classification. Permutations allowed by the standard are covered in section 33.3.4.

A Type 2 PD is required to achieve mutual identification with a Type 2 PSE as described in section 33.4. A Type 2 PD that does not achieve mutual identification shall conform to Type 1 PD power restrictions. Such a PD shall provide the user with local external notification that it is underpowered. The external notification mechanism is left to the implementor.

Proposed Response *Response Status* **O**

Text in question:

PDs can be categorized as either Type 1 or Type 2.

Type 1 PDs ~~may optionally~~ implement ~~Type 1~~ 1-Event Physical Layer classification. This limits the maximum power the PD may expect to draw from a PSE to ~~12.95 W~~ P_{Port} max as defined in Table 33–12.

Type 2 PDs shall implement both ~~Type 2~~ 2-Event Physical Layer classification and Data Link Layer classification. This limits the maximum power a PD may expect to draw from a PSE to ~~29.5 W~~ P_{Port} max as defined in Table 33–12.

A Type 2 PD that does not successfully observe a 2-Event Physical Layer classification or Data Link Layer classification must conform to Type 1 PD power restrictions. Such a PD shall provide the user with local external notification that it is underpowered. The external notification mechanism is left to the implementor.

- 33.3.1 should be descriptive.
- As commented, it is also difficult to get too descriptive without getting into classification.
- To inform but not complicate, this generic description of a PD should not contain normative text.
- The Type 2 normative shall statement is out of place and should be removed.
- The Type 1 PD description doesn't "break 802.3-2005."
  - This isn't a normative statement
  - It is physically impossible for a PD to not return a classification signature
- The comment also tries to add some normative text we have not yet discussed

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