Cl **00** *SC* **0** *P* *L* # 172

Anslow, Pete — Ciena

Comment Type **ER** *Comment Status* **X**

There are a large number of broken cross references in the draft. These should either be made into live cross-references or if the target location is not in the draft turned into text with the character tag "External"

SuggestedRemedy

Fix all incorrect cross-references in the draft. Some are black text, some are black cross-refs that do not wotk.
Either make them into live cross-references or if the target location is not in the draft turn them into text with the character tag "External"
I started listing the location of each cross-reference to be fixed in this comment, but it is just too long a list, so I have highlighted the ones that I have found in yellow in an attached version of the draft.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 146

Maguire, Valerie — Siemon

Comment Type **E** *Comment Status* **X**

The terms "twisted pair" and "twisted-pair" are often used interchangeably throughout the document. Please standardize on one style. "Twisted-pair" is recommended to align with structured cabling Standards.

SuggestedRemedy

Perform a global search for the term "twisted pair" and replace with "twisted-pair" where appropriate.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 255

Klempa, Michael — UNH IOL

Comment Type **E** *Comment Status* **X**

Equations are using "," instead of "." according to the style guide:

"The decimal marker should be a dot on the line (decimal point). This applies even when the
standard in question is intended for international adoption (e.g., adoption by ISO/IEC). See Clause 19."

SuggestedRemedy

Replace all appropriate "," in equations with "."

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **1** *L* **2** # 84

Zimmerman, George — CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

Draft is on 802.3-2015 as amended by .... (several amendments, not clear yet)

SuggestedRemedy

Change header to add "as amended by... <list of amendments to be provided by staff prior to publication>".

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **1** *L* **24** # 133

Grow, Robert — RMG Consulting

Comment Type **E** *Comment Status* **X**

No longer in TF review

SuggestedRemedy

Update to WG recirculation ballot for next draft

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **1** *L* **25** # 159
Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**

"Draft D2.0 is prepared for Task Force Review." should have been "Draft D2.0 is prepared for initial Working Group ballot."

SuggestedRemedy

Going forward change to Draft D2.1 is prepared for Working Group ballot recirculation."

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **1** *L* **26** # 83
Zimmerman, George CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

Draft says it is for Task Force Review.

SuggestedRemedy

Change "Task Force Review" to "Working Group Recirculation" (assuming this is on D2.1

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **2** *L* **4** # 160
Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**

"The power classification information exchanged during negotiation will be extended …" "will be" is predicting the future.

SuggestedRemedy

Change "will be extended" to "is extended"

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **3** *L* **38** # 85
Zimmerman, George CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

Base standard is IEEE Std 802.3-2015, draft says "201x"

SuggestedRemedy

Change -201x to -2015

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **3** *L* **40** # 161
Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**

"IEEE Std 802.3-201x" should be "IEEE Std 802.3-2015"

SuggestedRemedy

Change "IEEE Std 802.3-201x" to "IEEE Std 802.3-2015"

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **4** *L* **19** # 111
Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

List of amendments is NOT complete - we are now up to 9 amendments

SuggestedRemedy

Please update front matter to use the latest list of available / published amendments

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **4** *L* **19** # 134

Grow, Robert — RMG Consulting

Comment Type **ER** *Comment Status* **X**

Obsolete front matter document list.

You also need to help the reader know what you are considering the base document to be. That is done here and/or with the WG template, in the Editor's note at the bottom of page 19.

If the Maintenance TF comes up with a plan for a 2017 revision, then the current undated revision of 802.3 on p.3, l. 38 is correct, but that contradicts the title page indicating this will be an amendment to 802.3-2015.

With amendment completions scheduled for 3/17, 7/17, and 10/17 and 802.3bt scheduled for 1/18, the revision might follow 802.3bt. So if 802.3bt is an amendment to 802.3-2015, based on timelines it will be Amendment 13. For base text, you need to assume it will be a double digit amendment anyway, (the base text of a revision draft will be the same as what you would get being amendment 13). What does potentially differ between an amendment to the next revision probably using a draft as the base for your modifications) and being amendment 13 is the numbering of subclauses, figures and tables changes from 802.3-2015.

SuggestedRemedy

Assure you are using the latest front matter text when creating the next draft.

Update the document list to eliminate 802.3bk.

Make base standard year consistent (either 2015 or 201x), though I suggest writing as an amendment to 802.3-2015. The front matter of P802.3bv/D3.0 has the latest information available as of July 2016. It also though is very likely Corrigendum 1 will be approved before P802.3bt and could also be added to the P802.3bv list. You may choose to not worry about which amendments follow 802.3bv but preceed 802.3bt at this time, but you need to clearly indicate what the assumptions are for how you wrote the draft (what other amendments/corrigenga were considered).

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **4** *L* **20** # 86

Zimmerman, George — CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

802.3bk is folded into IEEE Std 802.3-2015, additional amendments to IEEE Std 802.3-2015 preceding bt are missing (by, bq, bp, br, bn, bz, bu, possibly bs and others)

SuggestedRemedy

Delete 802.3bk description, add in descriptions of known preceding amendments. See for example 802.3bu for a good start, consult with IEEE 802.3 leadership for projected order of publication

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **4** *L* **20** # 162

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **X**

The frontmatter should contain the summaries of the amendments to IEEE Std 802.3-2015 that are ahead of P802.3bt in the queue. This does not include IEEE Std 802.3bk-2013.

SuggestedRemedy

Add the summaries of Amendments 1 through 7 as well as 8 and 9 when the WG chair has announced them.

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **4** *L* **30** # 163

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **X**

The summary "This amendment includes enhancements that will increase the maximum power available beyond current standards by utilizing all four pairs in the structured wiring plant" is not in accordance with summaries of other amendments. It includes "that will enhance", which will not be appropriate once the amendment is published. It also says "beyond current standards" which will not be appropriate once the amendment is published. It says that it will increase the maximum power available. What power? Optical power? Electrical signal power? The text ends with a green underlined comma.
As an example, the P802.3bu summary is: "This amendment includes changes to IEEE Std 802.3-2015 to define a methodology for the provision of power via a single twisted pair to connected Data Terminal Equipment (DTE) with IEEE 802.3 interfaces."

SuggestedRemedy

Re-write the summary in line with those of other amendments

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **6** *L* **4** # 325
Law, David HPE

Comment Type **E** *Comment Status* **X**

Suggest the text '... IEEE P802.3xx ...' should be changed to read '... IEEE P802.3bt ...'.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **6** *L* **22** # 326
Law, David HPE

Comment Type **E** *Comment Status* **X**

Please add Working Group voter list supplied in IEEE_P802d3bt_WG_names_DL_240816.fm

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **11** *L* **54** # 481
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

We`re at D2.0 and I am getting *so* close to getting all the headers and footers in the document right!

Unfortunately the table of contents still reads "Copyright (c) 201x IEEE."

SuggestedRemedy

Change to "Copyright (c) 2016 IEEE."

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **19** *L* **44** # 87
Zimmerman, George CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

Update which amendments are likely to be in parallel that you may be concerned about. Bk and bj are long gone.

SuggestedRemedy

See comment

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **19** *L* **44** # 135
Grow, Robert RMG Consulting

Comment Type **ER** *Comment Status* **X**

This editorial note has not been updated for this draft (P802.3bj and P802.3bk are not running in parallel).

SuggestedRemedy

Either delete (if information provided in front matter document list), or update to reflect the projects and drafts considered in creating this draft.

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.3** *P* **20** *L* **3** # 151
Laubach, Mark Broadcom Limited

Comment Type **E** *Comment Status* **X**

Remote editor's note and subclause 1.3. Not needed if there is not content under 1.3.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.3** *P* **20** *L* **8** # 88

Zimmerman, George — CME Consulting, Aqua

Comment Type **TR** *Comment Status* **X**

TIA-TSB-184-A now contains information necessary to understanding the cabling requirements for Clause 33, including not only ambient temperature but DC unbalance both within and between pairsets. As such it is no longer bibliographical, but essential in understanding the cabling requirements for the document and should be normative

SuggestedRemedy

Add reference to TIA TSB-184-A to the normative references and delete the editor's note, and update references in document (e.g., page 44 line 26)

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.254** *P* **20** *L* **20** # 89

Zimmerman, George — CME Consulting, Aqua

Comment Type **T** *Comment Status* **X**

The text in clause 33 deals with cases of more than on PSE connected in the link segment (an endpoint and a midspan - hence there is backoff). Therefore there can actually be more than one link section per link segment, and it should be between "a" PSE and PD

SuggestedRemedy

Change "the" to "a"

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.313a** *P* **20** *L* **22** # 164

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **X**

"Insert 1.4.131a after" should be "Insert 1.4.313a after"

SuggestedRemedy

Change "Insert 1.4.131a after" to "Insert 1.4.313a after"

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.313a** *P* **20** *L* **24** # 482

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **X**

"pairset: Either of the two valid 4-wire connection s as listed in IEEE 802.3, 33.2.4". There are four connections listed in 33.2.4; be more explicit.

SuggestedRemedy

Change
Either of the two valid 4-wire connections as listed in IEEE 802.3, 33.2.4.

to
Either Alternative A or Alternative B as described in IEEE 802.3, 33.2.4.

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.381a** *P* **20** *L* **26** # 136

Grow, Robert — RMG Consulting

Comment Type **ER** *Comment Status* **X**

Correct subclause number and instruction, insert is alphanumerically after 802.3bp 1.4.381a single twisted-pair copper cable.

SuggestedRemedy

Change number to 1.4.381b update editing instruction to reference IEEE Std 802.3bp-2016 (or 20xx if draft is produced prior to 22 Sep or P802.3bp is not approved by the SASB on that date).

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.381a** *P* **20** *L* **26** # 165

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **X**

There is no editing instruction for 1.4.381a.
Also, IEEE Std 802.3bp-2016 inserted "single twisted pair copper cable" as 1.4.381a, so "single-signature PD" will have to be 1.4.381aa

SuggestedRemedy

Add an editing instruction "Insert 1.4.381aa before 1.4.381a "single-signature PD" (as inserted by IEEE Std 802.3bp-2016) as follows:
Renumber the new definition to 1.4.381aa

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.381a** *P* **20** *L* **26** # 90

Zimmerman, George — CME Consulting, Aqua

Comment Type **TR** *Comment Status* **X**

If a PD uses a single signature resistance and switches it between the two pairsets so that it is never connected to the same pairset, is it still single-signature? If so, the definition needs to say "simulataneously shares".

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.415** *P* **20** *L* **31** # 137

Grow, Robert — RMG Consulting

Comment Type **ER** *Comment Status* **X**

P802.3bu/D3.1 has all edits shown here, and more.

SuggestedRemedy

Delete the change to 1.4.415

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.415** *P* **20** *L* **31** # 483

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **X**

"…Class 1 to Class 6 signature…" Elsewhere in the draft, the convention is "Class X" when referring to a sequence of class events.

SuggestedRemedy

Change lines 31, 36, 43
Class X signature

to
Class X

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.418a** *P* **20** *L* **34** # 138

Grow, Robert — RMG Consulting

Comment Type **ER** *Comment Status* **X**

The numbering duplicates numbers in P802.3bu.

SuggestedRemedy

Change the subclause numbers and editing instruction to insert as 1.4.418aa through 1.4.418ad after 1.4.418 “Type 2 PSE” (before insert 1.4.418a of IEEE Std 802.3bu-20xx).

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.418a** *P* **20** *L* **36** # 166

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **X**

P802.3bu is inserting "Type A PoDL System" as 1.4.418a, so the Type x insertions in this draft will have to be 1.4.418aa through 1.4.418ad.

SuggestedRemedy

Change the editing instruction to: "Insert 1.4.418aa to 1.4.418ad before 1.4.418a “Type A PoDL System" (as inserted by IEEE Std 802.3bu-201x) as follows:"
Re-number the inserted definitions to be 1.4.418aa through 1.4.418ad.

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.418a** *P* **20** *L* **37** # 484

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **X**

"…multiple-Event classification…" Capitaliazation does not match rest of draft.

SuggestedRemedy

Change lines 37, 40
multiple-Event

to
Multiple-Event

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.418b** *P* **20** *L* **40** # 91
Zimmerman, George CME Consulting, Aqua

Comment Type **TR** *Comment Status* **X**

Using Type to define PSE Type is circular. Power levels are defined by classes. Text here (for Type 3), and in 1.4.418d (Type 4) should refer to Class power levels as in the definitions for Type 3 and Type 4 PDs. However, it appears that for Type 3 PSEs there is no identifiable maximum class supported (there are up to Class 3, up to Class 4 and up to Class 6 Type 3 PSEs in Table 33-2), so the description of "up to xxx power levels" is ambiguous at best, unsuitable for the definition.

SuggestedRemedy

Delete "up to Type 3 power levels", and in 1.4.418d, delete "up to "Type 4 power levels"

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.418c** *P* **20** *L* **45** # 93
Zimmerman, George CME Consulting, Aqua

Comment Type **ER** *Comment Status* **X**

Is Mode capitalized or not (it is here, but not in the same text on line 37). Most usages of Mode as powering with a pairset in Clause 33 are capitalized, however, some are not, and Table 79-6b has usage same as the definitions not capitalized.

SuggestedRemedy

Make capitalization consistent between 1.4.418a and 1.4.418c and scrub the text to make consistent throughout in the draft.

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.418d** *P* **20** *L* **47** # 128
Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

For consistency with the base standard, "and 4-pair power. (see IEEE 802.3, Clause 33)." should be written as ""and 4-pair power. (See IEEE 802.3, Clause 33).", i.e., have "." at the end of the sentence, and then start with "S" in the brackets. The same change to be applied in 1.4.418a/b/c/d and in 1.4.415 and in 1.4.381a, and in 1.4.425 and 1.4.426.

SuggestedRemedy

per comment. Note that the base text is not consistent in itself today

Proposed Response *Response Status* **O**

Cl **25** *SC* **25** *P* **21** *L* **1** # 327
Law, David HPE

Comment Type **E** *Comment Status* **X**

Please correct draft designation in header in this Clause, Clause 30 and Clause 79.

SuggestedRemedy

Suggest the header text 'IEEE Draft P802.3/D2.0' should read 'IEEE Draft P802.3bt/D2.0'.

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.425** *P* **21** *L* **3** # 539
Thompson, Geoff GraCaSI S.A.

Comment Type **ER** *Comment Status* **X**

This is a parameter, not a term. As such, it definition belongs in clause 33, not clause 1

SuggestedRemedy

Move to clause 33

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.426** *P* **21** *L* **7** # 540
Thompson, Geoff GraCaSI S.A.

Comment Type **ER** *Comment Status* **X**

This is a parameter, not a term. As such, it definition belongs in clause 33, not clause 1

SuggestedRemedy

Move to clause 33

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.5** *P* **21** *L* **15** # 129
Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

No need to keep 1.5 and 1.3 if there is no content

SuggestedRemedy

Remove and add *only* if there is anything to be had there

Proposed Response *Response Status* **O**

Cl **25** *SC* **25.4.5** *P* **23** *L* **10** # 130
Hajduczenia, Marek Charter Communicatio

Comment Type **ER** *Comment Status* **X**

It seems like text of requirement is being modified. Associated PICS also need to be updated

SuggestedRemedy

Please update PICS to match newly modified text

Proposed Response *Response Status* **O**

Cl **25** *SC* **25.4.5** *P* **23** *L* **11** # 7
Jones, Chad Cisco

Comment Type **E** *Comment Status* **X**

"A 100BASE-TX receiver in a Type 2, Type 3, and Type 4 Endpoint PSE or Type 2, Type 3, and Type 4 PD".
In the section below, this is stated much more succinctly by saying "Type 2 or greater". Make this match.

SuggestedRemedy

change: "A 100BASE-TX receiver in a Type 2, Type 3, and Type 4 Endpoint PSE or Type 2, Type 3, and Type 4 PD..."
to: "A 100BASE-TX receiver in a Type 2 or greater Endpoint PSE or a Type 2 or greater PD…"

and:
change: "A 100BASE-TX transmitter in a Type 2, Type 3, and Type 4 Endpoint PSE or Type 2, Type 3, and Type 4 PD..."
to: "A 100BASE-TX transmitter in a Type 2 or greater Endpoint PSE or a Type 2 or greater PD..."

Proposed Response *Response Status* **O**

Cl **25** *SC* **25.4.5** *P* **23** *L* **11** # 82
Zimmerman, George CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

Text in 25.4.5 should be parallel to text in 25.4.7, 25.4.5 enumerates the types, while 25.4.7 simply calls out "or greater".

SuggestedRemedy

Replace additions of ", Type 3, and Type 4" with "or greater" (4 instances in paragraph).

Proposed Response *Response Status* **O**

Cl **25** *SC* **25.4.5** *P* **23** *L* **15** # 152
Laubach, Mark Broadcom Limited

Comment Type **E** *Comment Status* **X**

Cross reference for "25.4.5.1". Add it.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **O**

Cl **25** *SC* **25.4.7** *P* **23** *L* **22** # 8
Jones, Chad Cisco

Comment Type **ER** *Comment Status* **X**

"passed through a link specified in ; and received"
there is a missing link before the semicolon. Checking old versions, the proper link is 25.4.8

SuggestedRemedy

add link to the reference section as 25.4.8

Proposed Response *Response Status* **O**

Cl **30** *SC* **30** *P* **24** *L* **1** # 286
Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

All new TLVs need to be added to this section. This include Autoclass and Measurements. This comment is related to other comments marked COMMENT-2.

SuggestedRemedy

Add on line 4, "Editor's Note: readers are encouraged to improve the management section to encorporate new TLVs. Table 79-8 should match theses updates." This comment should not be considered satisfied until an acceptable solution is provided to addess the comment made.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30** *P* **24** *L* **1** # 2

Carlson, Steven HSD/Robert Bosch

Comment Type **ER** *Comment Status* **X**

It appears the entire subclause from the base document has been copied into Clause 30. It is difficult to follow the change instructions and to determine what has actually changed.

SuggestedRemedy

Follow the 802.3 editorial guidelines for changes.
http://grouper.ieee.org/groups/802/3/WG_tools/editorial/requirements/words.html

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.5** *P* **24** *L* **8** # 92

Zimmerman, George CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

Table 30-7 editing instruction inserts new rows, or "changes" the table. This is complicated because there are two insertions. Insert instructions do not ordinarily get underlines either.

SuggestedRemedy

Change editing instruction to read "Insert new rows" and specify the locations of the insert. Consult editorial staff as to whether it is clearer to leave the old rows in or how to designate there are multiple blocks of inserted rows while deleting the unchanged rows.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **27** *L* **1** # 167

Anslow, Pete Ciena

Comment Type **ER** *Comment Status* **X**

Comment 1 against D1.7 noted that there was a large number of unmodified subclauses in amended clauses in the draft.
The response included: "Any unchanged subsection to be removed before D2.0"
This has not been done. There is still a large amount of unmodified subclauses in amended clauses in the draft.

SuggestedRemedy

Remove all subclauses that are not being changed in amended clauses.
This appears to include:
The text in 30.9.1 (leave the heading)
30.9.1.1.1 through 30.9.1.1.3
30.9.1.1.5
30.9.1.1.7 through 30.9.1.1.14
All of 30.9.2
All of 30.10
30.12.2.1.5 through 30.12.2.1.18
30.12.2.1.21
The text in 30.12.3
30.12.3.1.5 through 30.12.3.1.18
79.1 through 79.2
The text in 79.3
All of 79.3.1
[There appers to be some new text at the end of 79.3.2 with no editing instruction. Add an editing instruction]
79.3.2.1 through 79.3.2.3
The content of 79.3.2.4 (leave the heading)
79.3.2.4.2 and 79.3.2.4.3
The content of 79.3.2.5 and 79.3.2.6 except Table 79-5 and Table 79-6
79.3.2.7
The content of 79.4 (leave the heading)
79.4.1
The text of 79.4.2
The only change to the PICS appers to be to change "enquiries" to "inquiries" on pasge 228, line 22, but this is "inquiries" in the base standard, so unless there are unmarked changes remove the entire PICS section.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9** *P* **27** *L* **1** # 131

Hajduczenia, Marek — Charter Communicatio

Comment Type **ER** *Comment Status* **X**

Subclause 30.9 contaisn right now a mix of existing and modified text. Existing unmodified text should not be part of the amendment and ought to be removed

SuggestedRemedy

Please scrub 30.9 and 30.10 and 30.12 and retain only text (subclauses) that need to be modified (e.g., 30.9.1.1.4) but remove any subclauses that have not been modified under this project.
There is a *lot* of text in these subclauses which are not needed there
There is also no indication (editorial instructions) as to what text is being added (which subclauses are new)

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9** *P* **27** *L* **1** # 139

Grow, Robert — RMG Consulting

Comment Type **E** *Comment Status* **X**

I assume the intent of including all of 30.9 through 30-12 is for convienence of the reviewer. That shojuld be noted.

SuggestedRemedy

Add boxed editor's note explaining that all of the PoE management has been included for convienence of the reviewer, and should be removed by the publication editor during publication preparation.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1** *P* **27** *L* **4** # 153

Laubach, Mark — Broadcom Limited

Comment Type **E** *Comment Status* **X**

Editor instructions appear to be missing pertaining to lines 4 through 46. Is this replacement text, new text?... Add editor instructions.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **27** *L* **5** # 58

Ran, Adee — Intel

Comment Type **E** *Comment Status* **X**

The content of subclauses 30.9, 30.10, and clause 78 seems to include the whole content from the base document, with editorial instructions only in some subclauses. It is difficult to dentify the changes. Amendments should include only the amended parts.

SuggestedRemedy

Remove all unchanged subclauses in the amendment.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.3** *P* **27** *L* **44** # 328

Law, David — HPE

Comment Type **TR** *Comment Status* **X**

The 'BEHAVIOUR DEFINED AS' text states that 'When “true” the PSE Pinout Alternative used can be controlled through the aSectionSESs attribute. When “false” the PSE Pinout Alternative used cannot be controlled through the aSectionSESs attribute.'. Since the aSectionSESs attribute is part of the WAN Interface Sublayer (WIS) object class I don't think this is correct. Instead I think the reference should be to the aPSEPowerPairs attribute.

SuggestedRemedy

Suggest that both instances of the text '... through the aSectionSESs attribute ...' should be changed to read '... through the aPSEPowerPairs attribute ...'.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.4** *P* **28** *L* **8** # 329

Law, David — HPE

Comment Type **TR** *Comment Status* **X**

The 'BEHAVIOUR DEFINED AS' text states that 'Alternative used to the indicated value only if the attribute aSectionSESThreshold is “true.” If the
attribute aSectionSESThreshold is “false” a SET operation has no effect.'. Since the aSectionSESThreshold attribute is part of the WAN Interface Sublayer (WIS) object class I don't think this is correct. Instead I think the reference should be to the aPSEPowerPairsControlAbility attribute.

SuggestedRemedy

Suggest that both instances of the text '... the attribute aSectionSESThreshold is ...' should be changed to read '... the attribute aPSEPowerPairsControlAbility is ...'.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.4** *P* **28** *L* **8** # 330

Law, David HPE

Comment Type **TR** *Comment Status* **X**

Subclause 33.2.6.7 '4PID requirements' states that 'Type 3 and Type 4 PSEs shall determine whether an attached PD is a candidate to receive power on both pairsets prior to applying power to both pairsets.' and then goes on to state the conditions have to be met before applying power to both pairsets.

The changes to this attribute has added a new enumeration 'both' defined as 'PSE Pinout Alternative A and Alternative B'. The behaviour then states that 'A SET operation changes the PSE Pinout Alternative used to the indicated value only if the attribute aSectionSESThreshold is “true.” (See my other comment that aSectionSESThreshold should be aPSEPowerPairsControlAbility).

Based on this it seems that, if the attribute aPSEPowerPairsControlAbility is "true", and if the aPSEPowerPairs attribute is "signal" or "spare", performing a SET operation with the enumeration 'both' '... changes the PSE Pinout Alternative used ...' to 4-pair regardless of the Subclause 33.2.6.7 4PID requirements. In addition what happens if there is a SET operation with the enumeration 'both' on a PSE that doesn't support 4-pair operation.

SuggestedRemedy

Suggest the text 'A SET operation changes the PSE Pinout Alternative used to the indicated value only if the attribute aSectionSESThreshold is “true.”' be changed to read 'If the attribute aPSEPowerPairsControlAbility is “true” a SET operation will cause the PSE functions to be disabled, the PSE Pinout Alternative use to be changed to the value indicated if supported, and then the PSE functions to be enabled.'

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.5** *P* **28** *L* **17** # 154

Laubach, Mark Broadcom Limited

Comment Type **E** *Comment Status* **X**

No editor instructions apparent for this subclause. This subclause does exist in Clause 2, so not sure what the intent is here. Detected one difference between the texts. So, add appropriate editor's instructions and mark what is being added/deleted.

In looking forward, this is a repeating problem. Clause 30 of .3bt should only contain the subclauses and associated text for what is being changed in Clause 30, if nothing is being changed, it doesn't need to be this draft. Only the first subclause headers for each level leading up to the new/changed subclauses , the subclause header of interest, the editing instructions, and the added/changed text for the specific sections.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.6** *P* **29** *L* **11** # 331

Law, David HPE

Comment Type **TR** *Comment Status* **X**

The 'BEHAVIOUR DEFINED AS' text states that 'This value is only valid while a PD is being powered, that is the attribute aLineSESThreshold reporting the enumeration “deliveringPower.”' Since the aLineSESThreshold attribute is part of the WAN Interface Sublayer (WIS) object class I don't think this is correct. Instead I think the reference should be to the aPSEPowerDetectionStatus attribute.

SuggestedRemedy

Suggest the text '... is the attribute aLineSESThreshold reporting ...' should be changed to read '... is the attribute aPSEPowerDetectionStatus reporting ...'.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.7** *P* **29** *L* **23** # 485

Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

The phrase "this will map to" is unclear. Does this mean the counter will map to or the increment will map to. Either way it is incorrect. The increment has to map to an edge event.

SuggestedRemedy

Change
If a Clause 22 MII or Clause 35 GMII is present, then this will map to the Invalid Signature bit specified in 33.5.1.2.6.;

to
If a Clause 22 MII or Clause 35 GMII is present, then this counter is icremented when the Invalid Signature bit specified in 33.5.1.2.6 changes from FALSE to TRUE.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.8** *P* **29** *L* **35** # 486

Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

The phrase "this will map to" is unclear. Does this mean the counter will map to or the increment will map to. Either way it is incorrect. The increment has to map to an edge event.

SuggestedRemedy

Change
If a Clause 22 MII or Clause 35 GMII is present, then this will map to the Power Denied bit specified in 33.5.1.2.4.;

to
If a Clause 22 MII or Clause 35 GMII is present, then this counter is icremented when the Power Denied bit specified in 33.5.1.2.4 changes from FALSE to TRUE.;

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.9** *P* **29** *L* **47** # 487

Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

The phrase "this will map to" is unclear. Does this mean the counter will map to or the increment will map to. Either way it is incorrect. The increment has to map to an edge event.

SuggestedRemedy

Change
If a Clause 22 MII or Clause 35 GMII is present, then this will map to the Overload bit specified in 33.5.1.2.8.;

to
If a Clause 22 MII or Clause 35 GMII is present, then this counter is icremented when the Overload bit specified in 33.5.1.2.8 changes from FALSE to TRUE.;

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.10** *P* **30** *L* **5** # 488

Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

The phrase "this will map to" is unclear. Does this mean the counter will map to or the increment will map to. Either way it is incorrect. The increment has to map to an edge event.

SuggestedRemedy

Change
If a Clause 22 MII or Clause 35 GMII is present, then this will map to the Short Circuit bit specified in 33.5.1.2.7.;

to
If a Clause 22 MII or Clause 35 GMII is present, then this counter is icremented when the Short Circuit bit specified in 33.5.1.2.7 changes from FALSE to TRUE.;

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.11** *P* **30** *L* **17** # 489

Stover, David — Linear Technology

Comment Type **T** *Comment Status* **X**

The phrase "this will map to" is unclear. Does this mean the counter will map to or the increment will map to. Either way it is incorrect. The increment has to map to an edge event.

SuggestedRemedy

Change
If a Clause 22 MII or Clause 35 GMII is present, then this will map to the MPS Absent bit specified in 33.5.1.2.9.;

to
If a Clause 22 MII or Clause 35 GMII is present, then this counter is icremented when the MPS Absent bit specified in 33.5.1.2.9 changes from FALSE to TRUE.;

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.2.1** *P* **31** *L* **8** # 332

Law, David — HPE

Comment Type **TR** *Comment Status* **X**

The 'APPROPRIATE SYNTAX' and 'BEHAVIOUR DEFINED AS' text both refer to the aSectionStatus attribute which is part of the WAN Interface Sublayer (WIS) object class. I don't think this is correct and instead this should reference aPSEAdminState.

SuggestedRemedy

Suggest that:

[1] The text 'Same as aSectionStatus' should read 'Same as aPSEAdminState'.
[2] The text '... a means to alter aSectionStatus ...' should read '... a means to alter aPSEAdminState'.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.14** *P* **35** *L* **4** # 490

Stover, David — Linear Technology

Comment Type **T** *Comment Status* **X**

"aLldpXdot3LocPowerType" There is no value for Type 3 or Type 4.

SuggestedRemedy

Add values for Type 3 and Type 4. I'm honestly not sure what the encoding should be for this clause. Make change to p35, L4 and p38, L50

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18a** *P* **36** *L* **11** # 168

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **X**

Editing instruction "Insert four new managed object classes as shown in 30.12.2.1.18a, 30.12.2.1.18b, 30.12.2.1.18c, 30.12.2.1.18d" is not formatted correctly.

SuggestedRemedy

Change editing instruction to: "Insert 30.12.2.1.18a, 30.12.2.1.18b, 30.12.2.1.18c, and 30.12.2.1.18d after 30.12.2.1.18 as follows:"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18a** *P* **39** *L* **53** # 169

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **X**

Editing instruction "Insert four new remote system group managed object classes as shown in 30.12.3.1.18a, 30.12.3.1.18b, 30.12.3.1.18c, 30.12.3.1.18d" is not formatted correctly.

SuggestedRemedy

Change editing instruction to: "Insert 30.12.3.1.18a, 30.12.3.1.18b, 30.12.3.1.18c, and 30.12.3.1.18d after 30.12.3.1.18 as follows:"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33** *P* **41** *L* **1** # 59

Ran, Adee Intel

Comment Type **TR** *Comment Status* **X**

It is extremely difficult to review a whole clause that is replaced. Looking at the compare file does not help much, since much of the figures that were not changed are marked as modified, and there are many minor editorial changes that cause lots of blue and red marking.

Amending an existing clause should be done with the minimum changes required.

Technically, it is unclear how the large number of changes in an existing clause would affect compliance of existing devices.

Wouldn't it be more appropriate to have a new clause to cover the 4-pair POE?

SuggestedRemedy

Either have this amendmed clause marked with all specific changes (instead of a global "replace"), or create a new clause for the new specifications.

(If there is a good reason to replace the whole clause, consider adding an editor's note explaining this reason. This may prevent similar comments in the sponsor ballot)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1** *P* **41** *L* **1** # 541

Thompson, Geoff GraCaSI S.A.

Comment Type **ER** *Comment Status* **X**

Maintenance Request #1276 not implemented in draft

SuggestedRemedy

Implement Maintenance Request #1276

Proposed Response *Response Status* **O**

Cl **33** *SC* **33** *P* **41** *L* **1** # 156

Laubach, Mark Broadcom Limited

Comment Type **T** *Comment Status* **X**

When looking at existing Clause 33 and this Clause 33 replacement, I find enough of the same text and subclause numbers. As such, I cannot tell what has been changed from existing Clause 33 and what remains the same. Modify Clause 33 to be the normal method of updating/changing existing clauses: i.e., editing instructions and adding/deleting text, etc.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33** *P* **41** *L* **1** # 132

Hajduczenia, Marek Charter Communicatio

Comment Type **TR** *Comment Status* **X**

Clause 33 is marked for wholesome replacement. Does it mean that the scope of changes to the existing base material is so dramatic that it warrants a complete replacement? It hides all technical changes from the reader, though

SuggestedRemedy

Please provide proper markup for Clause 33 changes. Right now, it is not really possible to tell what the changes are and comment on the changes correctly.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33** *P* **41** *L* **1** # 350

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **X**

We have multiple variants of the One True "ICon-2P-unb" in the doc.

My logic is this:
- Put "-2P" at the end, except if the suffix directly applies to pairsets.
- Use underscores for suffixes, except if they appear after "-2P".

SuggestedRemedy

Replace all "ICon_2P_unb", "ICon-2P_unb" and such by the One True "ICon-2P-unb"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33** *P* **41** *L* **4** # 3

Carlson, Steven HSD/Robert Bosch

Comment Type **ER** *Comment Status* **X**

The replacment of the entire clause with the diff against the base standard makes it extremely difficult to tell what has actually changed due to the way that FrameMaker marks changes.

SuggestedRemedy

Provide a diff that makes it easier to determine what has changed.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1** *P* **41** *L* **4** # 5

Jones, Chad Cisco

Comment Type **TR** *Comment Status* **X**

The chair submits this on behalf of maintenance. This is MR1276 submitted by David Law. This was sumbitted against 33.1 but also applies to 1.4 and 1.5

The IEEE Std 802.3-2012 keywords include 'Power over Ethernet', however 'Power over Ethernet' and 'PoE' do not appear anywhere within the body of the standard.

SuggestedRemedy

[1] Add the following new definition in alphanumeric order to IEEE Std 802.3 subclause 1.4 'Definitions':

1.4.xxx IEEE 802.3 Power over Ethernet (IEEE 802.3 PoE): A system consisting of one PSE and one PD that provides power across balanced twisted-pair cabling. (See IEEE Std 802.3, Clause 33).

[2] Add the following new definition in alphanumeric order to IEEE Std 802.3 subclause 1.5 'Abbreviation':

PoE Power over Ethernet

[3] Modify the first paragraph of IEEE Std 802.3 subclause 33.1 'Overview' to read as follows:

This clause defines the functional and electrical characteristics for providing a Power over Ethernet (PoE) system for deployment over balanced twisted-pair cabling. The system consists of two optional power (non-data) entities, a Powered Device (PD) and Power Sourcing Equipment (PSE), for use with the MAU defined in Clause 14 and the PHYs defined in Clause 25 and Clause 40. These entities allow devices to draw/supply power using the same generic cabling as is used for data transmission.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1** *P* **41** *L* **12** # 333

Law, David HPE

Comment Type **T** *Comment Status* **X**

The first paragraph of this subclause states that 'This clause defines ... two optional power (non-data) entities ... for use with the MAU defined in Clause 14
and the PHYs defined in Clause 25, Clause 40, and Clause 55.' however as stated in the third paragraph 2.5GBASE-T and 5GBASE-T PHYs defined in Clause 126 are also supported.

SuggestedRemedy

Suggest that the text '... Clause 25, Clause 40, and Clause 55.' is changed to read ' Clause 25, Clause 40, Clause 126, and Clause 55.'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1** *P* **41** *L* **12** # 94

Zimmerman, George CME Consulting, Aqua

Comment Type **TR** *Comment Status* **X**

Phys defined in Clause 126 (802.3bz, which will precede this amendment) are also defined in this clause These PHYs are called out on line 18 as well, but not in the clause list.

SuggestedRemedy

Change "and Clause 55" to "Clause 55, and Clause 126"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1** *P* **41** *L* **15** # 533

Booth, Brad Microsoft

Comment Type **E** *Comment Status* **X**

The statement "This clause uses several terms defined in Clause 1.4." is a blanket statement for any clause in the 802.3 standard or draft standard. If this specification is published as a stand-alone amendment, readers of this amendment may assume that 1.4 in the amendment provides all the definitions of the necessary terms which is not correct.

SuggestedRemedy

Delete the sentence.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1** *P* **41** *L* **22** # 491

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **X**

"b) The characteristics of a powered device's load on the power source and the structured cabling"

Why is there a non-standard capitalization and why is the just defined PD acronym not used?

Why is the term device used instead of PD?

SuggestedRemedy

Change
b) The characteristics of a powered device's load on the power source and the structured cabling
c) A protocol allowing the detection of a device that requests power from a PSE
d) Methods to classify devices based on their power needs
e) A method for powered devices and power sourcing equipment to dynamically negotiate and allocate power

to
b) The characteristics of a PD's load on the power source and the structured cabling
c) A protocol allowing the detection of a PD that requests power from a PSE
d) Methods to classify PDs based on their power needs
e) A method for PDs and PSEs to dynamically negotiate and allocate power

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.2** *P* **43** *L* **17** # 95

Zimmerman, George — CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

Title should be parallel to Figure 33-2 (and the rest of 802.3), CSMA/CD has been replaced by "Ethernet"

SuggestedRemedy

Change "CSMA/CD" to "Ethernet"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.2** *P* **43** *L* **17** # 170

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **X**

The title of Figure 33-3 is not in line with those of Figures 33-1 and 33-2 or the changes made from "IEEE 802.3 CSMA/CD LAN model" to "IEEE 802.3 Ethernet LAN model" in the most recent revision project.

SuggestedRemedy

In the title of Figure 33-2, change "IEEE 802.3 CSMA/CD LAN model" to "IEEE 802.3 Ethernet LAN model"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **43** *L* **31** # 351

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

Table 33-1 in 33.1.3, there is a table footnote with "Minimum Cabling Type".

This footnote points to 33.1.3.1 and 33.1.3.2... do we really need to point the reader to what is essentially the next page ?

SuggestedRemedy

- Remove table 33-1 footnote 2
- Decapitalize to 'Minimum cabling type' and 'Nominal highest current per pair'

Proposed Response *Response Status* **O**

Cl **33** *SC* **33** *P* **43** *L* **33** # 171

Anslow, Pete Ciena

Comment Type **TR** *Comment Status* **X**

1.2.6 says: "Unless otherwise stated, numerical limits in this standard are to be taken as exact, with the number of significant digits and trailing zeros having no significance." Consequently trailing zeros (after the decimal point) should not be shown.

SuggestedRemedy

Remove trailing zeros throughout the draft. This includes:
Table 33-1, Table 33-8, Table 33-9, Table 33-10, Table 33-11, Page 96 line 7, Table 33-12, Table 33-13, Table 33-14, Table 33-15, Table 33-17, Equation 33-11, Equation 33-14, Equation 33-15, Equation 33-17, Equation 33-18, Equation 33-19, Table 33-18, Table 33-21, Table 33-22, Table 33-23 Table 33-24, Table 33-25, Table 33-26, Table 33-28, Table 33-29, Table 33-30, Table 33-31, Table 33-32, Table 33-33, Equation 33-34, Equation 33-35, Equation 33-36, Equation 33-37, Equation 33-38, Equation 33A-4, Table 33B-1.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **43** *L* **36** # 174

Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**

The references to "ISO/IEC 11801" and "ANSI/EIA/TIA-568" should not be in green

SuggestedRemedy

Make all 6 references in the botton 3 rows of Table 33-1 black

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **43** *L* **42** # 9

Jones, Chad Cisco

Comment Type **E** *Comment Status* **X**

Table 33-1, the Type 4 entry under the PSE type column has a superscript reference to item 3 below the table. This note refers to TSB-184-A, which is a cabling spec. Therefore this reference belongs as information on the cabling column.

SuggestedRemedy

Move the superscript '3' on row 4 from column 1 to column 5.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **43** *L* **46** # 322

Shariff, Masood CommScope

Comment Type **ER** *Comment Status* **X**

Refer to ISO documents as well

SuggestedRemedy

Change:
3For additional information, see TIA TSB-184-A.

To
3For additional information, see ISO TR 29125 and TIA TSB-184-A.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **43** *L* **47** # 534

Flatman, Alan LAN Technologies

Comment Type **E** *Comment Status* **X**

Note 3 under Table 33-1 refers to TIA TSB-184-A. It should also refer to the International equivalent, ISO/IEC TR 29125 Edition 2, which is expected to be approved before 802.3bt is complete.

SuggestedRemedy

Add reference to ISO/IEC TR 29125 Edition 2.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **43** *L* **50** # 96

Zimmerman, George — CME Consulting, Aqua

Comment Type **TR** *Comment Status* **X**

Is Icable the current on one twisted pair, or is it the "Nominal Highest Current per pair" as in the header on Table 33-1? In the discussion in this paragraph, it appears that Icable is the current per pair. Everywhere else, it is the nominal highest current per pair (see, e.g., 33.1.3.1) In other places it is unclear (e.g., Table 33-17, where it is part of a technical requirement)

SuggestedRemedy

If Icable is the the maximum current per pair, change "current" to "maximum current" in the first sentence of line 50, and on line 51, change "source Icable" to "source current", and lines 51 and 54, change "(+Icable)" and (-ICable) to "positive current" and "negative current", respectively, in both places. If Icable isn't the maximum current, then more extensive changes are required to Table 33-1, and 33.1.3.1, to create an Icable_max, and replace Icable with it. It is unclear which usage the most important one takes - Table 33-17.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **43** *L* **50** # 6

Jones, Chad — Cisco

Comment Type **TR** *Comment Status* **X**

the chair submits this on behalf of maintenance. This is MR1278 submitted by Geoff Thompson. This was submitted against 33.1.3 but also applies to 1.4.

The "definitions" for:
Iport (1.4.234)
Vpd (1.4.425)
Vpse (1.4.426)
are incorrectly placed in the definitions clause of the overall standard for terms (1.4). They are not terms, They are parameters, as such they belongwithin the technical clause in which they are used.

SuggestedRemedy

Text is not to be changed.
Existing text is to be moved to appropriate placement within clause 33. Suggested placement is adjacent to Icable definition in 33.1.4. (Chair note: this is the comment from the MR. This is now located in 33.1.3.)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **43** *L* **50** # 147

Maguire, Valerie — Siemon

Comment Type **E** *Comment Status* **X**

"Multi-twisted pair cable" is not a generally recognized term for balanced twisted-pair cable. Missing hyphen between "twisted" and "pair".

SuggestedRemedy

Replace "multi-twisted pair cable" with "balanced twisted-pair cable".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **43** *L* **50** # 323

Shariff, Masood — CommScope

Comment Type **T** *Comment Status* **X**

Non standard terminology. Multi-twisted pair cable implies all conductors are twisted together, which will be a very poorly balanced cable.

SuggestedRemedy

Change:
multi-twisted pair cable.

To:

twisted-pair cable.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **44** *L* **1** # 492

Stover, David — Linear Technology

Comment Type **T** *Comment Status* **X**

The text carefully distinguishes between DC loop resistance and DC pair loop resistance, stating this clause uses only DC pair loop resistance.

Furthermore the resistance is described as the path from the PSE PI to the PD PI. It is actually the round trip path.

Then the text refers to the wrong one...

"The cable references use “DC loop resistance,” which refers to a single conductor. This clause uses “DC pair loop resistance,” which refers to a pair of conductors in parallel. Therefore, RCh is related to, but not equivalent to, the “DC loop resistance” called out in the cable references.

RChan is the actual DC loop resistance between the PI of the PSE and the PI of the PD. RChan has a maximum value of RCh/2 when operating in 4-pair mode.

RChan-2P is the actual DC loop resistance of a pairset from the viewpoint of the PSE PI and the PD PI. RChan-2P has a maximum value of RCh."

SuggestedRemedy

Change

RChan is the actual DC loop resistance between the PI of the PSE and the PI of the PD. RChan has a maximum value of RCh/2 when operating in 4-pair mode.
RChan-2P is the actual DC loop resistance of a pairset from the viewpoint of the PSE PI and the PD PI.
RChan-2P has a maximum value of RCh.

to

RChan is the actual DC loop pair resistance between the PI of the PSE and the PI of the PD and back to the PSE PI. RChan has a maximum value of RCh/2 when operating in 4-pair mode.
RChan-2P is the actual DC loop pair resistance of a pairset from the viewpoint of the PSE PI and the PD PI.
RChan-2P has a maximum value of RCh.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3.1** *P* **44** *L* **27** # 140

Grow, Robert — RMG Consulting

Comment Type **ER** *Comment Status* **X**

The note is somewhat vague but indicates the possibility that publication publication editors might do an update to a normative reverence.

SuggestedRemedy

Change note to indicate update reference prior to final Sponsor ballot recirculation, and indicate if that action is conditional on approval or TSB-184-A.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3.1** *P* **44** *L* **27** # 141

Grow, Robert — RMG Consulting

Comment Type **ER** *Comment Status* **X**

I find it inconsistent that a place holder for 1.3 is included in the document, yet there is no placeholder for Annex A where this note indicates a plan to either insert a biblography entry for TSB-184-A, or update the current bibliography entry.

SuggestedRemedy

Add Annex A changes to the draft indicating in an editor's note the intended update or insert. If updating the reference, assure no other projects or published standards text points to existing reference.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3.1** *P* **44** *L* **27** # 155

Laubach, Mark — Broadcom Limited

Comment Type **E** *Comment Status* **X**

Incorrect format for editor's note. Change to correct format.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3.1** *P* **44** *L* **27** # 10

Jones, Chad Cisco

Comment Type **E** *Comment Status* **X**

The editors note; we know that it will be called TSB-184-A and we have the latest draft that is expected to be ratified as is. Change reference in 33.1.3.1 to TSB-184-A and delete note.

SuggestedRemedy

Change reference in 33.1.3.1 to TSB-184-A and delete note.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3.2** *P* **44** *L* **36** # 321

Shariff, Masood CommScope

Comment Type **ER** *Comment Status* **X**

when used as an adjective qualifyiing a noun, the twisted-pair has to be a hypenated word per standard terminology. On its own, it can be used as twisted pair.

SuggestedRemedy

change globally:

twisted pair cabling

To:

twisted-pair cabling

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.1** *P* **45** *L* **14** # 11

Jones, Chad Cisco

Comment Type **E** *Comment Status* **X**

Table 33-2. Most of the topics in the headings make their first appearance in this standard in this table. To a brand new reader, this might be confusing and helping them understand what they are by pointing them to their descriptions might be helpful. let's add section links.

SuggestedRemedy

add the superscript of 1 to Range of maximum Classes supported, Physical Layer Classification, and Data Link Layer Classification.
Add the superscript of 2 to Short MPS support
Add the superscript of 3 to Autoclass
add the note below Table 33-2:
1 see 33.2.7, Table 33-12, and Table 33-13
2 see 33.2.10
3 see 33.2.7.3

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.1** *P* **45** *L* **14** # 493

Stover, David Linear Technology

Comment Type **E** *Comment Status* **X**

The Range of maximum Classes supported is very confusing.

A note would help.

SuggestedRemedy

Add

Note "1" symbol after Range of maximum Class supported column heading

Note below Table 33-2
1 Specifies the smallest of the range of class values that a PSE must support.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.2** *P* **45** *L* **37** # 494

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **X**

The description of Endpoint and Midspan PSE locations does not include 4-pair Alternatives.

SuggestedRemedy

Change
Alternate A and Alternative B Endpoints PSEs and Midspan PSEs

to
Various Endpoints PSEs and Midspan PSEs

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.3** *P* **45** *L* **44** # 495

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **X**

The entire section called Midspan PSE variants is not updated to describe the 4-pair variants.

SuggestedRemedy

Either delete all the text from 33.2.3 (not the figures).
Move Figures 33-4 thru 33-11 to 33.2.2.

or

Add paragraphs to 33.2.3 describing the 4-pair Midspan variants.
Move Figures 33-4 thru 33-7 up to section 33.2.2.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.2** *P* **46** *L* **13** # 97

Zimmerman, George — CME Consulting, Aqua

Comment Type **ER** *Comment Status* **X**

"2.5G, 5G, or 10GBASE-T" - the nomenclature elsewhere is just to list the higher speeds. Having the "or" makes this look like it may or may not support 10G, which would make it the same as the 2.5G or 5G Midspans. It is also inconsistent with 33.4.9.1 which collapses this to just "10GBASE-T" midspans

SuggestedRemedy

Delete "2.5G, 5G, or " so that it reads "10GBASE-T Midspan PSE".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.2** *P* **47** *L* **2** # 334

Law, David — HPE

Comment Type **E** *Comment Status* **X**

Suggest Figures 33-4, 33-5, 33-7 33-933-10 and 33-11 be redrawn in the format of Figure 33-8.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.4** *P* **53** *L* **37** # 496

Stover, David — Linear Technology

Comment Type **T** *Comment Status* **X**

What does this mean? "Therefore, Alternative A matches the positive voltage to the transmit pair of the PSE."

1000BASE-T allows bidirectional traffic on all lanes. Thus the referenced statement is at best imprecise.

SuggestedRemedy

Delete

"Therefore, Alternative A matches the positive voltage to the transmit pair of the PSE."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.1.1** *P* **54** *L* **6** # 352

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

"..., at which point the semi-independent state diagrams for the Primary and Secondary pairset become active."

That should be Alternative rather than pairset.

SuggestedRemedy

"..., at which point the semi-independent state diagrams for the Primary and Secondary Alternative become active."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.1** *P* **54** *L* **18** # 497

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **X**

Groups of states like Detection and referred to by description instead of state name due to the multiplicity of underlying states. The same should be done for the power on and up states.

SuggestedRemedy

Change
POWER_UP and POWER_ON

to
Power Up and Power On

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.1.1** *P* **54** *L* **42** # 12

Jones, Chad — Cisco

Comment Type **E** *Comment Status* **X**

Connection Check shows up with no explanation. We forget that the average reader won't know what these things are.

SuggestedRemedy

add "(see 33.2.6.1)" after Connection Check

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.1.1** *P* **55** *L* **11** # 353

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

"Monitoring of MPS and inrush is handled by Figure 33-22 and Figure 33-23 respectively." is in a paragraph on its own, when it belongs to the dual-signature paragraph above it.

SuggestedRemedy

Merge paragraphs.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.2** *P* **55** *L* **15** # 101

Zimmerman, George — CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

21.5 is an active cross reference that leads nowhere - should be external. Not really sure how Lennart did that! Same issue exists in 33.2.5.5 (P59), 33.2.5.10 (P73), 33.3.3.4 (P123), 33.3.3.8 (P127) and 33.3.3.13 (P133) for 14.2.3.2

SuggestedRemedy

Make 21.5, and 14.2.3.2 external cross references

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.2** *P* **55** *L* **17** # 175

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **X**

"this Clause" should be "this clause"

SuggestedRemedy

Change "this Clause" to "this clause"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.3** *P* **55** *L* **40** # 102

Zimmerman, George — CME Consulting, Aqua

Comment Type **T** *Comment Status* **X**

Subclauses for constants and variables relate ONLY to Type 1 and Type 2 PSEs. It isn't enough to just have this in the header, it needs to also be in the text, rather than read "The PSE state diagrams...", it should read "The Type 1 and Type 2 PSE state diagrams". Alternatively, you can delete the one line of explanatory text. (note that 33.2.5.8 reads "The Type 3 and Type 4 PSE state diagrams...")

SuggestedRemedy

Delete the one line of explanatory text in 33.2.5.3, 33.2.5.4 and 33.2.5.8 stating "The PSE State diagrams use the following..." (or similar), same for 33.3.3.2, 33.3.3.3, 33.3.3.6, 33.3.3.7, 33.3.3.11, and 33.3.3.12

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.3** *P* **55** *L* **41** # 259

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type1 and Type 2 constants is only one, and it used only in the Type 1 and Type 2 state diagram in figure 33-13

SuggestedRemedy

change:
The PSE state diagrams use the following constants
with:
The Type 1 and Type 2 PSE state diagram in figure 33-13 uses the following constants:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.4** *P* **55** *L* **51** # 260

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type1 and Type 2 variables are only relevant to the Type 1 and Type 2 state diagrams in figures 33-13 and 33-14. Variables with the same name but different definition may be defined for other state diagrams, so the reader should be warned.

SuggestedRemedy

change:
The PSE state diagrams use the following variables:
with:
The Type 1 and Type 2 PSE state diagrams use the following variables, which are only relevant to figures 33-13 and 33-14:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.5** *P* **59** *L* **26** # 261

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type1 and Type 2 timers are only relevant to the Type 1 and Type 2 state diagrams in figures 33-13 and 33-14. Timers with the same name and different definition may be defined elsewhere for other state diagrams, so the reader should be warned.

SuggestedRemedy

Add after the first paragraph the following sentence:
The Type 1 and Type 2 PSE state diagrams use the following timers, which are only relevant to figures 33-13 and 33-14:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.6** *P* **60** *L* **4** # 262

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 1 and Type 2 functions are only relevant to in the Type 1 and Type 2 state diagram in figure 33-13. Timers with the same name and different definition may be defined for other state diagrams, so the reader should be warned.

SuggestedRemedy

Add at the beginning of 33.2.5.6 the following sentence:
The Type 1 and Type 2 PSE state diagrams use the following functions, which are only relevant to figure 33-13:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.6** *P* **60** *L* **43** # 263

Beia, Christian STMicroelectronics

Comment Type **E** *Comment Status* **X**

set_parameter_type function definition has no indentation, so it is harder to read

SuggestedRemedy

Apply the same indentation used for the other functions, also for set_parameter_type function

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.6** *P* **60** *L* **43** # 176

Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**

The indentation under "set_parameter_type" is not correct.

SuggestedRemedy

Fix indentation

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.6** *P* **61** *L* **3** # 354

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

"When a Type 2 PSE powers a Type 1 PD, the PSE shall meet the PI electrical requirements of a Type 1 PSE, but may choose to meet the electrical requirements of a Type 2 PSE for ICon, ILIM, TLIM, and PType (see Table 33-17)."

Parameter names have changed.

SuggestedRemedy

"When a Type 2 PSE powers a Type 1 PD, the PSE shall meet the PI electrical requirements of a Type 1 PSE, but may choose to meet the electrical requirements of a Type 2 PSE for ICon-2P, ILIM-2P, TLIM-2P, and PType (see Table 33-17)."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **64** *L* **41** # 264

Beia, Christian STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 3 and Type4 variables are only relevant to the Type 3 and Type 4 state diagrams in figures 33-15 through 33-23 Variables with the same name but different definition may be defined for other state diagrams, so the reader should be warned.

SuggestedRemedy

Add at the beginning of 33.2.5.9 the following sentence:
The Type 3 and Type 4 PSE state diagrams use the following variables, which are only relevant to figures 33-15 to 33-23:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **64** *L* **41** # 236

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

To add optional variable that indicates that the MPS pulse is missing due to PSE dv/dt activity or it was added due to PSE dv/dt activity.
When this bit is activated, it is up to the PSE if to maintain power or disconnect per the additional information that the PSE has.

SuggestedRemedy

1. Add the following variable:
opt_short_mps_distored
This optional variable is used to tell the PSE system to decide what action to take if short MPS pulse was damaged due to PSE dv/dt.
Values
0: MPS pulse is not affected by PSE dv/dt. PSE shall meet the MPS rules in 33.2.10.1.2.
1: MPSE pulse is missing due to PSE dv/dt. PSE may maintain power.
2: MPS pulse was added due to PSE dv/dt. PSE may remove power.
---
2. Updates for PSE SM will be supplied for next meeting.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **66** *L* **5** # 240

Darshan, Yair — Microsemi

Comment Type **T** *Comment Status* **X**

'class_num_events_pri' have only options of 1,2,4 events but Table 33-7 says 1,2,3 and 4. To clarify th ereason for differences. (is it because class_num_events_pri is maximum values?).
Same comment for page 66 line 15 regarding 'class_num_events_sec'

SuggestedRemedy

Group to clarify.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **67** *L* **34** # 355

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **X**

Variable highest_2P is not used anymore.

SuggestedRemedy

Remove variable highest_2P.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **67** *L* **35** # 498

Stover, David — Linear Technology

Comment Type **T** *Comment Status* **X**

"highest_2P" is defined but never used.

SuggestedRemedy

Delete

highest_2P
A variable indicating which of the pairsets has the highest current.
Values
pri: the primary alternative has the highest current.
sec: the secondary alternative has the highest current.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **69** *L* **30** # 99

Zimmerman, George — CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

pd_4pair_cand not capitalized as in state diagram and other references

SuggestedRemedy

Change pd_4pair_cand to PD_4pair_cand

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **69** *L* **30** # 288

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The variable pd_4pair_cand is described in section 33.2.6.7. References made in the text are incorrect.

SuggestedRemedy

Replace "… and 4PID." with "PD 4PID, see 33.2.6.7.". Related to other comments marked COMMENT-3.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **69** *L* **48** # 287

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

Variable pd_dll_power_type is not used in PSE state diagrams. This definition is required in the DLL section and exist on page 181.

SuggestedRemedy

Delete the definition of variable pd_dll_power_type on page 69.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **70** *L* **8** # 499

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **X**

The alt_pri will continue to ping-pong on subsequent detections after the "first" valid detection. The current text implies it will never change again after a valid detection has occurred.

SuggestedRemedy

Change
TRUE: alt_pri alternates between ‘a’ and ‘b’ until a first valid detection.

to
TRUE: alt_pri alternates between ‘a’ and ‘b’.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **70** *L* **16** # 356

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **X**

Comment #174/D1.7 changed "power_not_available" to "power_available".
This change was not done for power_not_available_pri & sec.

SuggestedRemedy

We still have "power_not_available_pri" and "_sec".
Change:
- to "power_available_pri" and "_sec"
- Reverse False/True meaning in the variable list
- Add/remove "!" in the state machine wherever these variables are used

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **70** *L* **54** # 234

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

Dual-signature PDs are missing in the list:
"pd_dll_power_type
A control variable output by the PSE power control state diagram (Figure 33–49) that indicates the
Type of PD as advertised through Data Link Layer classification.
Values:
1: PD is a Type 1 PD (default)
2: PD is a Type 2 PD
3: PD is a Type 3 PD
4: PD is a Type 4 PD"

SuggestedRemedy

Change to:
"pd_dll_power_type
A control variable output by the PSE power control state diagram (Figure 33–49) that indicates the
Type of PD as advertised through Data Link Layer classification.
Values:
1: PD is a Type 1 PD (default)
2: PD is a Type 2 PD
3: PD is a Type 3 PD
4: PD is a Type 4 PD
5: PD is a Type 4 dual-signature PD
6: PD is a Type 4 dual-signature PD"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **72** *L* **44** # 500

Stover, David — Linear Technology

Comment Type **T** *Comment Status* **X**

The class_num_events_pri and _sec to not match the available encodings for the variable definitions.

Legal values for pri/sec are 1,2, 4

SuggestedRemedy

Change Table 33-7 Type 3 row, _pri_sec column to
1,2,4

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **72** *L* **48** # 357

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

Format error with Capital letter in class events
"Type 1 and Type 2 PSEs shall issue no more Class events than the Class they are capable of supporting.
Type 3 and Type 4 PSEs shall issue no more Class events than the Class they are capable of supporting between the most recent time VPSE was at VReset for at least TReset and a transition to POWER_UP."

SuggestedRemedy

"Type 1 and Type 2 PSEs shall issue no more class events than the Class they are capable of supporting.
Type 3 and Type 4 PSEs shall issue no more class events than the Class they are capable of supporting between the most recent time VPSE was at VReset for at least TReset and a transition to POWER_UP."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **72** *L* **49** # 103

Zimmerman, George — CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

Class events is capitalized inconsistently - all other instances where it is used (except start of sentence) it is lower case (there are a LOT of these, and the parallel, "mark events" are also lower case)

SuggestedRemedy

Replace "Class events" with "class events" (2 instances here)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **72** *L* **52** # 198

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

"Type 3 and Type 4 PSEs shall issue no more Class events than the Class they are capable of supporting between the most recent time VPSE was at VReset for at least TReset and a transition to POWER_UP. For example, this would apply to a PSE that is oversubscribed and in power management mode or a PSE that has a hardware limitation."

Doe's "power management mode" I believe that this term is not defined.

SuggestedRemedy

To delete "and in power management mode" or define/clarify it.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.10** *P* **73** *L* **2** # 265

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 3 and Type 4 timers are only relevant to the Type 3 and Type 4 state diagrams in figures 33-15 through 33-23. Timers with the same name and different definition may be defined elsewhere for other state diagrams, so the reader should be warned.

SuggestedRemedy

Add after the first paragraph the following sentence:
The Type 3 and Type 4 PSE state diagrams use the following timers, which are only relevant to figures 33-15 to 33-23:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **75** *L* **5** # 266

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 3 and Type 4 functions are only relevant to the Type 3 and Type 4 state diagram in figures 33-15 through 33-20. Timers with the same name and different definition may be defined for other state diagrams, so the reader should be warned.

SuggestedRemedy

At the beginning of 33.2.5.11 add the following sentence:
The Type 3 and Type 4 PSE state diagrams use the following functions, which are only relevant to figures 33-15 to 33-20:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **75** *L* **7** # 501

Stover, David Linear Technology

Comment Type **E** *Comment Status* **X**

There are no function definitions with _done suffixes. Only function references are treated as such.

SuggestedRemedy

Change
Functions appended with "_done" indicate that the function has completed

to
Function references appended with "_done" indicate that the function has completed

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **75** *L* **9** # 502

Stover, David Linear Technology

Comment Type **E** *Comment Status* **X**

"This functions returns…" There can be only one do_autoclassification function.

SuggestedRemedy

Change
This functions returns

to
This function returns

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **75** *L* **11** # 503

Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

The pd_autoclass term is never read by the state machine. Also the mr_pd_autoclass detected variable name is missing an underscore.

SuggestedRemedy

Remove
pd_autoclass: This variable indicates whether the PD requests Autoclass during Physical Layer classification.

pd_autoclass is set to True when a class signature if '0' is detected during the TACS window, as defined in Table

33–27, otherwise it is set to False.
Values:
FALSE: The PD does not request Autoclass.
TRUE: The PD requests Autoclass.

Change
mr_pd_autoclass detected:
to
mr_pd_autoclass_detected:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **75** *L* **12** # 388

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Spelling mistake
"pd_autoclass is set to True when a class signature if '0' is detected during the TACS window, as defined in Table 33-27, otherwise it is set to False."
"if" should be "of"

SuggestedRemedy

Change to:
"pd_autoclass is set to True when a class signature of '0' is detected during the TACS window, as defined in Table 33-27, otherwise it is set to False."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **75** *L* **12** # 199

Darshan, Yair Microsemi

Comment Type **E** *Comment Status* **X**

"pd_autoclass: This variable indicates whether the PD requests Autoclass during Physical Layer classification. pd_autoclass is set to True when a class signature **if** '0' is detected during the TACS window, as defined in Table 33–27, otherwise it is set to False.

The **if** is redundant.

SuggestedRemedy

Delete the **if**.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **75** *L* **12** # 389

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

The do_autoclassification text refer to T_ACS. That is the PD parameter, we need T_CLass_ACS.
Also refers to wrong Table.

SuggestedRemedy

- Replace T_ACS by T_Class_ACS (2x)
- Replace Table 33-27 by Table 33-15

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **75** *L* **12** # 504

Stover, David Linear Technology

Comment Type **E** *Comment Status* **X**

"True when a class signature if '0' is detected…" Typo.

SuggestedRemedy

Change
True when a class signature if '0' is detected

to
True when class signature '0' is detected

This comment may be OBE by another do_autoclassification comment.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **75** *L* **41** # 505

Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

do_class_reset should be split into pri and sec versions.

SuggestedRemedy

Change
do_class_reset
This function produces the classification reset voltage; See VReset in Table 33–15. This function does not return any variables.

to
do_class_reset_pri
This function produces the classification reset voltage on the Primary Alternative; See VReset in Table 33–15. This function does not return any variables.

do_class_reset_sec
This function produces the classification reset voltage on the Secondary Alternative; See VReset in Table 33–15. This function does not return any variables.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **75** *L* **41** # 390

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

The do_class_reset function is not used in the state diagram.
do_class_reset_pri and _sec are.

SuggestedRemedy

Rename do_class_reset to do_class_reset_pri and add "on the Primary Alternative" before the semicolon.
Add similar do_class_reset_sec.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **77** *L* **13** # 506

Stover, David — Linear Technology

Comment Type **ER** *Comment Status* **X**

Enumeration of pd_req_pwr_sec is 0-4, should be 1-5 (as pd_req_pwr_pri).

SuggestedRemedy

Change enumeration of pd_req_pwr_sec to 1-5.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **79** *L* **10** # 391

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **X**

In the IDLE state a large number of variables are initialized.
It is better to assign default values in the variable list.

SuggestedRemedy

- remove "sig_type <= open_circ" this variable is set by the do_cxn_chk function and does not need to be set
- remove "det_temp <= both_neither" and set both_neither as the default in the variable list
- remove "pse_dll_enabled <= FALSE" and set as FALSE as the default in the var list
- remove "iclass_lim_det <= FALSE" this is an input to the SD and should not get set by the SD

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **79** *L* **19** # 36

Wendt, Matthias — Philips Lighting

Comment Type **TR** *Comment Status* **X**

State diagram Figure 33–15:
Issue #5 as already pinpointed in yseboodt_02_0716_sdfix_baseline.pdf and yseboodt_02_0716_sdfix.pdf

From the IDLE state, the branch into START_CXN_CHK and the branch into START_DETECT can be True simultaneously when CC_DET_SEQ /= 1 and mr_pse_alternative /= 'both'.
Going through connection check only makes sense when mr_pse_alternative = 'both'.

SuggestedRemedy

Change to ((CC_DET_SEQ = 0) + (CC_DET_SEQ = 3)) *(mr_pse_alternative = both) *pse_ready *!(pwr_app_pri + pwr_app_sec) *(mr_pse_enable = enable).

See yseboodt_02_0716_sdfix_baseline.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **80** *L* **18** # 33

Picard, Jean — Texas Instruments

Comment Type **ER** *Comment Status* **X**

There is a typo error: mr_pse_alterantive = both

SuggestedRemedy

Replace with this
mr_pse_alternative = both

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **80** *L* **18** # 108

Zimmerman, George CME Consulting, Aqua

Comment Type **TR** *Comment Status* **X**

missing or misplaced operator on branch from DETECT_EVAL to label B: "
(mr_pse_alterantive = both) *
(CC_DET_SEQ = 1) * (sig_pri = valid)
(det_temp = only_one) *" (note missing "*" after (sig_pri = valid) and extra "*" at end).

SuggestedRemedy

Change to "(mr_pse_alterantive = both) *
(CC_DET_SEQ = 1) * (sig_pri = valid) *
(det_temp = only_one) "

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **80** *L* **18** # 109

Zimmerman, George CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

typo on branch to A1 "mr_pse_alterantive = both"

SuggestedRemedy

change "mr_pse_alterantive" to "mr_pse_alternative"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **80** *L* **31** # 37

Wendt, Matthias Philips Lighting

Comment Type **TR** *Comment Status* **X**

State diagram Figure 33–15:
Issue #6 as already pinpointed in yseboodt_02_0716_sdfix_baseline.pdf and yseboodt_02_0716_sdfix.pdf

From DETECT_EVAL to IDLE (label A), parenthesis are missing around “(CC_DET_SEQ = 0) + (CC_DET_SEQ = 3)”.
Without these, the AND takes precedence over the OR.

SuggestedRemedy

Add parenthesis.

See yseboodt_02_0716_sdfix_baseline.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **81** *L* **5** # 34

Wendt, Matthias Philips Lighting

Comment Type **TR** *Comment Status* **X**

State diagram Figure 33–15:
Issue #1 as already pinpointed in yseboodt_02_0716_sdfix_baseline.pdf and yseboodt_02_0716_sdfix.pdf

From CLASS_EVAL to POWER_UP the condition is “pd_req_pwr < pse_avail_pwr” which has the effect that if the PSE has Class 1 available and the PD requests Class 1 the PSE will hang in CLASS_EVAL.
The same applies to Class 2.

SuggestedRemedy

Changing it to “pd_req_pwr pse_avail_pwr” fixes the issue.
See yseboodt_02_0716_sdfix_baseline.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **82** *L* **6** # 392

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

IDLE_PRI sets iclass_lim_det_pri when this should be an input to the SD.

SuggestedRemedy

Remove "iclass_lim_det_pri <= FALSE" from the state IDLE_PRI

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **82** *L* **10** # 238

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

In the exit from IDLE_PRI to START_DETECT_PRI it looks like the state machine will not progress if pwr_app_sec=0 since the exit is valid if !pwr_app_pri*pwr_app_sec.
If the PD is dual-sig that accept power over 4-pairs then we should get to START_DETECT_PRI even if pwr_app_sec=0

SuggestedRemedy

1. Group to explain the intent.
2. Add "Editor Note: Correct the state machine to allow progress from IDLE_PRI to START_DETECT_PRI regardless if there is power in primary pairs."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **83** *L* **5** # 212

Darshan, Yair — Microsemi

Comment Type **T** *Comment Status* **X**

In figure 33-16 Typo in paranthesis in two locations in CLASS_EVAL_PRI state.

SuggestedRemedy

Change from;
IF (pd_cls_4PID_pri * (sig_pri = valid) * (sig_sec = valid + pwr_app_sec)) THEN

To:
IF (pd_cls_4PID_pri * (sig_pri = valid) * (sig_sec = valid) + pwr_app_sec) THEN

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **83** *L* **5** # 25

Picard, Jean — Texas Instruments

Comment Type **TR** *Comment Status* **X**

Parenthesis is at wrong location in the CLASS_EVAL_PRI block for following equation.
IF (pd_cls_4PID_pri * (sig_pri = valid) * (sig_sec = valid + pwr_app_sec))

SuggestedRemedy

Replace with this:
IF (pd_cls_4PID_pri * (sig_pri = valid) * (sig_sec = valid) + pwr_app_sec)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **83** *L* **6** # 26

Picard, Jean — Texas Instruments

Comment Type **TR** *Comment Status* **X**

Using One unique PD_4pair_cand variable can help simplify the state diagram, even if staggered detection is used for DS PD.

SuggestedRemedy

Replace "PD_4pair_cand_pri <= TRUE" with "PD_4pair_cand <= TRUE"
Replace "PD_4pair_cand_pri <= FALSE" with "PD_4pair_cand <= FALSE"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **84** *L* **6** # 393

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **X**

IDLE_SEC sets iclass_lim_det_sec when this should be an input to the SD.

SuggestedRemedy

Remove "iclass_lim_det_sec <= FALSE" from the state IDLE_SEC

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **84** *L* **9** # 230

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

In the exit from IDLE_SEC to START_DETECT_SEC it looks like the state machine will not progress if pwr_app_pri=0 since the exit is valid if !pwr_app_sec*pwr_app_pri.
If the PD is dual-sig that accept power over 4-pairs then we should get to START_DETECT_SEC even if pwr_app_pri=0

SuggestedRemedy

1. Group to explain the intent.
2. Add "Editor Note: Correct the state machine to allow progress from IDLE_SEC to START_DETECT_SEC regardless if there is power in primary pairs."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **85** *L* **6** # 27

Picard, Jean — Texas Instruments

Comment Type **TR** *Comment Status* **X**

Using One unique PD_4pair_cand variable can help simplify the state diagram, even if staggered detection is used for DS PD.

SuggestedRemedy

Replace "PD_4pair_cand_sec <= TRUE" with "PD_4pair_cand <= TRUE"
Replace "PD_4pair_cand_sec <= FALSE" with "PD_4pair_cand <= FALSE"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **86** *L* **4** # 32

Picard, Jean — Texas Instruments

Comment Type **TR** *Comment Status* **X**

The sitiuation of class fault (overcurrent) is not in the class state diagram for single and dual signature.

SuggestedRemedy

Update the SD with class faults. See presentation TBD on this subject.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **86** *L* **4** # 35

Wendt, Matthias — Philips Lighting

Comment Type **TR** *Comment Status* **X**

State diagram Figure 33–15:
Issues #2-4 as already pinpointed in yseboodt_02_0716_sdfix_baseline.pdf and yseboodt_02_0716_sdfix.pdf

From CLASS_EV1_LCE the exits to MARK_EV1 and MARK_EV_LAST forget to check the variable pse_avail_pwr.
Currently the SD would allocate more power than is available.
Same in the state CLASS_EV2.
Same in the state CLASS_EV4.

SuggestedRemedy

Changing it to check the variable pse_avail_pwr fixes the issues.

See yseboodt_02_0716_sdfix_baseline.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **86** *L* **6** # 38

Wendt, Matthias — Philips Lighting

Comment Type **TR** *Comment Status* **X**

State diagram Figure 33–15:
Issue #7 as already pinpointed in yseboodt_02_0716_sdfix_baseline.pdf and yseboodt_02_0716_sdfix.pdf

The SD still uses ‘tacs_timer’ which has been renamed to ‘tclassacs_timer’.

SuggestedRemedy

Change to ‘tclassacs_timer’.

See yseboodt_02_0716_sdfix_baseline.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **86** *L* **22** # 254

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

The PSE state machine part for single signature when it needs to know class code by issuing 3 finger and then doing class reset due to lake of sufficient power in which it need to generate only one finger etc.
This is covered by the text but not in the state machine.

SuggestedRemedy

Add the missing state machine part in darshan_08_0916.pdf.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **86** *L* **25** # 225

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

See darshan_01_0916.pdf for reference.
The exit from CLASS_EV3 to MARK_EV3.

Missing "(" in "PSE_avail_power=5)".

SuggestedRemedy

Change from:
tcle3_timer_done * ((mr_pd_class_detected NE 4) * ((mr_pd_class_detected=0) + pse_avail_pwr>5)))
To:
tcle3_timer_done * ((mr_pd_class_detected NE 4) * ((mr_pd_class_detected=0) + (pse_avail_pwr>5)))

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **87** *L* **11** # 223

Darshan, Yair Microsemi

Comment Type **T** *Comment Status* **X**

Figure 33-19.
There is a typo in the exit from CLASS_EV1_LCE_PRI to MARK_EV1_PRI:
It is class_4PID_mult_events_pri and not cls_4PID_mult_events_pri.

SuggestedRemedy

Change from:
cls_4PID_mult_events_pri
To:
class_4PID_mult_events_pri

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **87** *L* **40** # 394

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

In the dual-signature class diagram, the state which does the first event after a reset is named "CLASS_EV1_LCE_RESET_PRI". This is not a descriptive/intuitive name.

SuggestedRemedy

Rename the state to "CLASS_EV1_LCE_RESET_PRI" to "CLASS_EV1_LCE_4PID_PRI".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **88** *L* **10** # 224

Darshan, Yair Microsemi

Comment Type **T** *Comment Status* **X**

Figure 33-20.
There is a typo in the exit from CLASS_EV1_LCE_SEC to MARK_EV1_SEC:
It is class_4PID_mult_events_sec and not cls_4PID_mult_events_sec.

SuggestedRemedy

Change from: cls_4PID_mult_events_sec
To: class_4PID_mult_events_sec

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **88** *L* **40** # 395

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

In the dual-signature class diagram, the state which does the first event after a reset is named "CLASS_EV1_LCE_RESET_SEC". This is not a descriptive/intuitive name.

SuggestedRemedy

Rename the state to "CLASS_EV1_LCE_RESET_SEC" to "CLASS_EV1_LCE_4PID_SEC".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **88** *L* **46** # 226

Darshan, Yair — Microsemi

Comment Type **T** *Comment Status* **X**

This is SEC ALTERNATIVE state machine so the exits marked "I" should be "K".

SuggestedRemedy

Change from "I" to "K".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **90** *L* **1** # 396

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **X**

Comment #122 against D1.7 was accepted and consequently not implemented by our careless Editor.
To make up for it, I suggest an even better remedy below.

This comment was about the inrush monitor state diagrams causing undefined behaviour.
The arc from POWER_UP to POWER_ON contains "tinrushtimer_pri_done * pwr_app_pri".
The monitor contains an arc from the monitor state to the idle state where the timer gets stopped. A stopped timer is not done.

SuggestedRemedy

- Remove the arc from MONITOR_INRUSH_PRI to IDLE_INRUSH_PRI
- Remove the arc from MONITOR_INRUSH_SEC to IDLE_INRUSH_SEC

Rationale: once we`re in POWER_UP, the only way to ever get back in that state is through IDLE.
This in turn guarantees that the global arc into IDLE_INRUSH_PRI resets the monitor.
As a bonus, this also fixes an annoying oscillation of the monitor SD when in POWER_ON.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **90** *L* **4** # 39

Wendt, Matthias — Philips Lighting

Comment Type **TR** *Comment Status* **X**

State diagram Figure 33–15:
Issue #7 as already pinpointed in yseboodt_02_0716_sdfix_baseline.pdf and yseboodt_02_0716_sdfix.pdf

Resolution to Stovers comment #122 against D1.7 has not been implemented

SuggestedRemedy

Implement Stovers comment #122 against D1.7'.

See also yseboodt_02_0716_sdfix_baseline.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6** *P* **90** *L* **18** # 267

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The first shall of 33.2.6 has an exception described in 33.2.8.1 which makes the normative text not very clear. It seems to leave the possibility to transition from 2-pair to 4-pair power never detecting the second pairset. This is misleading, because each pairset needs to be detected at least once, before first power on.

SuggestedRemedy

Replace the following sentence in 33.2.6:

In any operational state, the PSE shall not apply operating power to a pairset until the PSE has successfully detected a valid signature over that pairset, except as specified in 33.2.8.1 regarding transitions between 2-pair and 4-pair power.

with:

In any operational state, the PSE shall not apply operating power to a pairset until the PSE has successfully detected a valid signature over that pairset. This requirement is not relevant for transitions between 2-pairs and 4-pair power, which may be allowed under the conditions specified in 33.2.8.1

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6** *P* **90** *L* **29** # 110

Zimmerman, George — CME Consulting, Aqua

Comment Type **T** *Comment Status* **X**

"A Type 3 or Type 4 PSE detecting an invalid PD signature on either alternative may perform detection on the other alternative, and if valid may perform classification on that pairset." seems inconsistent with page 80 33.2.5.12 branches out of DETECT_EVAL.
Looking at the machine on this, at the top level, it seems that in this case, if the second alternative is valid, classification SHALL BE performed – it isn't an option.
If the first detection has happened, then det_temp=both_neither, and one of sig_pri / sig_sec is valid, while the other is invalid.
Looking at figure 33-15, page 80, it seems the only path where mr_pse_alternative = both , at least one of the sig's is valid, and det_temp = both_neither leads to A1, classification being performed. If the text is the desired behavior, the state diagram may need to be altered to be consistent.

SuggestedRemedy

change "and if valid may perform" to "and if valid shall perform" Alternatively, modify the state diagram branch that leads from DETECT_EVAL to A1 to show under what circumstances going to classification is optional.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.1** *P* **90** *L* **36** # 507

Stover, David — Linear Technology

Comment Type **T** *Comment Status* **X**

"During connection check, the PSE shall determine if both pairsets are connected to a single-signature PD or if the pairsets are connected to a dual-signature PD."

This description is incorrect.

SuggestedRemedy

Change
During connection check, the PSE shall determine if both pairsets are connected to a single-signature PD or if the pairsets are connected to a dual-signature PD.

to
During connection check, the PSE shall determine if both pairsets are invalid, connected to a single-signature PD or if a per-pairset detection is required to further investigate the link segment.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.1** *P* **91** *L* **11** # 194

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

Table 33-8, Tcc min.
Tcc min was removed from PSE state machine and from its timer list.
In page 90 lines 38-40 we have a note to explain that PSE implementations should take into consideration the issue of simultaneous pin connection but yet the Tcc minimum is defined in the table and should be removed completely. It is now implementation specifics.

SuggestedRemedy

Remove Tcc min line from Table 33-8.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.1** *P* **91** *L* **16** # 397

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

The word 'reaches' is not clear, the SD is either in the IDLE state or not.
"The connection check is rerun before applying power if power up fails to meet the timing requirements in both Table 33-8 and 33.2.8.13, power is absent on both pairsets simultaneously, or if the state diagram reaches the IDLE state."

SuggestedRemedy

Change to:
"The connection check is rerun before applying power if power up fails to meet the timing requirements in both Table 33-8 and 33.2.8.13, power is absent on both pairsets simultaneously, or if the state diagram is in the IDLE state."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.4** *P* **93** *L* **31** # 398

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

Table 33-10 caption "Valid PD detection signature electrical characteristics" does not explain that is about the PSE PI measurement.

SuggestedRemedy

Change to "Valid PD detection signature electrical characteristics, measured at the PSE PI"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.7** *P* **94** *L* **28** # 291

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The variable pd_4pair_cand is not used in the Type 3 , 4 PSE state diagram. It is only used in dual-signature PSE diagrams in Figures 33-16 and 33-17. Therefore, item a) does not apply. The text is also incomplete for cases c) and d), which also only apply to single-signature PDs. It is not clear whether this section is provide guidance on 4P powering or to provides details on when pd_4pair_cand is TRUE.

SuggestedRemedy

On line 29 add, "Editor's Note: readers are encouraged to improve this section and better tie this information to state diagrams in Figures 33-16, and 33-17." This comment is related to other comments marked COMMENT-3. This comment should not be considered satisfied until an acceptable solution is provided to addess the comments made.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.7** *P* **94** *L* **28** # 290

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

This section covers what establishes PD_4pair_cand. The state diagrams Figures 33-16, and 33-17 may do this as well, but they do not match. These diagrams do use the variable and xxx_pri and xxx_sec. The single-signature state diagram Figure 33-15 does not use PD_4pair_cand. Nothing in the state diagrams establishes pd_4pair_cand for certain.

SuggestedRemedy

See related comment marked COMMENT-3 for a solution.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.7** *P* **94** *L* **33** # 289

Schindler, Fred — Seen Simply, Broadco

Comment Type **ER** *Comment Status* **X**

Links in this section are not working and some identifiers can be improved.

SuggestedRemedy

Link 79.3.2 should reference 79.3.2.6b.2 for PD 4PID. Fix links so that they are functional.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.7** *P* **94** *L* **33** # 100

Zimmerman, George — CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

33.2.6.1 not an active cross references

SuggestedRemedy

make 33.2.6.1 an active cross reference

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.7** *P* **94** *L* **34** # 399

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

"It shall be stored in the variable PD_4pair_cand, defined in 33.2.5.9.
PD_4pair_cand shall have a default value of 'FALSE', but may be set to 'TRUE' if the PSE has detected a valid detection signature on both pairsets and one or more of the following conditions are met:"

Mis-capitalization of PD_4pair_cand

SuggestedRemedy

Replace (2x) by pd_4pair_cand

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **95** *L* **27** # 400

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **X**

Not the minimum power but the minimum supported power.
"The minimum power output by the PSE for a particular PD Class, when powering a single-signature PD, or supplying power in 2-pair mode, is defined by Equation (33-2)."

SuggestedRemedy

Change to:
"The minimum output power a PSE supports for a particular PD Class, when powering a single-signature PD, or supplying power in 2-pair mode, is defined by Equation (33-2)."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **95** *L* **42** # 401

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

Not the minimum power but the minimum supported power.
"The minimum output power on a pairset for Type 3 and Type 4 PSEs connected to a dual-signature PD is defined by Equation (33-3)."

SuggestedRemedy

Change to:
"The minimum output power a PSE supports on a pairset for Type 3 and Type 4 PSEs connected to a dual-signature PD is defined by Equation (33-3)."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **96** *L* **3** # 402

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Autoclass is not in Annex 33C
"If the PD connected to the PSE performs Autoclass (see 33.2.7.3, 33.3.6.3, and Annex 33C), ..."

SuggestedRemedy

Change to:
"If the PD connected to the PSE performs Autoclass (see 33.2.7.3, 33.3.6.3), ..."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **96** *L* **4** # 403

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

Not the minimum power but the minimum supported power.
"..., the PSE may set its minimum power output based on PAutoclass, ..."

SuggestedRemedy

Change to:
"..., the PSE may set its minimum supported output power based on PAutoclass, ..."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **96** *L* **31** # 404

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Note is redundant, this is in text on line 41 already mentioned.
"NOTE--Data Link Layer classification takes precedence over Physical Layer classification."

SuggestedRemedy

Remove NOTE under Table 33-12.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **96** *L* **34** # 406

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Maximum power available is probably Pclass_PD, this is in Table 33-24 and 33-25
"For maximum power available to PDs, see Table 33-28."

SuggestedRemedy

Change to:
"For maximum power available to PDs, see Table 33-24 and Table 33-25."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **96** *L* **34** # 405

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Equation number is wrong, should be Equation (33-2)
"This is the minimum required power at the PSE PI calculated using minimum VPort_PSE-2P and maximum Rchan. Use Equation (33-3) for other values of VPort_PSE-2P and Rchan."

SuggestedRemedy

Change to:
"This is the minimum required power at the PSE PI calculated using minimum VPort_PSE-2P and maximum Rchan. Use Equation (33-2) for other values of VPort_PSE-2P and Rchan."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **96** *L* **34** # 45

Bennett, Ken — Sifos Technologies, In

Comment Type **E** *Comment Status* **X**

Footnote 1 for PClass in Table 33-12, refers to equation 33-3. It should be equation 33-2. (33-3 is PClass-2P, and 33-2 is PClass.)

SuggestedRemedy

Change Equation (33-3) on line 34 to:

Equation (33-2)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **96** *L* **43** # 407

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **X**

Unlike Type 2, Type 3 and Type 4 devices have a lot of parameters that are different depending on the Assigned Class.
An initial assigned class is set up during Physical Layer classification.

Using DLL the PD and PSE are able to change the allocated power. It makes sense that the assigned Class 'follows' the PSEAllocatedPower variable.

SuggestedRemedy

Adopt yseboodt_05_0916_dllclasschange.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **96** *L* **46** # 408

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

Wordy.
"Valid classification results are Classes 0 up to and including 4, as listed in Table 33-12."

SuggestedRemedy

Change to:
"Valid classification results are Classes 0 to 4, as listed in Table 33-12."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **97** *L* **5** # 46

Bennett, Ken — Sifos Technologies, In

Comment Type **T** *Comment Status* **X**

Table 33-13 needs a footnote for (PClass-2P) in the heading of the last column, similar to the (PClass) footnote in table 33-12.

(PClass-2P is defined in equation 33-3. If there's no note referencing that equation, the table effectively has a different definition.)

SuggestedRemedy

Add a footnote to PClass-2P in table 33-13, which states:

This is the minimum required power per pairset at the PSE PI calculated using minimum VPort_PSE-2P and maximum Rchan. Use Equation (33–3) for other values of VPort_PSE-2P and Rchan.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **97** *L* **18** # 409

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

Note 1 is redundant, this is in text on line 41 already mentioned.
"NOTE--Data Link Layer classification takes precedence over Physical Layer classification."

SuggestedRemedy

Remove NOTE 1 under Table 33-13.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **97** *L* **20** # 292

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The Task Force established that legacy Types are used in configurations with one cable to power two 100-BASE-TX connections. The Type 3 and 4 PSE behavior when it encounters two legacy Type-2 PSEs on its PI is ambiguous. A dual-signature PD will be seen with an invalid class signature (4-4-4). A Type 3 or 4 PSE only has one data connection. Therefore, when two legacy Type-2 PDs are discovered on the PI, only one Alternative should be powered.

SuggestedRemedy

Under Table 33-13 add "Note 3---It is recommended that Type 3 and Type 4 PSEs that discover a dual-signature PD that provides the same class for three more more events be powered only on the PSE Primary Alternative while supporting the Pclass coverred in Table 33-12."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.1** *P* **97** *L* **46** # 173

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **X**

Table 33-14 is referenced on page 97 line 46, but the table does not apper until page 101 (after Table 33-15).

SuggestedRemedy

Move Table 33-14 nearer to 33.2.7.1.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.2** *P* **98** *L* **29** # 40

Wendt, Matthias — Philips Lighting

Comment Type **T** *Comment Status* **X**

If during autoclass a PD changes its class signature to something other than ‘0’ during TACS behavior is undefined as already pinpointed in yseboodt_03_0716_class.

It would be beneficial to define this for future use.

SuggestedRemedy

adopt yseboodt_03_0716_class

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.2** *P* **98** *L* **53** # 410

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

The sentence can be shortened because is describes ALL mark event states.
"The mark event states, MARK_EV1, MARK_EV1_PRI, MARK_EV1_SEC, MARK_EV2, MARK_EV2_PRI, MARK_EV2_SEC, MARK_EV3, MARK_EV3_PRI, MARK_EV3_SEC, MARK_EV4, MARK_EV_LAST, MARK_EV_LAST_PRI and MARK_EV_LAST_SEC commence when the PI or pairset voltage falls below VClass min and end when the PI voltage exceeds VClass min."

SuggestedRemedy

"All the mark event states (MARK_EV_) commence when the PI or pairset voltage falls below VClass min and end when the PI voltage exceeds VClass min."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.2** *P* **99** *L* **34** # 411

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

There are a number of unneeded references in Table 33-15.

SuggestedRemedy

- Item 3 remove "See 33.2.7.2" from Additional information.
- Item 6 remove "See 33.2.7.2" from Additional information.
- Item 11 remove Additional information.
- Item 12 remove Additional information.
- Item 14 remove Additional information.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.2** *P* **100** *L* **1** # 177

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **X**

The heading for Table 33-15 is missing "continued" on the second part.

SuggestedRemedy

Place the cursor at the end of table title on first page. Then click on the Variables Tab and insert "Table Continuation" variable.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.3** *P* **100** *L* **42** # 412

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

Annex 33C is not about Autoclass.
"See Annex 33C for more information on Autoclass."

SuggestedRemedy

Remove sentence.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.3.5** *P* **100** *L* **42** # 206

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

"See Annex 33C for more information on Autoclass."
Annex C is not about Autoclass.
Annex D is reserved for unbalance issues.
So we can use Annex E.

SuggestedRemedy

1. Change to: "See Annex 33E for more information on Autoclass."
2. Add Editor Note to Annex E: "Additional information regarding Autoclass to be added here"
If there is no need for more information on Autoclass, delete the text:
"See Annex 33C for more information on Autoclass."
3. Same issue to be addressed in:
Page 96 Line 3.
Page 116 Line 20.
Page 144 Line 23.
Page 217 Line 19.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.3** *P* **101** *L* **1** # 508

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **X**

Order of Tables 33-14 and 33-15 are jumbled.

SuggestedRemedy

Modify Tables so Table 33-14 precedes Table 33-15.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.2** *P* **101** *L* **1** # 413

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

Table 33-14 is located after Table 33-15. This has been pointed out in comments before and I was hopeful that changes to the text would eventually fix this on its own. That does not seem likely to happen.

SuggestedRemedy

Exchange Table numbering of 33-15 and 33-14.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.3** *P* **101** *L* **38** # 13

Jones, Chad — Cisco

Comment Type **ER** *Comment Status* **X**

Equation 33-4. You can tell we have a European editor. :)
Replace the commas with decimal points in 12 places.

SuggestedRemedy

Equation 33-4. Replace the commas with decimal points in 12 places.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.3** *P* **101** *L* **38** # 178

Anslow, Pete — Ciena

Comment Type **ER** *Comment Status* **X**

The IEEE style manual 12.2 includes: "The decimal marker should be a dot on the line (decimal point)."
Many equations and some tables in the draft use a comma as a decimal marker.

SuggestedRemedy

Change all ocurrences of a comma used as a decimal marker to a decimal point.
Check all equations and tables in the draft (including Table 33-32 and Table 33-33).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.3** *P* **101** *L* **38** # 509
Stover, David Linear Technology

Comment Type **E** *Comment Status* **X**

Some equations use commas for the decimal point; instead, use dots.

SuggestedRemedy

Replace comma with dot for decimal marks in affected Equations (33-4, 33-11, 33-12, 33-14, 33-15, 33-16, 33-17, 33-18, 33-19, 33-23, 33-32, 33-34, 33-35, 33-36, 33-37, 33-38, 79-1, 79-2, and 33A-4) and Tables (33-32, 33-33).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.3** *P* **101** *L* **38** # 414
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Do not use commas in decimal numbers, use 'dot'.

SuggestedRemedy

Change comma numbers in equation 33-4 to dots.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.3** *P* **101** *L* **39** # 105
Zimmerman, George CME Consulting, Aqua

Comment Type **ER** *Comment Status* **X**

Equation 33-4 constants (e.g., "+0,0014") appear to use european notation (commas for decimal point) According to IEEE Style Manual (12.2) decimal point should be used. This same issue appears in several places, including Equations 33-11, 33-12, 33-14, 33-15, 33-16, 33-18, 33-19, 33-23, 33-32, 33-34, 33-35, 33-36, 33-38, 79-1, 79-2, and 33A-4 and Tables 33-32 and 33-33

SuggestedRemedy

Put constants into decimal point notation, throughout draft, using the dot rather than commas.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **102** *L* **10** # 415
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

In Table 33-17 is column "Symbol" too narrow.

SuggestedRemedy

Make column "Min" smaller and column "Symbol" larger.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **102** *L* **15** # 416
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Table 33-17, item 2, "Voltage" is capitalized when it should not be.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **103** *L* **49** # 417
Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

In Table 33-17 PCon is not used anywere in the text, only a small explanation on page 115. It is a duplicate of Pclass.

SuggestedRemedy

Remove variable PCon from Table 33-17.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **104** *L* **21** # 418
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Table 33-17, item 19, both "IHold-2P" and "A" fields need to be straddled down.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **104** *L* **47** # 419
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

There is a long NOTE in Item 23/Additional information (I_unb).

SuggestedRemedy

Move note to the end of section 33.2.8.11 which deals with this parameter.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **104** *L* **49** # 510
Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

Intra-pair current unbalance I_unb is specified as 3% I_Peak for Type 2, 3, and 4 PSEs. For higher Class PDs, this may preclude low-speed data implementations due to higher inductance requirements on those magnetics.

SuggestedRemedy

TFTD. Especially looking for opinions from magnetics vendors here.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **105** *L* **12** # 420
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Again too much text crammed into the "Additional information" cell of Table 33-17 for T_ed parameter.

SuggestedRemedy

- Create new subsection after 33.2.8.13 with name "Error delay timing".
- Content of this section:
"T_ed, defined in Table 33-17, is the minimum delay time before a PSE may attempt subsequent powering of a pairset after power removal from that pairset because of an error condition."
- Replace Additional information field for Item 28/Table 33-17 with "See <new section we just made>".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **105** *L* **20** # 421
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"Unbalance at Class 4 is not restricted. The ILIM-2P value is higher than the value for Class 5 for Type 3 and Type 4 PSEs operating in4-pair mode."
missing space between "in" and "4-pair".

SuggestedRemedy

"Unbalance at Class 4 is not restricted. The ILIM-2P value is higher than the value for Class 5 for Type 3 and Type 4 PSEs operating in 4-pair mode."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.1** *P* **105** *L* **25** # 422
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"The specification for V Port_PSE-2P in Table 33-17 shall be met with a (I Hold max x V Port_PSE-2P min) to the maximum power per the PSE's assigned Class load step at a rate of change of at least 15 mA/ms."

Can be improved by moving 'load step' up in the sentence.

SuggestedRemedy

"The specification for V Port_PSE-2P in Table 33-17 shall be met with a load step of (I Hold max x V Port_PSE-2P min) to the maximum power per the PSE's assigned Class at a rate of change of at least 15 mA/us."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.1** *P* **105** *L* **26** # 106
Zimmerman, George CME Consulting, Aqua

Comment Type **TR** *Comment Status* **X**

"The specification for VPort_PSE-2P in Table 33–17 shall be met with a (IHold max × VPort_PSE-2P min) to the
maximum power per the PSE's assigned Class load step at a rate of change of at least 15 mA/us." is unclear - is there a load step specified somewhere? or is it "...to the maximum power per the PSE's assigned Class under load changes at rates of up to 15mA/us" ?
Even so, since this is VPort_PSE-2P, isn't this the maximum power PER PAIRSET?

SuggestedRemedy

Clarify text, per comment.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.1** *P* **105** *L* **27** # 423

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

"The voltage transients as a result of load changes up to 35 mA/ms shall be limited to 3.5 V/ms max."
The word max is redundant.

SuggestedRemedy

Change to:
"The voltage transients as a result of load changes up to 35 mA/ms shall be limited to 3.5 V/ms."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.1** *P* **105** *L* **32** # 293

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

During the Whistler interim, senior IEEE officers indicated all behavior had to be captured in state diagrams and that text alone would not be correct. An example of where text alone is used in this draft, “A Type 3 or Type 4 PSE that has assigned Class 1 to 4 to a single-signature PD and is in the POWER_ON state may transition between 2-pair and 4-pair power at any time, including after the expiration of Tpon.” The state diagram on page 81 does not provide this behavior. This comment is related to other comments marked COMMENT-6. If state diagram changes are required, the proposed solution encourages corrections. Not all problems found are listed in my comments as text may be found to be okay in some circumstances.

SuggestedRemedy

Confirm if this example text needs to be incorporated in the reference state diagram. If so, add the following text on line 1 of the page 81, “Editor’s Note: All behavior needs to be described in the state diagrams. Readers are encouraged to incorporate text only allowances and requirements into the appropriate state diagram. For example, see behaviors only described in 33.2.8.5.1 paragraph one.” This comment should not be considered satisfied until an acceptable solution is provided to addess the comment made.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.1** *P* **105** *L* **37** # 107

Zimmerman, George — CME Consulting, Aqua

Comment Type **T** *Comment Status* **X**

"of the voltage difference at the PI" - specify the difference of what to what? The PI has 8 pins.

SuggestedRemedy

Change "of the voltage difference at the PI" to "of the voltage difference between VPSE+ and VPSE- of the given pairset."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.2** *P* **105** *L* **51** # 28

Picard, Jean — Texas Instruments

Comment Type **TR** *Comment Status* **X**

To ensure acceptable steady-state operating conditions, we need to explain in which circumstances longer than 250us transients or significant voltage steps may be expected.

SuggestedRemedy

Add the following note at the end of 33.2.8.2.
"PSE should avoid causing such long duration (> 250us) transients or significant voltage steps with the exception of rare circumstances involving switchover of power supplies to ensure system robustness."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **106** *L* **1** # 424

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

"For Type 3 and Type 4, I Port-2P and I Port-2P-other ..."

Missing PSEs.

SuggestedRemedy

"For Type 3 and Type 4 PSEs, I Port-2P and I Port-2P-other ..."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **106** *L* **24** # 216

Darshan, Yair Microsemi

Comment Type **ER** *Comment Status* **X**

The word total is not required here. Normally we use "total" when we mean to sum of currents or total port current. In this case this is just one of the pairsets current.

"where
IPort-2P-pri is the total output current sourced by the Primary Alternative, defined in 33.2.5.9
IPort-2P-sec is the total output current sourced by the Secondary Alternative, defined in 33.2.5.9"

SuggestedRemedy

Delete "total" in two locations.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **106** *L* **27** # 425

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

We need to define "Iport" as the total current a Type 3 or 4 PSE sources on the PI because this parameter is used in Figures 33-28 and 33-29.

SuggestedRemedy

- Append new Equation after (33-6) which says:
IPort = IPort-2P + IPort-2P-other

- Append the following at page 106, line 13
", IPort is the total current on both pairs with the same polarity and is defined in Equation (33-XX)."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **106** *L* **40** # 511

Stover, David Linear Technology

Comment Type **ER** *Comment Status* **X**

"where I_Con is the total current a PSE is able to source as defined in Table 33-17". I_Con is defined in equation 33-8, not in Table 33-17. Furthermore, the paragraph below these variable descriptions redundantly references I_Con: "I_Con is defined in Equation (33-8)."

SuggestedRemedy

Replace reference to Table 33-17 with Equation 33-8 in definition of I_Con. Strike sentence "I_Con is defined in Equation (33-8)." in paragraph beneath variable descriptions.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **107** *L* **8** # 426

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **X**

"In addition to I Con-2P as specified in Equation (33-7), the PSE shall support the AC current waveform parameters I Peak-2P , while within the operating voltage range of V Port_PSE-2P :

I Peak , I Peak-2P-unb , and I Peak-2P minimum for T CUT-2P minimum and 5 % duty cycle minimum, where"

Super weird construction carried over (and made worse) from legacy text.

SuggestedRemedy

"The PSE shall support the AC current waveform parameter IPeak-2P, while within the operating voltage range of V Port_PSE-2P, for a minimum of TCUT-2P and at least 5% duty cycle."

Then, move equation 33-13 (Ipeak-2P) to right after this sentence.

Swap the order of the paragraph that starts with "IPeak is the total..." and Equation 33-9.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **107** *L* **33** # 14

Jones, Chad Cisco

Comment Type **ER** *Comment Status* **X**

EQ 33-11. more commas that need to be decimal points.

SuggestedRemedy

Equation 33-11. replace the commas in numbers with decimal points; 12 places

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **107** *L* **34** # 427

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Do not use commas in decimal numbers in equation 33-11 , use dot point.

SuggestedRemedy

Change commas in decimal numbers to dots in equation 33-11.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **107** *L* **36** # 196

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

In order to sync the new Equation 33-12 with Equation 33-10 and
33-11, the accuracy of the curve fit of Equation 33-11 need to be increased to the range of <0.25mA. Please see the work done in
http://www.ieee802.org/3/bt/public/jul16/darshan_02_0716.pdf and was accepted according the straw poll in last meeting to be used in D2.0.

SuggestedRemedy

If no other comments, please adopt darshan_02_0716.pdf from
http://www.ieee802.org/3/bt/public/jul16/darshan_02_0716.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **107** *L* **43** # 219

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

In Rchan-2P definition for Equation 33-11, it will help to define the operating range of Rchan-2P especially the minimum value.

SuggestedRemedy

Change from:
"where
RChan-2P is the channel DC loop resistance per pairset, as defined in 33.1.3"

To:
"where
RChan-2P is the channel DC loop resistance per pairset, as defined in 33.1.3.
Rchan-2P operating range for Equation 33-11 is from 0.2 ohm to 12.5 ohm."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **107** *L* **44** # 197

Darshan, Yair Microsemi

Comment Type **ER** *Comment Status* **X**

The text: "The worst case value of IPeak-2P-unb is defined by Equation (33–12)." is not accurate.
The worst case value of IPeak-2P-unb is one of the values that can be derived by Equation 33–10 and Equation 33-11).
So Ipeak-2P_unb_max is the maximum value of Ipeak-2P_unb which can be found by Equation 33-12 only after plugging in specific operating conditions such channel resistance.

SuggestedRemedy

Change from:
"The worst case value of IPeak-2P-unb is defined by Equation (33–12)."
To:
"The worst case value of IPeak-2P-unb is IPeak-2P-unb_max which can be derived by Equation (33-12)."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **107** *L* **47** # 15

Jones, Chad Cisco

Comment Type **ER** *Comment Status* **X**

EQ 33-12. another comma that should be a decimal point

SuggestedRemedy

Equation 33-12. Replace the comma with a decimal point

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **108** *L* **2** # 220

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

Error in Equation 33-13 lines 7 and 8.
This is a calculation of Ipeak-2P therefore Rchan-2P should be used and not Rchan.
Same applies to line 18.

SuggestedRemedy

1. Change from Rchan to Rchan-2P in Equation 33-13 line 7.
2. Change from Rchan to Rchan-2P in Equation 33-13 line 8.
3. Change from Rchan to Rchan-2P in "where" list Equation 33-13 line 17.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4** *P* **108** *L* **21** # 512

Stover, David Linear Technology

Comment Type **ER** *Comment Status* **X**

"P_Peak_PD-2P is the total peak power… see Table 33-25". P_Peak_PD-2P is not defined anywhere (captured in another comment), but if it were, it would live in Table 33-28.

SuggestedRemedy

Correct reference to Table 33-28.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4.1** *P* **108** *L* **34** # 217

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

"ICon-2P-unb applies for total channel common mode pair resistance from 0.1 OHM to RCh. For channels with common mode pair resistance lower than 0.1 OHM, see Annex 33B."

This text is addressing ICon-2P-unb which is defined by Rchan-2P range therefore the "0.1 ohm" need to be changed to "0.2 ohm".
(0.1 ohm to 6.25 ohm is the range for Rchan in 4-pairs).

SuggestedRemedy

Change from "0.1 ohm" to "0.2 ohm" in the following locations:
1. page 108 line 34.
2. page 108 line 35.
3. Clause 33.2.8.1 page 110 line 25.
4. Clause 33.2.8.1 page 110 line 32.
5. Annex 33B.4 title page 240 line 35.
6. Annex 33B.4 page 240 lines 36.
7. Annex 33B.4 page 240 lines 38 to 39, two locations.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4.1** *P* **108** *L* **35** # 428

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"For channels with common mode pair resistance lower than 0.1, see Annex 33B."
Reference can be more specific.

SuggestedRemedy

Change to:
"For channels with common mode pair resistance lower than 0.1, see Annex 33B.4."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4.1** *P* **108** *L* **40** # 513

Stover, David — Linear Technology

Comment Type **TR** *Comment Status* **X**

R_PSE min and R_PSE max place restrictions on the PSE behind the PI, precluding PSE implementations. The spirit of these variables is to define and provide a much-needed test for system unbalance requirements. However, the variables are redundant to (and, for some valid operating parameters, in conflict with) the existing unbalance ratios implicit to I_Con and I_Con-2P_unb.

SuggestedRemedy

See stover_01_0916.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4.1** *P* **108** *L* **40** # 16

Jones, Chad — Cisco

Comment Type **ER** *Comment Status* **X**

EQ 33-14. more commas that need to be decimal points.

SuggestedRemedy

Equation 33-14. replace the commas with decimal points in 4 places. This comment will have to be an accept in principal because I'm not sure if the leading numbers are correct to have commas. Could be 8 places and not just 4. TFTD

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4.1** *P* **108** *L* **41** # 429

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

Do not use commas in decimal numbers in equation 33-14 , use dot point.

SuggestedRemedy

Change commas in decimal numbers to dots in equation 33-14.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.4.1** *P* **108** *L* **43** # 208

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

Equation 33-14:
The factor "2.015" of Rpse_max for class 6 should be identical to the factor of Equation 33A-4 for Rpair_PD_max in class 6 which is "2.010".

SuggestedRemedy

In Equation 33-14 for class 6:
Change the factor from 2.015 to 2.010.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **109** *L* **41** # 17

Jones, Chad — Cisco

Comment Type **ER** *Comment Status* **X**

EQ 33-15 yet more commas that need replaced with decimal points.
EQ 33-16 1 place
EQ 33-17 6 places
EQ 33-18 7 places
EQ 33-19 9 places
EQ 33-23 2 places

SuggestedRemedy

Equation 33-15. Replace the commas with decimal points in 6 places. Also:
EQ 33-16 1 place
EQ 33-17 6 places
EQ 33-18 7 places
EQ 33-19 9 places
EQ 33-23 2 places

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **109** *L* **43** # 430

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

Do not use commas in decimal numbers in equation 33-15 , use dot point.

SuggestedRemedy

Change commas in decimal numbers to dots in equation 33-15.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **109** *L* **43** # 190

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

Equation 33-15 can be simplified per the work done in http://www.ieee802.org/3/bt/public/jul16/darshan_01_0716.pdf and was accepted according the straw poll in last meeting to be used in D2.0.

SuggestedRemedy

Addopt darshan_01_0716.pdf for D2.0.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **109** *L* **43** # 249

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

(This is identical comment to other one that I sent. Here I have updated the file to darshan_02_0916.pdf insted darshan_01_0716.pdf from July which its base line is the same. The only differences are in the Annex where "Im' was changes to "Imax" in few places to be consistent with the rest of the document.)

Equation 33-15 can be simplified per the work done in http://www.ieee802.org/3/bt/public/jul16/darshan_01_0716.pdf and was accepted according the straw poll in last meeting to be used in D2.0.
See updated version of it (baseline was not changed) in darshan_02_0916.pdf.

SuggestedRemedy

Addopt darshan_02_0916.pdf for D2.0.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **110** *L* **4** # 218

Darshan, Yair Microsemi

Comment Type **T** *Comment Status* **X**

The following text "The minimum value of IInrush-2P includes the effect of end to end pair to pair resistance unbalance." is correct when operating over 4-pairs.

SuggestedRemedy

Change from:
"The minimum value of IInrush-2P includes the effect of end to end pair to pair resistance unbalance."
To:
"The minimum value of IInrush-2P includes the effect of end to end pair to pair resistance unbalance when operating over 4-pairs.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5.1** *P* **110** *L* **20** # 294

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

During the Whistler interim, senior IEEE officers indicated all behavior had to be captured in state diagrams and that text alone would not be correct. An example of where text alone is used in this draft, “A Type 4 PSE, when connected to a single-signature PD with assigned Class 7 or Class 8, may implement a minimum IInrush lower than defined in Table 33–17, but not less than 0.4 A.” The state diagram on page 81 does not provide this behavior.

SuggestedRemedy

Confirm if this example text needs to be incorporated in the reference state diagram. If so, append to the Editor’s note called out in other comments marked COMMENT-6, “For example, see behaviors only described in 33.2.8.5.1 paragraph one.” This comment should not be considered satisfied until an acceptable solution is provided to addess the comment made.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5.1** *P* **110** *L* **20** # 431

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"Such a PSE that implements a minimum I Inrush lower than defined in Table 33-17 shall successfully power up..."

Repeats large part of previous sentence.

SuggestedRemedy

"Such a PSE shall successfully power up..."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5.1** *P* **110** *L* **23** # 432

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"T_Inrush-2p"

SuggestedRemedy

Capitilize "-2P"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5.1** *P* **110** *L* **28** # 433

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"Such a PSE that implements a minimum I Inrush lower than defined in Table 33-17 shall successfully power up"

Repeats large part of previous sentence.

SuggestedRemedy

"Such a PSE shall successfully power up..."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.6** *P* **110** *L* **36** # 434

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

"If I Port , the current supplied by the PSE to the PI, exceeds I CUT-2P for longer than T CUT-2P , Type 1 and Type 2 PSEs may remove power from the PI. If I Port-2P , the current supplied on a pairset by the PSE to the PI, exceeds I CUT-2P for longer than T CUT-2P , Type 3 and Type 4 PSEs may remove power from that pairset."

We have gone back and forth a lot on the naming of Iport. Per the current scheme, which I think is stable, we can merge these sentences. (And we should, because IPort no longer exists for Type 1/2).

SuggestedRemedy

"If I Port-2P , the current supplied on a pairset by the PSE to the PI, exceeds I CUT-2P for longer than T CUT-2P, PSEs may remove power from that pairset."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.7** *P* **110** *L* **47** # 191

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

In the following text:
"A PSE may remove power from the PI if the PI current meets or exceeds the “PSE lowerbound template in Figure 33–27, Figure 33–28, and Figure 33–29. Power shall be removed from a pairset of a PSE before the pairset current exceeds the “PSE upperbound template”."

There is missing text that says that the minimum value of ILIM-2P is the PSE lowerbound template as we did for the upperbound.

SuggestedRemedy

Change from:
"A PSE may remove power from the PI if the PI current meets or exceeds the “PSE lowerbound template” in Figure 33–27, Figure 33–28, and Figure 33–29. Power shall be removed from a pairset of a PSE before the pairset current exceeds the “PSE upperbound template”."

To:
"The mininimum value of ILIM-2P is the PSE lowerbound. A PSE may remove power from the PI if the PI current meets or exceeds the “PSE lowerbound template” in Figure 33–27, Figure 33–28, and Figure 33–29. Power shall be removed from a pairset of a PSE before the pairset current exceeds the “PSE upperbound template”."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **110** *L* **51** # 235

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

The text:
"The right side vertical axis in Figure 33–28 and Figure 33–29 applies to Type 3 and Type 4 PSEs that supply power to a single-signature PD over 4-pair."

is not accurate and confusing.

SuggestedRemedy

Change from:
"The right side vertical axis in Figure 33–28 and Figure 33–29 applies to Type 3 and Type 4 PSEs that supply power to a single-signature PD over 4-pair."

To:
"The left side vertical axis in Figure 33–28 and Figure 33–29 applies to Type 3 and Type 4 PSEs that supply power over each pairset to a single-signature PD and dual-signature PD. The right side vertical axis in Figure 33–28 and Figure 33–29 indicates the total current when Type 3 and Type 4 PSEs supply power to a single-signature PD over 4-pair."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.7** *P* **111** *L* **28** # 435

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

ILIMmin variable and equation are obsolete, this is not used anymore.
In figures 33-27 to 33-29 ILIM-2P_min is used.

SuggestedRemedy

Remove ILIMmin equation 33-16.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.7** *P* **111** *L* **30** # 436

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Do not use commas in decimal numbers in equation 33-16 , use dot point.

SuggestedRemedy

Change commas in decimal numbers to dots in equation 33-16.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.7** *P* **111** *L* **30** # 215

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

1. Equation 33-16 describes the relationship between ILIM_min and Ipeak_max and not between ILIM_min and Ipeak.
2. Equation 33-16 adress ILIM_min during TLIM-2P min time duration only.

SuggestedRemedy

1. Change the text "ILIM_min is defined by Equation (33–16)."
To: "The total current at ILIM-2P_min operating point during TLIM-2P_min is ILIM_min defined by Equation (33–16)."

2. Change Equation 33-16 from:
ILIM_min={Ipeak+0.004}A
To:
ILIM_min={Ipeak_max+0.004}A

3. in the "where" list change:
"Ipeak is defined by Equation (33-9)
To:
"Ipeak_max is the maximum value of Ipeak derived from Equation (33-9)"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.7** *P* **112** *L* **39** # 437

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Underline under IPSEUT-2P and IPSEUT_Type3-2P in equation 33-17 and 33-18.

SuggestedRemedy

Remove underlines.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.7** *P* **112** *L* **40** # 179

Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**

The left side of Equations 33-17 through 33-22 are underlined

SuggestedRemedy

Remove underline

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.7** *P* **112** *L* **40** # 438
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Do not use commas in decimal numbers in equation 33-17 and 33-18 , use dot point.

SuggestedRemedy

Change commas in decimal numbers to dots in equation 33-17 and 33-18.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.7** *P* **113** *L* **12** # 514
Stover, David Linear Technology

Comment Type **TR** *Comment Status* **X**

I_PSEUT for Type 3, Type 4 PSEs may cause interoperability issues with Type 1, Type 2 PDs.

SuggestedRemedy

See stover_02_0916.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.7** *P* **113** *L* **34** # 439
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Do not use commas in decimal numbers in equation 33-19 , use dot point.

SuggestedRemedy

Change commas in decimal numbers to dots in equation 33-19.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.7** *P* **113** *L* **35** # 440
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Underline under IPSEUT_Type4-2P in equation 33-19.

SuggestedRemedy

Remove underline.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.8** *P* **114** *L* **44** # 441
Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

"The PSE remains in the IDLE state as long as the average voltage across the pairset is below V Off max."

Or in the DISABLED state...

SuggestedRemedy

"The PSE remains in the IDLE or DISABLED state as long as the average voltage across the pairset is below V Off max."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.10** *P* **115** *L* **10** # 442
Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

"P Con is valid over the range of V Port_PSE-2P defined in Table 33-17. Measurement of P Con should be averaged using any sliding window with a width of 1 s."

This is the only place where Pcon is used. We can simplify it to Pclass and Pclass-2P.

SuggestedRemedy

"PClass and PClass-2P are valid over the range of V Port_PSE-2P defined in Table 33-17. Measurements should be averaged using any sliding window with a width of 1 s."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.11** *P* **115** *L* **23** # 515
Stover, David Linear Technology

Comment Type **E** *Comment Status* **X**

"A 100BASE-TX transmitter in a Type 2, Type 3 and Type 4 Endpoint PSEs shall meet the requirements of 25.4.5 in the presence of (I_unb / 2)." has "Type 3 and Type 4" poorly shoehorned.

SuggestedRemedy

Replace text with "A 100BASE-TX transmitter in a Type 2, Type 3, and Type 4 Endpoint PSE shall meet the requirements of 25.4.5 in the presence of (I_unb / 2)."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.12** *P* **115** *L* **34** # 443

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Do not use commas in decimal numbers in equation 33-23 , use dot point.

SuggestedRemedy

Change commas in decimal numbers to dots in equation 33-23.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.13** *P* **115** *L* **52** # 444

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Type 3 and Type 4 PSEs, when connected to a single-signature PD, shall reach the POWER_ON state within T pon after completing detection on last pairset.

SuggestedRemedy

Type 3 and Type 4 PSEs, when connected to a single-signature PD, shall reach the POWER_ON state within T pon after completing detection on _the_ last pairset.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.9** *P* **116** *L* **20** # 445

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"See Annex 33C" refers to Autoclass.

SuggestedRemedy

Remove sentence.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.10** *P* **116** *L* **28** # 446

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"Figure 33-22 and Figure 33-23 show the PSE monitor state diagrams for Type 3 and Type 4 PSEs."
Also need to mention Fig 33-21.

SuggestedRemedy

"Figure 33-21, Figure 33-22, and Figure 33-23 show the PSE monitor state diagrams for Type 3 and Type 4 PSEs."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.10.1.2** *P* **118** *L* **26** # 447

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

PSE DC MPS requirements, there are 3 "blocks" of requirements:
1. A PSE powering a PD over a single pairset
2. A Type 3 or Type 4 PSE powering a single-signature PD over both pairsets
3. A Type 3 or Type 4 PSE powering a dual-signature PD

A dual-signature PD being powered over 2P by a Type 3/4 PSE would fall both under 1 and 3.

SuggestedRemedy

Change "A Type 3 or Type 4 PSE powering a dual-signature PD" to "A Type 3 or Type 4 PSE powering a dual-signature PD over both pairsets"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.10.1.2** *P* **118** *L* **32** # 448

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

The DC MPS requirements, the list on "A PSE powering a PD over a single pairset" makes reference to Iport.
IPort is a 4P parameter, hence it should be IPort-2P.

SuggestedRemedy

Replace (3x) IPort by IPort-2P.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.10.1.2** *P* **118** *L* **37** # 295

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The PSE requirements on lines 37 to 39, and 52 to 54, and page 119 lines 13 to 16 are the same and appear to contradict eachother. "shall remove power from the PI when DC MPS has been absent for a duration greater than TMPDO." and "shall not remove power from the PI when DC MPS has been present within the TMPS + TMPDO window." Legacy text indicates "The PSE shall not remove power from the port when IPort is greater than or equal to IHold max continuously for at least TMPS every TMPS + TMPDO...". But it also says, "Power shall be removed from the PI when DC MPS has been absent for a duration greater than TMPDO.". The key legacy text uses "...at least TMPS ..." while the new text says "DC MPS has been present ...", which requires the reader to understand that DC MPS is TMPS, but leaves out the at least. This is comparable to = to >=.

SuggestedRemedy

Replace the called-out text, "DC MPS has been present" in all referenced lines with "DC MPS has been present for at least TMPS".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.10.1.2** *P* **118** *L* **42** # 449

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

The DC MPS requirements, the list on "A Type 3 or Type 4 PSE powering a single-signature PD over both pairsets" uses the construct "the sum of I Port-2P of both pairsets of the same polarity".

Also known as... IPort.

SuggestedRemedy

Replace "the sum of I Port-2P of both pairsets of the same polarity" by "IPort" (3x)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.10.1.2** *P* **119** *L* **20** # 192

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

In my previous work in http://www.ieee802.org/3/bt/public/may16/darshan_10_0516.pdf, I have addressed the PSE dv/dt that affects short MPS. The bottom line is: PSE dv/dt voltage transients caused by ports cross regulations, creates current transient at the amplitude and time duration of the short MPS pulse and can cancel the MPS short pulse and add to it a false current pulse which makes the short MPS operation less reliable.
There are several questions resulting from this research:
1. How PSE will address false missing or addition of short MPS pulse?
Options:
a) If it is missing, it should remove power and risking with false disconnect.
b) If the PD wants to be OFF but there is false addition of pulse, the PSE will keep the power even if it is false "don't connect power".
c) The PSE will decide what to do if it has the information that the distorted short MPS pulse was a result of PSE dv/dt.
2. What to require from a PD to make sure that it is generating a valid MPS pulse under PSE dv/dt conditions?
a) Not to require anything. The current spec. suggests using higher MPS current. The problem is that it is counter the objective of low STBY power which short MPSE was meant to achieve.
b) Leave it as implementation specifics and not to address it in the spec. May be just adding a note to make the reader aware of the issue?
3. How to address this issue when testing system for compliance?
Simpler solution was suggested by Chad that is not required new definitions or requirements for PSEs nor PDs. The solution is just to test the PSE for meeting MPS rules at conditions when only single port is operated at a time so PSE dv/dt is not possible due to cross regulation. In this way the true requirements of the spec is tested and we verify that PSE or PD is not cheating... It is clear that the spec is only about a single port.. but it will be good to clarify it in case of multi-port system as we did in other cases in the spec.

SuggestedRemedy

1. Add the following text in the 1. PSE requirements:
"In case of PSE voltage transient event that cause di/dt current transient at the PD that resultaed with distored MPS pulse, the PSE may decide what action to take (to maintain power or disconnect)if it has the information that the distorted short MPS pulse was a result of PSE dv/dt."
2. Add "Editor Note: To address what are the requirements from PSE, PD and compliance tests when PD short MPS pulse is falsely added or disappears during PSE dv/dt event."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.2** *P* **120** *L* **20** # 516

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **X**

Reference to 33.2.6.1 does not define or describe how to construct a single- or dual-signature PD.

SuggestedRemedy

Replace reference to 33.2.6.1 with reference to 33.3.5 (PD Signature).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.2** *P* **120** *L* **22** # 450

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

"PDs can be constructed as single-signature or dual-signature as defined in 1.4 and 33.2.6.1."

Better to refer 33.3.5 which containst the PD spec on signature.

SuggestedRemedy

"PDs can be constructed as single-signature or dual-signature as defined in 1.4 and 33.3.5."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.2** *P* **120** *L* **37** # 207

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

Table 33-20 Type 3 and 4 dual-signature rows: Autoclass is not exists in dual-signature PD so in the "optional capabilities" column, "Autoclass" should be deleted and left empty.

SuggestedRemedy

Delete "Autoclass" from "optional capabilities" column in line 37 and line 41 for PD Types 3 and 4 dual signature rows.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.2** *P* **121** *L* **23** # 268

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type1 and Type 2 constants are only relevant to the Type 1 and Type 2 state diagrams in figure 33-31.

SuggestedRemedy

replace:
The PD state diagram uses the following constants:

with:
The Type 1 and Type 2 PD state diagram uses the following constants, which are only relevant to figure 33-31:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.3** *P* **121** *L* **34** # 269

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type1 and Type 2 variables are only relevant to the Type 1 and Type 2 state diagrams in figure 33-31. Variables with the same name but different definition may be defined for other state diagrams, so the reader should be warned.

SuggestedRemedy

replace:
The PD state diagram uses the following variables:

with:
The Type 1 and Type 2 PD state diagram uses the following variables, which are only relevant to figure 33-31:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.4** *P* **123** *L* **10** # 270

Beia, Christian STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type1 and Type 2 timers are only relevant to the Type 1 and Type 2 state diagrams in figure 33-31.

SuggestedRemedy

Add after the first paragraph the following sentence:
The Type 1 and Type 2 PD state diagram uses the following timers, which are only relevant to figure 33-31:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.4** *P* **123** *L* **13** # 451

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

See TDELAY_COMMENT first.

"A timer used to prevent the Type 2 PD from drawing more than inrush current during the PSE's inrush period; see T delay in Table 33-28."

SuggestedRemedy

Change Tdelay to Tdelay-2P

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.5** *P* **124** *L* **54** # 452

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

We used to have two notes below Figure 33-31 (the Type 1/2 PD state diagram).

SuggestedRemedy

Add the following two NOTEs after Figure 33-31:
"NOTE 1--DO_CLASS_EVENT3 creates a defined behavior for a Type 2 PD that is brought into the classification range repeatedly."
"NOTE 2--In general, there is no requirement for a PD to respond with a valid classification signature for any DO_CLASS_EVENT duration less than TClass_PD as defined in Table 33-28."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.6** *P* **125** *L* **3** # 271

Beia, Christian STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 3 and Type4 single-signature constants are only relevant to the Type 3 and Type 4 state diagram in figure 33-32.

SuggestedRemedy

replace:
The PD state diagram uses the following constants:

with:
The Type 3 and Type 4 single-signature PD state diagram uses the following constants, which are only relevant to figure 33-32:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.7** *P* **125** *L* **25** # 272

Beia, Christian STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 3 and Type4 single-signature variables are only relevant to the Type 3 and Type 4 state diagram in figure 33-32. Variables with the same name but different definition may be defined for other state diagrams, so the reader should be warned.

SuggestedRemedy

replace:
The PD state diagram uses the following variables:

with:
The Type 3 and Type 4 single-signature PD state diagram uses the following variables, which are only relevant to figures 33-32:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.7** *P* **127** *L* **11** # 296

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

Variable pse_dll_power_level is defined on page 127 and 181, both definitions incorrectly indicate the PD control state diagram provides the value. This variable is not used for DLL and should be removed.

SuggestedRemedy

Delete pse_dll_power_level definitions on pages 127 and 181.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.8** *P* **127** *L* **29** # 273

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 3 and Type4 single-signature timers are only relevant to the Type 3 and Type 4 state diagram in figure 33-32. Timers with the same name but different definition may be defined for other state diagrams, so the reader should be warned.

SuggestedRemedy

Add after the first paragraph the following sentence:
The Type 3 and Type 4 single-signature PD state diagram uses the following timers, which are only relevant to figure 33-32:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.8** *P* **127** *L* **37** # 517

Stover, David — Linear Technology

Comment Type **TR** *Comment Status* **X**

Recent changes to 33.3.8.3 clarify PD input inrush requirements. Definition of tpowerdly_timer needs updated to match these clarifications.

SuggestedRemedy

Replace definition of tpowerdly_timer as follows: "A timer used to prevent Type 3 and Type 4 PDs from drawing more than I_Inrush_PD and I_Inrush_PD-2P during the PSE's inrush period; See T_delay and T_delay-2P in Table 33-28.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.8** *P* **127** *L* **39** # 453

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

See TDELAY_COMMENT first.

"A timer used to prevent Type 3 PDs from drawing more than Type 1 power and Type 4 PDs from drawing more than Class 2 power during the PSE's inrush period; see T delay and T delay-2P in Table 33-28."

SuggestedRemedy

Change Tdelay to Tdelay-2P

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.9** *P* **127** *L* **43** # 274

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 3 and Type4 single-signature functions are only relevant to the Type 3 and Type 4 state diagrams in figure 33-32.

SuggestedRemedy

Add at the beginning of 33.3.3.9 the following sentence :
The Type 3 and Type 4 single-signature PD state diagram uses the following functions, which are only relevant to figure 33-32:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.10** *P* **129** *L* **1** # 454

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **X**

The PD inrush specification is mismatched between the text and the state diagram. We have now adopted accurate inrush text in 33.3.8.3, the SD should reflect this.

SuggestedRemedy

Adopt yseboodt_03_0916_pdinrushsd.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.9** *P* **129** *L* **11** # 210

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

The subject is: Figure 33-32 (PD single signature state diagram), dll_power_type, dll_power_level and the synch with Figure 33-50 which is currently is good only for Type 1 and Type 2.
Background:
PD Type 1/2 state machine:
In page 122 line 45 we have a definition for pse_dll_power_type that is used in PD Type 1 and 2 state machine in page 124 line 30 at the exit from MDI_PWR1.
The pse_dll_power_type is used in the PD power control state diagram (LLDP) Figure 33-50.
So far all is good.

Single Signature PD Type 3/4 state machine:
In page 127 line 11 we have a definition for pse_dll_power_level that should be used in the single-signature PD Type 3 and 4 state machine on page 129 line 11 at the exit from MDI_PWR1 but instead there is pse_dll_power_type there as was in Type 1/2 PD state machine.
The pse_dll_power_type is required in the PD power control state diagram (LLDP) Figure 33-50 but is not defined in the variable list (what is defined is only pse_dll_power_level.

The problems are:
1. For Type 3 and 4 single-signature PD: It needs to be pse_dll_power_level and not pse_dll_power_type.
2. Type 3 and 4 single-signature PD state diagram and variable list should be sync with Figure 33-50 that historically needs pse_dll_power_Type only for Type 1 and 2.
3. We need figure 33-50 to work with Legacy and new single-signature PDs.

SuggestedRemedy

Adopt darshan_12_0916.pdf if available for the meeting. If not,
To add Editor Note to page 129:
"Editor Note: (1) To make changes in Figure 33-50 so it can work with Type 1 and 2 by using the existing variables in Figure 33-50 and work with dll_power_level when it is Type 3 and Type 4 PDs. (2) Type 3 and 4 single-signature PD state diagram and variable list should be sync with Figure 33-50."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.10** *P* **129** *L* **15** # 31

Picard, Jean — Texas Instruments

Comment Type **TR** *Comment Status* **X**

The PD behavior during inrush is not fully described in the state diagram, referring to 33.3.8.3. For example, Single-signature PDs assigned to Class 1, 2, or 3 shall conform to PClass_PD and PPeak_PD within
TInrush-2P min. Another example is that it has to meet inrush requirements with the PSE behavior as defined in 33.2.8.5.

SuggestedRemedy

Add an editor's note to review the PD state diagram to cover inrush behavior.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.10** *P* **129** *L* **45** # 455

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

"NOTE 1--DO_CLASS_EVENT6 creates a defined behavior for a Type 2, Type 3 and Type 4 PD that is brought into the classification range repeatedly."

This note is attached to the new state diagram for Type 3/4 and as such no longer applies to Type 2.

SuggestedRemedy

"NOTE 1--DO_CLASS_EVENT6 creates a defined behavior for a Type 3 or Type 4 PD that is brought into the classification range repeatedly."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **129** *L* **51** # 275

Beia, Christian — STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 3 and Type4 dual-signature constants are only relevant to the state diagrams in figures 33-33 and 33-34.

SuggestedRemedy

Replace the introduction of 33.3.3.11 with the following:
The Type 3 and Type 4 dual-signature PD state diagrams uses the following constants, which are only relevant to figures 33-33 and 33-34:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.12** *P* **130** *L* **24** # 227

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

Dual-signature state machine need to be updated to support DLL.
See darshan_09_0916.pdf.

SuggestedRemedy

See darshan_05_0916.pdf for proposed remedy.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.12** *P* **130** *L* **24** # 251

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

(This comment corrects similiar comment with error in the file name used for the proposed remedy.)

Dual-signature state machine need to be updated to support DLL.
See darshan_09_0916.pdf.

SuggestedRemedy

See darshan_09_0916.pdf for proposed remedy.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.12** *P* **130** *L* **26** # 276

Beia, Christian STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 3 and Type4 dual-signature variables are only relevant to the state diagrams in figures 33-33 and 33-34.

SuggestedRemedy

Replace the introduction of 33.3.3.12 with the following:
The Type 3 and Type 4 dual-signature PD state diagrams uses the following variables, which are only relevant to figures 33-33 and 33-34:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.12** *P* **130** *L* **44** # 456

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

The Type 3/4 dual-sig state diagram has two variables pd_dll_enabled_modeA and pd_dll_enabled_modeB.
Doesn`t make sense, DLL can only be enabled or disabled for a complete PD, this doesn`t work by Mode.

SuggestedRemedy

- Merge both into pd_dll_enabled.
- Rename all instances of pd_dll_enabled_modeA and pd_dll_enabled_modeB to pd_dll_enabled in the dual-sig state diagram.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.12** *P* **132** *L* **32** # 457

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

present_det_sig_modeA:
Controls presenting the detection signature (see 33.3.4) by the PD over Mode A.
invalid:A non-valid PD detection signature is to be applied to the link over Mode A regardless of any voltage above V Reset applied to Mode B.
valid:A valid PD detection signature is to be applied to the link over each pairset over Mode A regardless of any voltage above V Reset applied to Mode B.

The detection behaviour for dual-sig PDs is already defined in 33.3.4. These descriptions duplicate that but with differing details.

SuggestedRemedy

present_det_sig_modeA:
invalid:A non-valid PD detection signature is to be applied to the link over Mode A.
valid:A valid PD detection signature is to be applied to the link over each pairset over Mode A.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.12** *P* **132** *L* **40** # 458

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

present_det_sig_modeB:
Controls presenting the detection signature (see 33.3.4) by the PD over Mode B.
invalid:A non-valid PD detection signature is to be applied to the link over Mode B regardless of any voltage above V Reset applied to Mode B.
valid:A valid PD detection signature is to be applied to the link over each pairset over Mode B regardless of any voltage above V Reset applied to Mode B.

The detection behaviour for dual-sig PDs is already defined in 33.3.4. These descriptions duplicate that but with differing details.

SuggestedRemedy

present_det_sig_modeB:
invalid:A non-valid PD detection signature is to be applied to the link over Mode B.
valid:A valid PD detection signature is to be applied to the link over each pairset over Mode B.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.12** *P* **133** *L* **44** # 278

Beia, Christian STMicroelectronics

Comment Type **E** *Comment Status* **X**

VPD_ModeA may be defined better

SuggestedRemedy

Replace:
Voltage at the PD PI as defined in 1.4.425 over Mode A

with

Voltage at the PD PI as defined in 1.4.425 where the powered pair belongs to Mode A

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.12** *P* **133** *L* **46** # 279

Beia, Christian STMicroelectronics

Comment Type **E** *Comment Status* **X**

VPD_ModeB may be defined better

SuggestedRemedy

Replace:
Voltage at the PD PI as defined in 1.4.425 over Mode B

with

Voltage at the PD PI as defined in 1.4.425 where the powered pair belongs to Mode B

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.13** *P* **133** *L* **51** # 277

Beia, Christian STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 3 and Type4 dual-signature timers are only relevant to the Type 3 and Type 4 state diagrams in figure 33-33 and 33-34

SuggestedRemedy

Add after the first paragraph the following sentence:
The Type 3 and Type 4 dual-signature PD state diagrams use the following timers, which are only relevant to figures 33-33 and 33-34:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.14** *P* **134** *L* **10** # 280

Beia, Christian STMicroelectronics

Comment Type **T** *Comment Status* **X**

The Type 3 and Type4 dual-signature functions are only relevant to the Type 3 and Type 4 state diagrams in figure 33-32.

SuggestedRemedy

Add at the beginning of 33.3.3.9 the following sentence :
The Type 3 and Type 4 dual-signature PD state diagrams use the following functions, which are only relevant to figures 33-33 and 33-34:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.14** *P* **134** *L* **15** # 459

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

do_class_timing_modeA returns variable "short_mps".
This needs to be handled on a per pairset basis.

SuggestedRemedy

Rename "short_mps" to "short_mps_modeA" and rename where needed in the state diagram.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.14** *P* **134** *L* **20** # 358

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

do_class_timing_modeB returns variable "short_mps".
This needs to be handled on a per pairset basis.

SuggestedRemedy

Rename "short_mps" to "short_mps_modeB" and rename where needed in the state diagram.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.15** *P* **135** *L* **5** # 29

Picard, Jean Texas Instruments

Comment Type **TR** *Comment Status* **X**

VPD should refer to ModeA

SuggestedRemedy

Replace every occurrence of VPD with VPD_modeA.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.15** *P* **135** *L* **13** # 281

Beia, Christian STMicroelectronics

Comment Type **ER** *Comment Status* **X**

Figure 33-33
VPD is not defined for dual signature PD

SuggestedRemedy

Change:
"VPD"
to:
"VPD_modeA"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.15** *P* **136** *L* **5** # 297

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The dual-signature state diagram (SD), Figures 33-33 and 33-24, should match the single-signature SD, which will make it more likely that one DLL SD can be used for both PSE versions. For example, state MDI_POWER1_modeA, "pse_dll_power_level_modeA > 1" should be "pse_dll_power_type > 1", and state DLL_ENABLE_modeA, should be "pse_power_type > 1". No differentiation for A and B is required if the power negotiated is for the PD PI total power. Many DS SD need to be fixed, which may change things that affect this remedy.

SuggestedRemedy

Make the provided changes made in the comment and replacing "pse_power_modeX" for Figure 33-33 and for Figure 33-34 where X = A or B; remove all "__modeX" in these figures, and on line 1 of each figure add, "Editor's Note: readers are encouraged to improve this section and better tie this information to section 33.6 DLL." Alternatively, only provide the Editor's note. This comment is related to other comments marked COMMENT-4. This comment should not be considered satisfied until an acceptable solution is provided to addess the comment made.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.15** *P* **136** *L* **25** # 282

Beia, Christian STMicroelectronics

Comment Type **ER** *Comment Status* **X**

Figure 33-33
pd_dll_enabled is not defined for dual signature PD

SuggestedRemedy

Change:
"!pd_dll_enabled"
and
"pd_dll_enabled"
respectively to:
"!pd_dll_enabled_modeA"
and
"pd_dll_enabled_modeA"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.15** *P* **136** *L* **35** # 359

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

The dual-sig PD state diagram has states DLL_ENABLE_modeA (and modeB as well).
They don`t need this. DLL is mandatory for dual-signature, regardless of Class.

SuggestedRemedy

- Remove states DLL_ENABLE_modeA and DLL_ENABLE_modeB
- Add statement "pd_dll_enabled <= TRUE" to the MDI_POWER1_modeA state
- Add statement "pd_dll_enabled <= TRUE" to the MDI_POWER1_modeB state

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.15** *P* **137** *L* **5** # 30

Picard, Jean Texas Instruments

Comment Type **TR** *Comment Status* **X**

VPD should refer to ModeB

SuggestedRemedy

Replace every occurrence of VPD with VPD_modeB.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.15** *P* **137** *L* **11** # 283

Beia, Christian STMicroelectronics

Comment Type **ER** *Comment Status* **X**

Figure 33-34
VPD not defined for dual signature PD

SuggestedRemedy

Change:
"VPD"
to:
"VPD_modeB"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.15** *P* **138** *L* **25** # 284

Beia, Christian STMicroelectronics

Comment Type **ER** *Comment Status* **X**

Figure 33-34
pd_dll_enabled is not defined for dual signature PD

SuggestedRemedy

Change:
"!pd_dll_enabled"
and
"pd_dll_enabled"
respectively to:
"!pd_dll_enabled_modeB"
and
"pd_dll_enabled_modeB"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.4** *P* **138** *L* **46** # 360

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"A PD presents a valid detection signature while it is in a state where it accepts power via the PI, but is not powered via the PI per Figure 33-32."

At the very least we need to add references to the other state machines.
What is "a state where it accepts power via the PI" ? I can only imagine this being mdi_power_required.
If so this statement is wrong:
- not required to do valid detect when in IDLE
- not possible to do valid detect when in CLASS
- not allowed to do valid detect when in MARK

SuggestedRemedy

"A PD presents a valid detection signature when it is the DO_DETECTION state as defined in Figure 33-31, Figure 33-32, Figure 33-33, Figure 33-34."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.4** *P* **138** *L* **49** # 361

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"A PD presents a non-valid detection signature at the PI while it is in a state where it does not accept power via the PI per Figure 33-32."
Add references to the other state diagrams and add reference to pairset for dual-sig.

SuggestedRemedy

"A PD presents a non-valid detection signature at the PI or pairset while it is in a state where it does not accept power via the PI per Figure 33-31, Figure 33-32, Figure 33-33, and Figure 33-34."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.4** *P* **138** *L* **53** # 362

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"A Type 2, Type 3, or Type 4 PD presents a non-valid detection signature when in a mark event state per Figure 33-31, Figure 33-32, and Figure 33-33."

Missing figure ref.

SuggestedRemedy

"A Type 2, Type 3, or Type 4 PD presents a non-valid detection signature when in a mark event state per Figure 33-31, Figure 33-32, Figure 33-33, and Figure 33-34."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.4** *P* **139** *L* **7** # 363

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

"A PD may indicate the ability to accept power on both pairsets using TLV variable PD 4PID in Table 79-6b or by presenting a valid detection signature on the unpowered pairset, when it is powered over only one pairset."

The last part of the sentence is a hint at Type 1 and Type 2 dual-signature PDs, something we have left out of scope.
It is also in direct conflict with the paragraph above it.
See item b in 33.2.6.7, PSEs are allowed to power such a device on 4P.

SuggestedRemedy

"A PD may indicate the ability to accept power on both pairsets using TLV variable PD 4PID in Table 79-6b."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.4** *P* **139** *L* **13** # 18

Jones, Chad Cisco

Comment Type **E** *Comment Status* **X**

"The detection signature is a resistance calculated from two voltage/current measurements made during the detection process". Didn't this used to say 'at least two measurements'?

SuggestedRemedy

change: "calculated from two voltage/current measurements"
to: "calculated from at least two voltage/current measurements"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.4** *P* **139** *L* **30** # 364

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

The section still contains an editing instruction.

SuggestedRemedy

Remove "Change Table 33-14 and 33-15 as follows:"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.4** *P* **139** *L* **31** # 19

Jones, Chad Cisco

Comment Type **E** *Comment Status* **X**

"while a PD that present the signature of Table 33–22 is assured to fail detection"
while a PD that PRESENTS…

SuggestedRemedy

change 'present' to 'presents'

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.4** *P* **139** *L* **45** # 365

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

Table 33-21 on "Valid PD detection signature characteristics, measured at PD PI" containts a parameter "Voltage at the PI" with Conditions "IPort = 124 uA".

Since detection happens only over 2P (right?), this should be IPort-2P.

SuggestedRemedy

Change IPort to IPort-2P
Change "..., measured at PD PI" to "..., measured at the PD PI"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.4** *P* **140** *L* **6** # 366

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **X**

Comment no. 91 against D1.7 changed the Parameter of the first row from "Rdetect" to "Rdetect_invalid" in Table 33-22. Tables 33-21 and 33-22 show what a valid and invalid detection signature consists of respectively. The reference to Rdetect is to Equation 33-24 and it is correct to use that same name in both tables.

SuggestedRemedy

In Table 33-22, rename "Rdetect_invalid" to "Rdetect".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.4** *P* **140** *L* **13** # 367

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

Figure 33-35 on 'Valid PD detection signature offset' refers to IPort [A] in the Y axis.

SuggestedRemedy

Replace by IPort-2P.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.5** *P* **140** *L* **36** # 368

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

In 33.3.5 the requirements for dual-signature are listed first, followed by single-signature. Everywhere else in the draft this is reversed.

SuggestedRemedy

Put the paragraph on single-signature first.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.5** *P* **140** *L* **42** # 369

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

-- Mode A regardless of any voltage applied to Mode B between 0V and 57V, and
-- Mode B regardless of any voltage applied to Mode A between 0V and 57V.

Missing comma after 'Mode x'.

SuggestedRemedy

"- Mode A, regardless ..."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.5** *P* **140** *L* **44** # 20

Jones, Chad Cisco

Comment Type **TR** *Comment Status* **X**

missing the converse of this sentence: "A single-signature PD shall present a valid detection signature on Mode A, when no voltage or current is applied to Mode B, and shall present an invalid detection signature on Mode A, when any voltage between 10.1V and 57V is applied to Mode B."

SuggestedRemedy

add this sentence: "A single-signature PD shall present a valid detection signature on Mode B, when no voltage or current is applied to Mode A, and shall present an invalid detection signature on Mode B, when any voltage between 10.1V and 57V is applied to Mode A."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.5** *P* **140** *L* **45** # 370

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

"A single-signature PD shall present a valid detection signature on Mode A, when no voltage or current is applied to Mode B, and shall present an invalid detection signature on Mode A, when any voltage between 10.1V and 57V is applied to Mode B."

Written this way, the requirement only holds for Mode A. While it is difficult to conceive a PD that manages to meet this requirement on Mode A, but fails to do so on Mode B, the creativity of implementors should never be underestimated.

SuggestedRemedy

"A single-signature PD shall present a valid detection signature on Mode A or Mode B, when no voltage or current is applied to the other Mode , and shall present an invalid detection signature on Mode A or Mode B, when any voltage between 10.1V and 57V is applied to the other Mode. These requirements apply to both Modes."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.5** *P* **140** *L* **45** # 518

Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

Connection check requirements for single-signature PDs are specified asymettrically.

SuggestedRemedy

Append the following text to "A single-signature PD shall present..." paragraph: "A single-signature PD shall present a valid detection signature on Mode B, when no voltage is applied to Mode A, and shall present an invalid detection signature on Mode B, when any voltage between 10.1V and 57V is applied to Mode A."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.5** *P* **140** *L* **48** # 371

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

In the section 33.3.5 on PD signature we list the two requirements for single and dual sig PDs.
No context is provided.

SuggestedRemedy

Add third paragraph:
"These requirements allow the PD to be correctly identified by a PSE performing connection check as defined in 33.2.6.1."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6** *P* **140** *L* **54** # 372

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"The advertised Class during Physical Layer classification of the PD is the maximum power that a Type 3 or Type 4 PD shall draw across all input voltages and operational modes."

Clunky.
modes.

SuggestedRemedy

"The Class advertised by the PD during Physical Layer classification is the maximum power that a Type 3 or Type 4 PD shall draw."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6** *P* **141** *L* **21** # 373

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

"... shall conform to Type 1 PD power restrictions and shall provide the user with an active indication if underpowered. The method of active indication is left to the implementer."

The 'active indication' shall is:
- untestable
- out of scope for an interoperability standard

SuggestedRemedy

"... shall conform to Type 1 PD power restrictions."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.1** *P* **141** *L* **42** # 285

Beia, Christian STMicroelectronics

Comment Type **T** *Comment Status* **X**

The sentence:
In addition to a valid detection signature, PDs shall provide the characteristics of a classification signature as specified in Table 33-23
applies to all PD classifications, not only to single-Event, so it should be moved to 33.3.6

SuggestedRemedy

Move the following sentence to the end of paragraph 33.3.6:
In addition to a valid detection signature, PDs shall provide the characteristics of a classification signature as specified in Table 33-23.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **142** *L* **43** # 519

Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

For Class 8 PDs, P_Class as defined in Table 33-12 does not match P_Class as calculated by Equation 33-2. Specifically, P_Class in 33-2 is ~89.5W with V_Port_PSE (min), R_Chan (max), and P_Class_PD (min).

SuggestedRemedy

In Table 33-24, increase P_Class_PD for single-signature Class 8 PDs from 71.0W to 71.3W.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **143** *L* **1** # 520

Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

For dual-signature Class 5 PDs, P_Class as defined in Table 33-12 does not match P_Class as calculated by Equation 33-2. Specifically, P_Class in 33-2 is ~44.8W with V_Port_PSE (min), R_Chan (max), and P_Class_PD (min).

SuggestedRemedy

In Table 33-25, increase P_Class_PD for dual-signature Class 5 PDs from 35.5W to 35.6W.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **143** *L* **4** # 299

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

Table 33-25 is for dual-signature PDs that may have different power demands on each Mode. The definitions provide on page 148 line 20 also require that Table 33-25 to use Pclass_PD-2P rather than Pclass_PD.

SuggestedRemedy

Replace Pclass_PD in Table 33-25 with Pclass_PD-2P.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **143** *L* **18** # 300

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

Variable pse_power_level is not defined for Type-2 PDs. The existing sentence is "Type 2, Type 3 and Type 4 PDs shall conform to the electrical requirements as defined by Table 33–28 for
the level defined in the pse_power_level state variable.". This comment is related to other comments marked COMMENT_5.

SuggestedRemedy

Delete "Type 2, ".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **143** *L* **29** # 298

Schindler, Fred — Seen Simply, Broadco

Comment Type **ER** *Comment Status* **X**

Existing text, "If it chooses to implement short
MPS, a PD may set short_mps to …" may be improved. This change reduces the amount of thinking required to determine if "it" is the PSE or the PD.

SuggestedRemedy

Replace the called-out text with, "If a PD chooses to implement short MPS, it may set short_mps to …"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2.1** *P* **144** *L* **3** # 374

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

"When the PD is presenting a mark event signature as shown in the state diagram of Figure 33-32..."

Incomplete Figure reference.

SuggestedRemedy

"When the PD is presenting a mark event signature as shown in the state diagram of Figure 33-31, Figure 33-32, Figure 33-33, and Figure 33-34..."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.3** *P* **144** *L* **23** # 375

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

"See Annex 33C for more information on Autoclass."

There is no such thing.

SuggestedRemedy

Axe sentence.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.7** *P* **145** *L* **1** # 376

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **X**

The section on PSE Type identification has two problems:
- It is only valid for Type 3 and Type 4, we lost the legacy text

SuggestedRemedy

Adopt yseboodt_04_0916_psetypeid.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.7** *P* **145** *L* **1** # 301

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The description for pse_power_level is not correct or incomplete. The existing text is, "The default value of pse_power_level is 3. After a successful Multiple-Event Physical Layer classification has completed the pse_power_level is set to either 3, 4, 6, or 8. After a successful Data Link Layer
classification has completed, the pse_power_level is set to either 3, 4, 6 or 8.
The PD resets the pse_power_level to '1' when the PD enters the DO_DETECTION state.". This text only applies to Type 3 and 4 PDs. The first sentence contradicts the last sentence. DLL does not affect the variable and Physical layer always sets it. Dual-signature state diagrams may remove the appending of _modeA or _modeB to pse_power_level, so it is better to address DS using an Editor's note. This comment is related to comments marked COMMENT-4 and COMMENT-5.

SuggestedRemedy

Replace "The default value of pse_power_level is 3." with "Type 3 and 4 PDs provide a default value of 3 for pse_power_level in the DO_DETECTION state." Delete the sentence, "After a successful Data Link Layer classification has completed, the pse_power_level is set to either 3, 4, 6 or 8. " A comment marked COMMENT-4 already provides a related Editor's Note. Strike the sentence "The PD resets the pse_power_level to '1' when the PD enters the DO_DETECTION state.".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.7** *P* **145** *L* **5** # 377

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **X**

"The PD resets the pse_power_level to '1' when the PD enters the DO_DETECTION state."

Wrong. Should be 3.

SuggestedRemedy

"The PD resets the pse_power_level to '3' when the PD enters the DO_DETECTION state."
Possible OBE by yseboodt_04_0916_psetypeid.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.7** *P* **145** *L* **5** # 521

Stover, David — Linear Technology

Comment Type **TR** *Comment Status* **X**

"The PD resets the pse_power_level to '1' when the PD enters the DO_DETECTION state." False. The Type 3 and Type 4 PD reset pse_power_level to 3 in DO_DETECTION. Type 2 PDs do not have a defined variable named pse_power_type, which IS set to 1 in DO_DETECTION. Also (TFTD) why do we have two pse_power_xxx variables?

SuggestedRemedy

Replace text with "Type 1 and Type 2 PDs reset the pse_power_type to '1' when the PD enters the DO_DETECTION state. Type 3 and Type 4 PDs reset the pse_power_level to '3' when the PD enters the DO_DETECTION state."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **145** *L* **15** # 378

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

The fontsize of the additional information field in Table 33-28 is inconsistent.
This damn problem keeps reappearing.

SuggestedRemedy

Make font size correct.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **145** *L* **41** # 379

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **X**

Table 33-28 has an incorrect value for Type 4 overload.
At Class 8 worst case we have Pclass_pd-2P = 1.05 * 71W = 74.55W, with current = 1.841A.
The resulting PD voltage is 52 - 6.25 * 1.841 = 40.5V

SuggestedRemedy

Change Table 33-28, item 3, Type 4 value from 39.5 to 40.5

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **146** *L* **8** # 522
Stover, David Linear Technology

Comment Type **E** *Comment Status* **X**

"PD Type" for Single-signature PD, Class 0 to 6 is "All"; Type 4 PDs can only be Class 7 or Class 8.

SuggestedRemedy

Replace "All" in PD Type column for Single-signature PD, Class 0 to 6 with "1, 2, 3"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **146** *L* **25** # 523
Stover, David Linear Technology

Comment Type **ER** *Comment Status* **X**

PD Type column for dual-signature entries in I_Inrush_PD-2P is incorrect.

SuggestedRemedy

Replace PD Type column for "Dual-signature PD, Class 1 to 4" with "3" (is 4); for "Dual-signature PD, Class 5" with "4" (is blank).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **146** *L* **29** # 380
Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

TDELAY_COMMENT

In table 33-28 we have both Tdelay and Tdelay-2P with the same value of 80ms.
Since the text in 33.3.8.3 never uses Tdelay, and this text is written to apply to both single as dual signature, we don`t really need the Tdelay parameter.

SuggestedRemedy

- Remove Table 33-28, item 8
- Change Table 33-28, item 9 (Tdelay-2P), add info to read "See 33.3.8.3".

Other comments clean up Tdelay references.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **146** *L* **44** # 524
Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

P_Peak_PD-2P (used in section 33.3.8.5, which references this table) is missing.

SuggestedRemedy

Define P_Peak_PD-2P (TFTD).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.1** *P* **148** *L* **15** # 381
Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

"The behavior of a PD at a voltage outside of V Port_PD-2P is undefined once the PD reaches MDI_POWER1, until V PD falls below V Reset."

Now that we have this text, we can do away with the inelegant MDI_NOPOWER state in the state diagram.

SuggestedRemedy

- From 33.3.3.7 remove variable 'pd_undefined'
- From Figure 33-32 remove state MDI_NOPOWER
- From 33.3.3.12 remove variables 'pd_undefined_modeA' and _modeB
- From Figure 33-33 remove state MDI_NOPOWER_modeA
- From Figure 33-34 remove state MDI_NOPOWER_modeB

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.2.1** *P* **148** *L* **35** # 382
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"33.3.8.2.1 Input average power for certain Class 6 and Class 8 PDs"

While technically correct, the word 'certain' causes this to be a very odd and unsure sounding header.
The deciding factor is mentioned in the section.

SuggestedRemedy

"33.3.8.2.1 Input average power for Class 6 and Class 8 PDs"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.2.1** *P* **148** *L* **37** # 47

Bennett, Ken — Sifos Technologies, In

Comment Type **T** *Comment Status* **X**

This section states:

"...the PD may consume greater than PClass_PD but shall not consume greater than PClass at the PSE PI."

Problem: Equation 33-2 defines PClass by RChan and PClass_PD. If a PD consumes more than PClass_PD, it will by definition cause PClass in equation 33-2 to be exceeded.

SuggestedRemedy

Append the following text to the end of the statement:

.., where PClass is the lesser of: a) the PSEs PClass allocation; and b) the overmargined PClass value in table 33-12."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.2.2** *P* **148** *L* **47** # 383

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **X**

In the section "System stability test conditions during startup and steady state operation" we find:

"When a Type 1, Type 2, single-signature Type 3, or single-signature Type 4 PD is supplied with V Port_PSE-2P min to V Port_PSE-2P max with R Ch (as defined in Table 33-1) in series, it shall operate at PPort_PD , as defined in Table 33-28, with the ripple and noise content as defined in Table 33-28, and with the DC input operating voltage range as defined by Table 33-28."

and

"When a dual-signature PD is supplied with V Port_PSE -2P min to V Port_PSE-2P max with R Ch (as defined in Table 33-1) in series, it shall operate at PPort_PD-2P , as defined in Table 33-28, with the ripple and noise content as defined in Table 33-28, and with the DC input operating voltage range as defined by Table 33-28."

All of this repeats requirements already in Table 33-28, a Table that has a shall associated with it.
Also this doesn`t belong in this section anyway.

SuggestedRemedy

Remove both paragraphs from this section.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.3** *P* **149** *L* **1** # 384

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

The paragraph order in 33.3.8.3 isn`t entirely logical.

SuggestedRemedy

- Move last paragraph (that describes Cport) to before the "Input inrush currents at startup" paragraph.
- Move the NOTE to after the "Single-signature PDs assigned to" paragraph.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **149** *L* **17** # 221

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

The dual-signature part of Figure 33-36 is presenting a dual signature with two completely isolated circuits (loads) connected to mode A and mode B and showing total capacitance Cx+Cy as seen by the PSE.
However dual signature PDs may be implemented in different ways e.g. using single load at POWER_ON state which result with lower than Cx+Cy value.

SuggestedRemedy

Add the following note below Figure 33-36:
"The dual-signature part of Figure 33-36 is presenting a dual signature with two completely isolated circuits (loads) connected to mode A and mode B and showing total capacitance Cx+Cy as seen by the PSE.
However dual signature PDs may be implemented in different ways e.g. using single load at POWER_ON state which result with lower than Cx+Cy value."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.3** *P* **149** *L* **21** # 385

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"The PD shall meet the inrush requirements with the PSE behavior described in 33.2.8.5."

I guess the intent was to say "PD only needs to meet the inrush requirements if the PSE complies to 33.2.8.5".
Do we really need to say this ? The same applies to nearly every other PD parameter as well.
Also, the earlier shalls are not conditional upon this one, so it has no effect in its current form.

SuggestedRemedy

Remove "The PD shall meet the inrush requirements with the PSE behavior described in 33.2.8.5."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.3** *P* **149** *L* **23** # 386

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"Editor's Note: These paragraphs have changed as a result of MR1277 and further work. Do not change this paragraph without consulting the request of MR1277."

This whole section has been revamped and the concern of MR1277 has been addressed.

SuggestedRemedy

Remove note.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.3** *P* **149** *L* **28** # 387

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

"Input inrush current at startup, IInrush PD-2P , is limited by the PSE if CPort-2P < 110 uF for dual-signature Type 3 PDs and if C Port-2P < 180 uF for dual-signature Type 4 PDs."

Depends on assigned Class, not PD Type.

SuggestedRemedy

"Input inrush current at startup, IInrush PD-2P , is limited by the PSE if CPort-2P < 110 uF for dual-signature PDs assigned to Class 0 to 4, and if CPort-2P < 180 uF for dual-signature PDs assigned to Class 5."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.3** *P* **149** *L* **30** # 460

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

"If a PD has a larger C Port or C Port-2P value, then the PD shall limit the input inrush current such that I Inrush_PD max and I Inrush_PD-2P max, as defined in Table 33-28, are met."

Very true, but also redundant to the requirement a few paragraphs above:
"PDs shall draw less than I Inrush_PD and I Inrush_PD-2P from T Inrush-2P min until T delay-2P min."

SuggestedRemedy

Remove the "If a PD has a larger..." sentence.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **150** *L* **43** # 525
Stover, David Linear Technology

Comment Type **ER** *Comment Status* **X**

"P_Class_PD … as defined in Table 33-28". P_Class_PD is defined in Table 33-24.

SuggestedRemedy

Correct reference to Table 33-24.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **150** *L* **43** # 461
Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

In equation 33-26:
Pclass_pd => is the maximum power, P Class_PD max, as defined in Table 33-28

PClass_PD is a single value, not a range. Remove 'max'
Also wrong table reference.

SuggestedRemedy

Pclass_pd => is the maximum power, P Class_PD, as defined in Table 33-24

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4.1** *P* **150** *L* **50** # 462
Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

"33.3.8.4.1 Peak operating power for certain Class 6 and Class 8 PDs"

While technically correct, the word 'certain' causes this to be a very odd and unsure sounding header.

SuggestedRemedy

"33.3.8.4.1 Peak operating power for Class 6 and Class 8 PDs"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4.1** *P* **151** *L* **2** # 48
Bennett, Ken Sifos Technologies, In

Comment Type **T** *Comment Status* **X**

The statement:

"...the peak power shall not exceed PClass at the PSE PI for more than TCUT-2P min, as defined in Table 33–17 and with 5% duty cycle."

Needs clarification of PClass. Three interpretations are possible: Equation 33-2, Table 33-12, or the PClass level provided by the connected PSE.

SuggestedRemedy

Append the following to the end of the statement:

", where PClass is the lesser of: a) the PSE's PClass allocation; and b) the overmargined PClass value in table 33-12."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4.1** *P* **151** *L* **2** # 49
Bennett, Ken Sifos Technologies, In

Comment Type **T** *Comment Status* **X**

This section addresses peak power for Class 6 and 8 extended power. It mirrors section 33.3.8.4, however it is missing a Peak Power value.

The average power (Pport_PD) in extended mode is limited to PClass at the PSE. Ppeak_PD limits use a fixed multiplier (1.05 x PClass_PD). Ppeak_PD is a fixed limit at the PD and is variable with respect to PClass at the PSE (due to changes in channel loss). For interoperability and clarity, the Peak Power limit should remain at the same factor of 1.05, referenced to the PD PI.

SuggestedRemedy

Append the text below to the paragraph ending on Pg 151, Ln 2.

Peak operating power shall not exceed 1.05 x Port_PD max.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.5** *P* **151** *L* **21** # 526
Stover, David Linear Technology

Comment Type **E** *Comment Status* **X**

Current slew rate is redundantly defined here and Table 33-28, Item 11.

SuggestedRemedy

Assign a symbol to Table 33-28, Item 11. Reference this symbol in 33.3.8.5.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.5** *P* **151** *L* **21** # 527
Stover, David Linear Technology

Comment Type **ER** *Comment Status* **X**

"When the input voltage at the PI is static and in the range of V_Port_PD defined in Table 33-28" V_Port_PD in Table 33-28 has changed to V_Port_PD-2P. There are multiple entries in the text that need changed to reflect this.

SuggestedRemedy

Global search and replace V_Port_PD with V_Port_PD-2P.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.5** *P* **151** *L* **31** # 50
Bennett, Ken Sifos Technologies, In

Comment Type **T** *Comment Status* **X**

Figures 33-37, 33-38, and 33-39 show PD upperbound templates. These are also described as operating masks, and a normative shall states the PDs must operate below these upperbound templates.

The figures are valid up to TCut-2P min for a single peak rising above the PClass_PD power level. The figures are not valid for multiple peaks that are shorter duration than TCut-2P min (see 5% duty cycle in 33.3.8.4).

SuggestedRemedy

Change the NOTE as follows and put it under each respective template (replacing the existing notes where they appear):

NOTE - Figure 33-## applies to a single peak which exceeds the PClass_PD power value.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.5** *P* **151** *L* **32** # 51
Bennett, Ken Sifos Technologies, In

Comment Type **E** *Comment Status* **X**

The templates show a second upperbound step after Tcut-2P min. This step is the power that a peak pulse must fall below before PSE TCut timing is reset.

After a Peak lasting TCut-2P min ends, the instantaneous power must stay below the second step for 950msecs. Peaks lasting less than TCut-2P min may exceed the second step after droppin below the PClass_PD power level.

The always-valid portion of the second step is the transition at TCut-2P-min.

SuggestedRemedy

For clarity, shorten the duration of the second step in Figures 33-37, 33-38, 33-39 to 1/4 or 1/8 of their existing length.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.5** *P* **152** *L* **10** # 463
Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

In equation 33-28:
PPeak_PD => is the peak operating power, Ppeak_PD max, as defined in Table 33-28
Pclass_pd => is the maximum power, P Class_PD max, as defined in Table 33-28

PClass_PD is a single value, not a range. Remove 'max'
Ditto for PPeak_PD.
Also wrong table reference.

SuggestedRemedy

PPeak_PD => is the maximum peak operating power, Ppeak_PD, as defined in Table 33-28
Pclass_pd => is the maximum power, P Class_PD, as defined in Table 33-24

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.5** *P* **152** *L* **32** # 21

Jones, Chad Cisco

Comment Type **E** *Comment Status* **X**

under figure 33-37 and 33-39 there is a this note: "NOTE—PDs are required to meet Equation (33–2) which results in a slightly lower power and current than results from 17 Figure 33–37, Figure 33–38, Equation (33–27), Equation (33–28) and Equation (33–30)." but it doesn't exist under figure 33-38. not to mention that the note doesn't mention figure 33-39.

SuggestedRemedy

Add "figure 33-39" to the note (two places, page 151, line 46 and page 153, line 17) and copy the revised note to figure 33-38 page 152, line 32

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.5** *P* **152** *L* **43** # 464

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

In Eq 33-29, variable list, we have a non-subscript "-2P"

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.5** *P* **153** *L* **1** # 465

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Figure 33-39 is clipped a bit on the top.

SuggestedRemedy

Unclip.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.5** *P* **153** *L* **3** # 52

Bennett, Ken Sifos Technologies, In

Comment Type **T** *Comment Status* **X**

The Class 6 and 8 extended template and Equation 33-30 impose peak power values of Ipeak*Vpse.

PDs are not required to "know" Vpse: without Vpse, this is an unknown limit.

Another submitted comment suggested "1.05 x Pport_PD max" as a Ppeak limit for extended mode. If it was accepted, it should appear here as well.

SuggestedRemedy

Replace Ipeak*Vpse with "1.05 x Pport_PD max".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.6** *P* **153** *L* **44** # 466

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

The second paragraph of 33.3.8.6 is hard to read as it lists a bunch of different cases in consequetive sentences.
It does not lend itself to table format either.

SuggestedRemedy

Itemize the sentences in the second paragraph, this makes is visually easier to parse.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.9** *P* **155** *L* **24** # 467

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

"When V_Port_PD-2P max is applied across the PI at either polarity specified on the conductors of either Mode A or Mode B according to Table 33-19, the voltage measured across the PI for the other Mode with a 100 kOhm load resistor connected shall not exceed V bfd max as specified in Table 33-28."

Note: legacy text!

This 'shall' only applies when precisely 57.0V is applied. In essence, the shall does not exist.

SuggestedRemedy

TFTD

"When any voltage between 0V and V_Port_PD-2P max is applied across the PI at either polarity specified... "
or
"When V_Port_PD-2P is applied across the PI at either polarity specified... "

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.10** *P* **155** *L* **30** # 53

Bennett, Ken Sifos Technologies, In

Comment Type **T** *Comment Status* **X**

Section 33.3.8.10 describes a test set-up to meet Icon-2P and Icon-2P_unb, which are necessary for interoperability.

The Normative "Shall" refers to a test set-up (derived from models) as the condition under which Icon-2P and Icon-2P_unb must be met. There are deficiences in this approach which can result in interoperability problems.

SuggestedRemedy

See Bennett_01_0916.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.10** *P* **155** *L* **33** # 468

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **X**

Wrong reference to Fig 33-39, should be 33-40.

SuggestedRemedy

Replace on line 33 and on line 40.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.10** *P* **155** *L* **34** # 528

Stover, David Linear Technology

Comment Type **ER** *Comment Status* **X**

"…and R_source_min is in the range of 0.168ohm to 5.28ohm as shown in Figure 33-39". Actually, Figure 33-40.

SuggestedRemedy

On Lines 34 and 40, replace reference to Figure 33-39 with reference to Figure 33-40.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.10** *P* **155** *L* **34** # 241

Darshan, Yair Microsemi

Comment Type **E** *Comment Status* **X**

Error in the link to Figure 33-39. Need to be 33-40.

SuggestedRemedy

Change from "Figure 33-39"
To: "Figure 33-40".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.10** *P* **155** *L* **34** # 213

Darshan, Yair Microsemi

Comment Type **T** *Comment Status* **X**

This comment is marked "PDPI_P2P"
33.3.8.10 needs some updates. All my comments related to 33.3.8.10 are shown with editing marks on page 2 in darshan_07_0916.pdf.

SuggestedRemedy

All my comments related to 33.3.8.10 are shown with editing marks on page 2 in darshan_07_0916.pdf.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.10** *P* **155** *L* **40** # 242

Darshan, Yair Microsemi

Comment Type **E** *Comment Status* **X**

Error in the link to Figure 33-39. Need to be 33-40.

SuggestedRemedy

Change from "Figure 33-39"
To: "Figure 33-40".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.10** *P* **155** *L* **42** # 243

Darshan, Yair Microsemi

Comment Type **T** *Comment Status* **X**

In the text:
"Rsource_min and Rsource_max represent the Vin source common mode effective resistance that consists of the PSE PI components (RPSE_min and RPSE_max as specified in 33.2.8.4.1, VPort_PSE_diff as specified in Table 33–17 and the channel resistance). Common mode effective resistance is the resistance of two conductors of the same pair and their other components connected in parallel including the effect of VPort_PSE_diff. IA and IB are the pair currents of pairs with the same polarity. See Annex 33A.5 for design guide lines for meeting the above requirements."

There is some missing information that clarifies the text and some reduntant information.

SuggestedRemedy

Change from:
"Rsource_min and Rsource_max represent the Vin source common mode effective resistance that consists of the PSE PI components (RPSE_min and RPSE_max as specified in 33.2.8.4.1, VPort_PSE_diff as specified in Table 33–17 and the channel resistance). Common mode effective resistance is the resistance of two conductors of the same pair and their other components connected in parallel including the effect of VPort_PSE_diff. IA and IB are the pair currents of pairs with the same polarity. See Annex 33A.5 for design guide lines for meeting the above requirements."

T0:
"Rsource_min and Rsource_max represent the Vin source common mode effective resistance that consists of the PSE PI components (RPSE_min and RPSE_max as specified in 33.2.8.4.1, VPort_PSE_diff as specified in Table 33-17, channel resistance and RPAIR_PD_min , RPAIR_PD_max specified in 33A.5. See Annex D for derivation of Rsource_min and Rsource_max. Common mode effective resistance is the resistance of two conductors of the same pair and their other components (that are forming Rsource) connected in parallel including the effect of the system total pair to pair voltage difference. IA and IB are the pair currents of pairs with the same polarity."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.10** *P* **155** *L* **46** # 222
Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

(See darshan_07_0916.pdf page 4 for editing marks on 33A.5.)
Annex 33A.5 needs updates:
1. Equation 33A-4 was not implemented correctly. It was written in reverse order.
2. Some text clarification was missing.
3. Figure 33A-4 was update for editorials and missing information.

SuggestedRemedy

See page 4 in darshan_07_0916.pdf for proposed remedy.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.10** *P* **156** *L* **9** # 244
Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

See darshan_04_0916.pdf for the correct drawing.
In figure 33-40, all Resistors are marked as Rsource_max which is incorrect.
It should start with Rsource_min from top, and then Rsource_max, Rsource_min and Rsource_max in this order.
See darshan_04_0916.pdf for the correct drawing.

SuggestedRemedy

See darshan_04_0916.pdf for the correct drawing.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.10** *P* **156** *L* **17** # 245
Darshan, Yair Microsemi

Comment Type **E** *Comment Status* **X**

The wording of the title of Figure 33-40:
"Figure 33-40-PD PI pair-to-pair current unbalance test setup"
can be sync with other test models in the spec.

SuggestedRemedy

Change from: "Figure 33-40-PD PI pair-to-pair current unbalance test setup"
To: "Figure 33-40-PD PI pair-to-pair current unbalance test model"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.10** *P* **156** *L* **19** # 246
Darshan, Yair Microsemi

Comment Type **E** *Comment Status* **X**

The words "test setup" can be improved in by replacing it to "test model":

"NOTE 1—Rsource includes test setup plug resistance Rcon. The maximum recommended Rcon value is 0.02 ohm however it
is test setup implementation specific choice how to meet Rsource_min and Rsource_max."

SuggestedRemedy

Change from: "test setup"
To: "test model"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.9** *P* **157** *L* **1** # 469
Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **X**

See Annex 33F for PD design guidelines for MPS behavior.

SuggestedRemedy

This Annex does not exist, and likely never will.
Remove sentence.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.9** *P* **157** *L* **16** # 470
Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

There is a interoperability issue for dual-signature PDs connected to Type 1/2 PSEs.
The Iport_mps-2P is 8mA (min) for the PD, but can be up to 10mA for the PSE.

SuggestedRemedy

Two options.
Simple: Change Table 33-30, IPort_MPS-2P to 0.010 A
Complex: Change Table 33-30, such that depending on short_mps_modeA and short_mps_modeB the current is 8mA or 10mA

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.9** *P* **157** *L* **29** # 302

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The existing table note can be improved to make PD designers aware of other concerns that may affect PDs using low-MPS. PSEs have a noise allowance covered in Table 33-17 item 4, that permit 0.5Vpp at 500 Hz, which could null the PD MPS current. The PSE noise value is only around 0.7% of the PI voltage so the noise allowance is not likely to be lowered.

SuggestedRemedy

Replace the legacy note text “resistance RCh)” with “resistance RCh) or the PSE power feeding ripple and noise covered in Table 33-17”.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.9** *P* **157** *L* **31** # 471

Yseboodt, Lennart — Philips

Comment Type **E** *Comment Status* **X**

"Such a PD should increase its I Port min or make other such provisions to meet the Maintain Power Signature."

Note below Table 33-30. Should also refer to IPort-2P.

SuggestedRemedy

"Such a PD should increase its IPort min, or IPort-2P min or make other such provisions to meet the Maintain Power Signature."

(Did I get the comma`s right?)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.3** *P* **160** *L* **10** # 472

Yseboodt, Lennart — Philips

Comment Type **ER** *Comment Status* **X**

Table 33-32 uses "," rather than "." as the decimal point.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.3** *P* **160** *L* **10** # 22

Jones, Chad — Cisco

Comment Type **ER** *Comment Status* **X**

Table 33-32. commas to be replaced with decimal points, 39 places

SuggestedRemedy

Table 33-32. commas to be replaced with decimal points, 39 places

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.3** *P* **160** *L* **53** # 142

Grow, Robert — RMG Consulting

Comment Type **TR** *Comment Status* **X**

P802.3bz is at RevCom, so you should verify specifications against the submitted P802.3bz draft, and if P802.3bt/D2.1 is produced after 22 September, we will know the approval status of P802.3bz.

SuggestedRemedy

Update specifications if required, remove note if D2.1 is produced after 22 September and P802.3bz is approved by the SASB.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.4** *P* **161** *L* **34** # 473

Yseboodt, Lennart — Philips

Comment Type **ER** *Comment Status* **X**

Table 33-33 uses "," rather than "." as the decimal point.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.4** *P* **161** *L* **34** # 23

Jones, Chad Cisco

Comment Type **ER** *Comment Status* **X**

Table 33-33. commas to be replaced with decimal points, 10 places

SuggestedRemedy

Table 33-33. commas to be replaced with decimal points, 10 places

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.4** *P* **163** *L* **12** # 41

Trowbridge, Steve Nokia

Comment Type **E** *Comment Status* **X**

Figure 33-44 uses a different symbol for ground than the surrounding figures, e.g., 33-43, 33-45

SuggestedRemedy

Uses a consistent symbol for ground across all figures. If the symbol from Figure 33-44 is selected, the line segments that form it need to be tidied up to meet better in the diagram

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.5** *P* **163** *L* **48** # 529

Stover, David Linear Technology

Comment Type **ER** *Comment Status* **X**

"This AC voltage can be ripple from the power supply (Table 33-17, item 3)". Actually, item 4.

SuggestedRemedy

Correct reference to item 4.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9** *P* **166** *L* **33** # 535

Flatman, Alan LAN Technologies

Comment Type **E** *Comment Status* **X**

“interconnect models” and “cross connect models” are shown in clause 5.6.1 in the existing version of ISO/IEC 11801: Edition 2.1 2008 but will be in clause 5.1 in ISO/IEC 11801: Edition 3 which is currently at DIS stage.

SuggestedRemedy

change reference to ISO/IEC 11801 Edition 3 clause 5.1.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9** *P* **167** *L* **16** # 42

Trowbridge, Steve Nokia

Comment Type **E** *Comment Status* **X**

A few sloppy elements in Figure 33-47: in the cross-connect model, the line before the jumper extends past the jumper, and in the midspan insertion model the jumper arc doesn't meet the line at the left side

SuggestedRemedy

Tidy up the figure

Proposed Response *Response Status* **O**

Cl **33** *SC* **33-47** *P* **167** *L* **28** # 256

Klempa, Michael UNH IOL

Comment Type **E** *Comment Status* **X**

The "Equipment Cord" figures are inconsistent and sometimes incomplete.

SuggestedRemedy

Re-draw diagram using the same Equipment Cord in each model and keep them tangential to the line

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1** *P* **168** *L* **9** # 536

Flatman, Alan — LAN Technologies

Comment Type **E** *Comment Status* **X**

ISO/IEC 11801: 2002 does not include cabling for 10GBASE-T which is listed as an MDI type in this subclause. Cabling for 10GBASE-T is included in ISO/IEC 11801: Edition 2.1 2008 and will be contained in ISO/IEC 11801: Edition 3 which is currently at DIS stage.

SuggestedRemedy

change reference to ISO/IEC 11801: Edition 2.1 2008 or ISO/IEC 11801: Edition 3.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1.1** *P* **168** *L* **35** # 24

Jones, Chad — Cisco

Comment Type **ER** *Comment Status* **X**

EQ 33-34 to 33-38. commas to be replaced with decimal points. 12 places total

SuggestedRemedy

EQ 33-34 to 33-38. commas to be replaced with decimal points. 12 places total

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1.4** *P* **170** *L* **9** # 474

Yseboodt, Lennart — Philips

Comment Type **ER** *Comment Status* **X**

"Table 33-35--Specifications for cables in Midspan PSEs"

The cables are not located inside the Midspans.

SuggestedRemedy

Table 33-35--Cable specifications for use with Midspan PSEs

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1.4** *P* **170** *L* **17** # 148

Maguire, Valerie — Siemon

Comment Type **E** *Comment Status* **X**

Incorrect '568-C.2 reference ("/EIA" is not part of the title).

SuggestedRemedy

Replace, "ANSI/TIA/EIA-568-C.2" with "ANSI/TIA-568-C.2" in three locations in Table 33-35.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1.4** *P* **170** *L* **22** # 537

Flatman, Alan — LAN Technologies

Comment Type **E** *Comment Status* **X**

ISO/IEC 11801: 2002 does not include 10GBASE-T cords which are listed in this subclause. 10GBASE-T cords are included in ISO/IEC 11801: Edition 2.1 2008 and will be contained in ISO/IEC 11801: Edition 3 which is currently at DIS stage.

SuggestedRemedy

change reference to ISO/IEC 11801: Edition 2.1 2008 or ISO/IEC 11801: Edition 3.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1.4** *P* **170** *L* **22** # 149

Maguire, Valerie — Siemon

Comment Type **E** *Comment Status* **X**

Incorrect category reference.

SuggestedRemedy

Replace "category 6a" with "category 6A" in one location in Table 33-35.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5** *P* **172** *L* **26** # 335

Law, David HPE

Comment Type **TR** *Comment Status* **X**

As acknowledged in subclause 33.1.2, as an optional non-data entity, DTE Power via MDI does not appear in the seven layer model. Regardless, as illustrated in Figures 33-1 and 33-2, it interfaces to the medium at the same point as the PHY, and these figures also show the PSE and PD function adjoining the PHY. Perhaps because of this, or perhaps for other reasons, Clause 33 has provided the option for the PSE functions to be 'below' the optional xMII, as for PHYs. This is through the optional support of the MDIO interface, and associated registers, defined in subclause 33.5.

It seems however that implementations of PSE functions don't ever implement the MDIO interface and instead use other approaches. From the perspective of an implementer it doesn't matter if IEEE 802.3 specifies registers in subclause 33.5 since they are only mandatory if '...the PSE is implemented with a management interface described in 22.2.4 or 45.2 (MDIO) ...'. Hence if the MDIO interface isn't implemented on the PSE function, the registers don't need to be implemented, only something equivalent.

But there would seem to be no point specifying these registers moving forward if they are never used, as that would just be unnecessary work. And there would appear to be an additional work for IEEE P802.3bt as there is no space left in the Clause 22 register space, hence we'd have to look at how to use the Clause 45 register space instead.

So far in IEEE 802.3 we've only defined an optional compatibility interface, in this case the xMII (see subclause 1.1.3.2), for access to the status and control information to the PHY. We've not defined one for the MAC, MAC Control and upper sublayers, instead only abstract services interfaces. Hence access to control and status in these sublayers has always been in an implementation specific way. Maybe it is time to add DTE Power via MDI to this list.

SuggestedRemedy

Consider either deprecating, or even removing, subclause 33.5 'Management function requirements'. For all DTE Power via MDI attributes in Clause 30 remove the 'If a Clause 22 MII or Clause 35 GMII is present, then this will map to ...' text so that the attributes behaviours will then only make reference to subclause, state diagrams and functions as is the case for all MAC, MAC Control and other upper sublayers related attributes. State diagram variables with 'mr_' prefixes should have the text related to register bits removed and should be renamed by removing the text 'mr_'.

I have requested presentation time at the 2016 September interim to make a presentation in support of this comment.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5** *P* **172** *L* **26** # 211

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

Clause 33.5 Management function requirements is missing many of type 3 and Type 4 registers. It is a problem to add the missing registers to 33.5 due to used up address space. It is suggested to:
1.rename clause 33.5 title in line 21 to "33.5 Type 1 and Type 2 Management function requirements"
2. Add new sub clause: "33.X Type 3 and Type 4 Management function requirements"
3.Add minimum control and status register set for Type 3 and 4 features that will be equitant management capability to the MDIO and will have future expansion capabilities as well. The protocol will be implementation specific since MDIO is not practical and the spec allows equivalent way to do it. See page 172 lines 29-32.

SuggestedRemedy

1.Rename clause 33.5 title in line 21 to "33.5 Type 1 and Type 2 Management function requirements"
2. Add new sub clause: "33.X Type 3 and Type 4 Management function requirements"
3.Adopt darshan_09_0916.pdf if available for the meeting. If not ready for the meeting add to the new clause 33.X the following Editor Note:
"Editor Note: "Editor Note: Add minimum control and status register set for Type 3 and 4 features that will be equitant management capability to the MDIO and will have future expansion capabilities as well. The protocol will be implementation specific since MDIO is not practical and the spec allows equivalent way to do it."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.1.2** *P* **175** *L* **32** # 98

Zimmerman, George CME Consulting, Aqua

Comment Type **TR** *Comment Status* **X**

Need to specify new classes (5-8 and Autoclass) in PD class bits.

SuggestedRemedy

Change 1 0 1 to Invalid Class or Type 4 PD, Change 1 1 0 to Class 5, and 1 1 1 to Class 6. Change last sentence of 33.5.1.2.10 to read "The combination "1 0 1" indicates that either an invalid class was read, or the PD is a Type 4 PD, with Class 7, 8 or autoclass has been determined (see 45.2.7b.4)." Add Clause 45 into the draft, and allocate a new PSE status register in clause 45 space at 45.2.7b.4, after 45.2.7b.3, as inserted by IEEE P802.3bu-201x, to include 2 bits (0:1) for 00 = PD Class 1-6, 01 = PD Class 7, 10 = PD Class 8, and 11 = Autoclass, and the rest reserved.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.1.2** *P* **175** *L* **50** # 143

Grow, Robert — RMG Consulting

Comment Type **TR** *Comment Status* **X**

The Editor's note highlights a technical incompleteness that should have disqualified the draft from progressing to WG ballot. While it is admirable to highlight input being needed from WG members, this should have been done prior to ballot.

SuggestedRemedy

Unfortunately, I don't think I have a solution for you, but you need one prior to the next recirculation. All that occurs to me is to deprecate the use of Clause 22 registers, require the use of Clause 45 registers (possibly including the mapped Clause 22 registers, and get the extra registers and bits in the Clause 45 register space.

Proposed Response *Response Status* **O**

Cl **33** *SC* **5.1.2** *P* **175** *L* **51** # 1

McDermott, Thomas — Fujitsu

Comment Type **TR** *Comment Status* **X**

The editor's note refers to TABLE 33-22. This appears to be the wrong table for defining additional Types and Features. Should it refer to TABLE 33-39? It is not clear whether the draft, as written, can operate properly without these additional fields being defined. If it cannot, then the fields and mechanisms need to be defined before the draft can be approved.

SuggestedRemedy

Define method and fields before progressing the draft further if the draft is inoperable as currently written.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.1.2** *P* **175** *L* **51** # 209

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

The Editor note need to be updated as for the list of features we need to support.

SuggestedRemedy

Change from:
"Editor's Note: Table 33-22 requires new fields to support new Types and features. Reviewers are encouraged to provide the required definitions. Status register bits are used up, and clause 22 address space is used up as well. Contributions requested as to how to expand status, at a minimum to report Class 8 PD and Autoclass."
To:
"Editor's Note: Table 33-22 requires new fields to support new Types and features. Reviewers are encouraged to provide the required definitions. Status register bits are used up, and clause 22 address space is used up as well. Contributions requested as to how to expand status, at a minimum to report Class 5-8 PDs, dual/single-signature PD detected, PSE is using Type 3 or 4 electrical parameters and Autoclass."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6** *P* **177** *L* **40** # 239

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

Type 3 and Type 4 single signature state machine is not complete and contradicts DLL power management in clause 33.6.
The main issues are:
1. Figure 33-50 is not supporting Type 3 and Type 4 single-signature PDs. (need to support pse_dll_power_level and pse_dll_power_type)
2. Duplicate variables used in 33.6 and 33.3.3.7 (e.g pse_dll_power_level)

SuggestedRemedy

Add "Editor Note: clause 33.6 and 33.3.3.7 need to be in sync.
The following issues need to be adressed:
1. Figure 33-50 is not supporting Type 3 and Type 4 single-signature PDs. (need to support pse_dll_power_level and pse_dll_power_type)
2. Duplicate variables used in 33.6 and 33.3.3.7 (e.g pse_dll_power_level)."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6** *P* **177** *L* **40** # 214

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

33.6 Data Link Layer classification need to be updated in order to:
1. support dual-signature PD.
2. To fix some error regarding the sync between variable names in PD state machine and its variable list, PD DLL power state maching and its variable list and figure 33-50 mainly and maybe Figure 33-49 as well.
3. In addition clause 33.6 needs to be in sync with PD single and dual signature state machines and their variable list.

SuggestedRemedy

Adopt darshan_11_0915.pdf if ready for the meeting. If not, add the following editor note to the begining of clause 33.6:
"Editor Note: 33.6 Data Link Layer classification need to be updated in order to:
1. support dual-signature PD.
2. To fix some error regarding the sync between variable names in PD state machine and its variable list, PD DLL power state maching and its variable list and figure 33-50 mainly and maybe Figure 33-49 as well.
3. sync 33.6 with PD single and dual signature state machines and their variable list."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6** *P* **177** *L* **40** # 304

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

A DLL subject matter expert should add text covering dual-signature PDs. A state diagram may be required and a LLDP attribute map would also then be required.

SuggestedRemedy

Add on line 40, "Editor's Note: readers are encouraged to improve the DLL to encorporate dual-signature PDs." This comment should not be considered satisfied until an acceptable solution is provided to addess the comment made.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.1** *P* **177** *L* **53** # 303

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The LLDP "Power via MDI Measurements" TLVs are suppose to be optional. The modified text could be intepreted to indicate that this TLV is not optional if DLL is supported.

SuggestedRemedy

On line 52 change existing text "…and the Power via MDI Measurements TLV …" to "…and may support the Power via MDI Measurements TLV …"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.2** *P* **179** *L* **6** # 306

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The variable pd_max_power exists in Type 1,2 and Type 3,4 state diagrams. Both apply to this description.

SuggestedRemedy

Replace existing text, "… diagram (Figure 33-32:" with "… diagrams (Figures 33-31 and 33-32:"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.2** *P* **179** *L* **18** # 305

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

Variable parameter_type is determined only by Type 1 and 2 function set_parameter_type, therefore it will only have values 1 and 2. Variable pd_allocated_power is not assigned anywhere and is required to determine PSE_INITIAL_VALUE.

SuggestedRemedy

The solution is provided in schindler_3bt_01_0916.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.2** *P* **179** *L* **19** # 475

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

The constant PSE_INITIAL_VALUE needs to be initialized, but the way this is done is different for Type 1/2 and Type 3/4.
Since we want to avoid splitting the DLL state diagrams, and this is (for now) the only variable that is causing trouble, we should initialize it differently depending on PSE Type.

SuggestedRemedy

Adopt yseboodt_02_0916_pseinitialvalue.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.2** *P* **179** *L* **35** # 307

Schindler, Fred Seen Simply, Broadco

Comment Type **ER** *Comment Status* **X**

The cross reference used, "… found in 33.3.8.2." is not correct.

SuggestedRemedy

Use the cross reference, "… found in 33.3.8.2.1."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.3** *P* **179** *L* **43** # 336

Law, David HPE

Comment Type **T** *Comment Status* **X**

The subclause 33.6.3.3 definition of the MirroredPDRequestedPowerValue variable states that it is 'The copy of PDRequestedPowerValue that the PSE receives from the remote system.'. PDRequestedPowerValue should be the PD Requested Power Value field in the Power Via MDI TLV. There is a similar issue with the MirroredPSEAllocatedPowerValue and MirroredPSEAllocatedPowerValueEcho varibles.

SuggestedRemedy

Suggest that:

[1] For the MirroredPDRequestedPowerValue variable the text '... copy of PDRequestedPowerValue that the ...' should be changed to read '... copy of the PD Requested Power Value field in the Power Via MDI TLV that the ...'.
[2] For the MirroredPSEAllocatedPowerValue variable the text '... copy of PSEAllocatedPowerValue that the ...' should be changed to read '... copy of the PSE Allocated Power Value field in the Power Via MDI TLV that the ...'.
[3] For the MirroredPSEAllocatedPowerValueEcho variable the text '... copy of PSEAllocatedPowerValue that the ...' should be changed to read '... copy of the PSE Allocated Power Value field in the Power Via MDI TLV that the ...'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.3** *P* **179** *L* **48** # 308

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

Variable MirroredPDRequestedPowerValueEcho was likely added during a maintainance request because this text is missing from the 802.3at-2009 specification but appears before Draft 1.0. The correction is missing values.

SuggestedRemedy

At the end of this definition add, "Values: 0 through 999" Note this assumes a comment marked COMMENT-1 is accepted. Use the same correction on page 180 lines 6, 15, and 35.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.3** *P* **179** *L* **49** # 337

Law, David HPE

Comment Type **T** *Comment Status* **X**

The subclause 33.6.3.3 definition of the MirroredPDRequestedPowerValueEcho variable states that it is 'The copy of PDRequestedPowerValueEcho that the PD receives from the remote system.'. There is no PDRequestedPowerValueEcho or PD Requested Power Value Echo field defined for the Power Via MDI TLV. Instead I think this should reference the PD Requested Power Value Echo field in the Power Via MDI TLV, this is an echo since it is value the PD receives back from the PSE.

SuggestedRemedy

Suggest that the text '... copy of PDRequestedPowerValueEcho that the ...' should be changed to read '... copy of the PD Requested Power Value filed in the Power Via MDI TLV that the ...'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.3** *P* **180** *L* **25** # 338

Law, David HPE

Comment Type **TR** *Comment Status* **X**

The subclause 33.6.3.3 definition of the PSEAllocatedPowerValue variable states that 'This variable is mapped from the aLldpXdot3LocPSEAllocatedPowerValue attribute (30.12.2.1.18).'. Table 33-40 however shows the mapping from the PSEAllocatedPowerValue variable to the aLldpXdot3LocPSEAllocatedPowerValue attribute. Since the Figure 33–49 'PSE power control state diagram' assigns values to PSEAllocatedPowerValue in the INITIALIZE and MIRROR UPDATE states and aLldpXdot3LocPSEAllocatedPowerValue is a local attribute it seems that this is a output from the state diagram therefore the Table 33-40 entry is correct.

SuggestedRemedy

Suggest that the text '... is mapped from the aLldpXdot3LocPSEAllocatedPowerValue attribute (30.12.2.1.18).' should be changed to read '... maps in to the aLldpXdot3LocPSEAllocatedPowerValue attribute (30.12.2.1.18).'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.3** *P* **180** *L* **43** # 309

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

Variable parameter_type is determined only by Type 1 and 2 function set_parameter_type, therefore it will only have values 1 and 2. The value of this variable is not used by the Type 3 and 4 PSE state diagram (it is a don't care).

SuggestedRemedy

Delete text for values 3 and 4. Modify legacy sentence, "A control variable output by the PSE state diagram (Figure 33–13) used by a Type 2, Type 3, or Type 4 PSE to choose operation with Type 1, Type 2, Type 3, or Type 4 PSE output PI electrical requirement parameter values defined in Table 33–17." to read "A control variable output by the Type 1 and 2 PSE state diagram (Figure 33–13) used by a Type 2 PSE to choose operation with Type 1 or Type 2 PSE output PI electrical requirement parameter values defined in Table 33–17."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.3** *P* **181** *L* **4** # 310

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The DLL state diagram only requires pd_dll_power_type values of 1 or 2 to set the electrical parameters. New types are required to support DLL so electrical parameters are fixed and do not require a transition from phsical layer to DLL when a Type-2 PD is discovered. The value of this variable is not used by the Type 3 and 4 PSE state diagram (it is a don't care).

SuggestedRemedy

Delete text for values 3 and 4. Modify legacy sentence "A control variable that indicates the Type of PD that is connected to the PSE as advertised through Data Link Layer classification." to read "A Type 1 and 2 PSE state diagram control variable that indicates the Type of PD that is connected to the PSE as advertised through Data Link Layer classification. Type 3 and 4 PSE state diagrams do not use this variable.".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.3** *P* **181** *L* **38** # 312

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

Variable pse_power_level is defined but not used in the DLL section. This is related to other comments marked COMMENT-5.

SuggestedRemedy

Delete this defintion.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.3** *P* **181** *L* **41** # 311

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The values are missing from variable pse_power_level.

SuggestedRemedy

Add "
Values:
3: The PSE has allocated Class 3 power (default).
4: The PSE has allocated Class 4 power.
5: The PSE has allocated Class 5 power.
6: The PSE has allocated Class 6 power.
7: The PSE has allocated Class 7 power.
8: The PSE has allocated Class 8 power."
Note that the phrase "or less is not used for class 3 because PSE are required to provide at least class 3 power before DLL is operational.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.4** *P* **182** *L* **9** # 313

Schindler, Fred — Seen Simply, Broadco

Comment Type **ER** *Comment Status* **X**

Attribute hyper-links are not correct.

SuggestedRemedy

Correct the hyper-links.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.5** *P* **183** *L* **33** # 56

Tremblay, David — Hewlett Packard Enter

Comment Type **E** *Comment Status* **X**

The PSE power control state diagram makes use of setting local_system_change as a condition when transitioning from the RUNNING to the PSE POWER REVIEW state; however, the condition never gets reset. For clarity, the local_system_change condition should be reset when exiting the MIRROR UPDATE state.

SuggestedRemedy

Replace the UCT condition exiting the MIRROR UPDATE state between lines 33 and 34 with !local_system_change.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3.5** *P* **184** *L* **10** # 314

Schindler, Fred — Seen Simply, Broadco

Comment Type **ER** *Comment Status* **X**

The symbols [ ] have no meaning in state diagrams and should be replaced by ( ).

SuggestedRemedy

Use ( ) in the state diagram.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.4.1** *P* **185** *L* **27** # 315

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

Changes made during Draft 1.7 review covered in tremblay_01_0516 intend to permit PSEs to increase the PD power when a PSE has an increased power budget. The change to legacy text resulted in, "If the PSE is in sync with the PD or if PSE_NEW_VALUE is different than PSEAllocatedPowerValue, it enters the MIRROR UPDATE state where PSE_NEW_VALUE is assigned to PSEAllocatedPowerValue." Does not agree with the PSE DLL SD Figure 33-49. The change replaced "... PSE_NEW_VALUE is smaller than ..." with "...PSE_NEW_VALUE is different than...". Two changes were made due to this presentation. The first one was correct the second one highlighted in this comment is not.

SuggestedRemedy

Restore the text to "... PSE_NEW_VALUE is smaller than ..." . This correction still produces the desired result. A PSE that wants to increase the power provided asserts local_system_change, which results in PSE POWER REVIEW, which results in the increased power budget. The power budget is provided in state MIRROR UPDATE when the PSE is in synch. The PD will only increase its demand when the PD is in synch, which normally occurs when the PSE is also in synch. I suspect that the PSE test between state PSE POWER REVIEW and MIRROR UPDATE could be removed because increasing power should never cause a PD problem.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.4.1** *P* **185** *L* **27** # 55

Tremblay, David — Hewlett Packard Enter

Comment Type **E** *Comment Status* **X**

Use of the word "different" on line 27 does not align with the PSE power control state diagram.

SuggestedRemedy

Replace the word "different" with "smaller" on line 27 in order maintain consistency with the PSE power control state diagram.

PSE_NEW_VALUE is smaller than PSEAllocatedPowerValue, it enters the MIRROR UPDATE state

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.5** *P* **186** *L* **4** # 476

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **X**

DLL Autoclass section is missing content.

SuggestedRemedy

Adopt yseboodt_01_0916_dllautoclass.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.5** *P* **186** *L* **4** # 316

Schindler, Fred — Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

An autoclass subject matter expert should add text covering this topic. A state diagram may be required and a LLDP attribute map would also then be required. This comment is related to other comments marked COMMENT-2.

SuggestedRemedy

Add on line 5, "Editor's Note: readers are encouraged to improve Autoclass information by adding text and state diagrams as approporiate." This comment should not be considered satisfied until an acceptable solution is provided to addess the comment made.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7** *P* **186** *L* **24** # 538

Goergen, Joel — Cisco

Comment Type **T** *Comment Status* **X**

See George Zimmerman comments - needs environmental and safety section

SuggestedRemedy

See George Zimmerman comments - needs environmental and safety section

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8** *P* **188** *L* **1** # 180

Anslow, Pete Ciena

Comment Type **ER** *Comment Status* **X**

The title of the clause is quoted in three places in the PICS proforma. Each ocurrence should match the actual clause title.

SuggestedRemedy

Change "DTE Power via MDI" to "Data Terminal Equipment (DTE) Power via Media Dependent Interface (MDI)" in the title of 33.8, on page 188 line 6 and page 189 line 24.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8.1** *P* **188** *L* **11** # 181

Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**

The pagination on the first PICS page is wrong

SuggestedRemedy

Click on the heading for 33.8.2.2, Paragraph designer, Pagination tab, uncheck Keep With Next Pgf (click twice), Apply, should fix this.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8.2** *P* **189** *L* **1** # 158

Abramson, David Texas Instruments

Comment Type **TR** *Comment Status* **X**

The PICS section of the draft has not been updated to include Type 3 and Type 4.

SuggestedRemedy

Update PICS section to include all new requirements.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8.2.2** *P* **189** *L* **24** # 182

Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**

"IEEE Std 802.3-201x" should be "IEEE Std 802.3bt-201x" in two places since this is a modified clause that is only found in the .3bt amendment.

SuggestedRemedy

Change "IEEE Std 802.3-201x" to "IEEE Std 802.3bt-201x" in two places.
Make the same change in the Clause 79 PICS if it is modified.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8.2.3** *P* **189** *L* **39** # 257

Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**

D 2.0 seems to be missing updates to the PICS for type 3 & type 4.

SuggestedRemedy

Complete the required PICS updates.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8.2.4** *P* **190** *L* **13** # 183

Anslow, Pete Ciena

Comment Type **T** *Comment Status* **X**

The status of item *MIDA is "MID:O:2".
The meaning of the colon is given in 21.6.2:
<item>: simple-predicate condition, dependent on the support marked for <item>
So, the "MID:O" part means optional for a midspan PSE.
The ":2" part seems to violate the syntax. When there is a number (as per 1 or 3) there have to be at least two rows containing that number.

SuggestedRemedy

Please explain the meaning of "MID:O:2" or correct it.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8.3.2** *P* **191** *L* # 258
Bullock, Chris Cisco Systems

Comment Type **ER** *Comment Status* **X**

All Type 3 and Type 4 Shalls are missing from teh PICS

SuggestedRemedy

Add a conformance statement for each Type 3 and Type 4 requirement

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8.3.1** *P* **191** *L* **14** # 70
Ran, Adee Intel

Comment Type **TR** *Comment Status* **X**

For COM3, the referenced subclause 33.1.3.2 does not state a requirement of 3% or less, or any other number (in the base document it did, but that text was moved to an informative annex)

SuggestedRemedy

Revert to the base document text or delete this item.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8.3.2** *P* **191** *L* **53** # 57
Walker, Dylan Cisco

Comment Type **TR** *Comment Status* **X**

PICS entry for the performance of connection check as described in 33.2.6.1 is missing.

SuggestedRemedy

Insert the PICS for connection check:

PSE 10 | Connection check | 33.2.6.1 | Performed via the PSE PI by Type 3 and Type 4 PSEs that will deliver power on both pairsets | M | Yes []

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8.3.5** *P* **201** *L* **48** # 184
Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**

"ANSI/TIA-568-C.2" is in strikethrough font
"ANSI/TIA/EIA-568-A:1995" is in underline font

SuggestedRemedy

Remove "ANSI/TIA-568-C.2" and show "ANSI/TIA/EIA-568-A:1995" in normal font.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.1** *P* **207** *L* **4** # 144
Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **X**

I assume the intent of including all of 30.9 through 30-12 is for convienence of the reviewer. That shojuld be noted.

SuggestedRemedy

Add boxed editor's note explaining that unchanged Clause 79 text has been included for convienence of the reviewer, and should be removed by the publication editor during publication preparation.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79** *P* **208** *L* **1** # 157
Laubach, Mark Broadcom Limited

Comment Type **T** *Comment Status* **X**

I see scattered editing instruction and a lot of unchanged text. Similar to previous comment on Clause 30: Clause 79 of .3bt should only contain the subclauses and associated text for what is being changed in existing Clause 79 Section 6. If nothing is being changed, it doesn't need to be in this draft. Only the first subclause headers for each level leading up to the new/changed subclauses , the subclause header of interest, the editing instructions, and the added/changed text for the specific sections.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **79** *SC* **79** *P* **208** *L* **1** # 4

Carlson, Steven HSD/Robert Bosch

Comment Type **ER** *Comment Status* **X**

It appears the entire subclause from the base document has been copied into Clause 79. It is difficult to follow the change instructions and to determine what has actually changed.

SuggestedRemedy

Follow the 802.3 editorial guidelines for changes.
http://grouper.ieee.org/groups/802/3/WG_tools/editorial/requirements/words.html

Proposed Response *Response Status* **O**

Cl **79** *SC* **79** *P* **208** *L* **1** # 124

Hajduczenia, Marek Charter Communicatio

Comment Type **ER** *Comment Status* **X**

Clause 79 already exists in 802.3-2015 and only modified (edited) portions should be presented, including Table 79-1, Table 79-4, etc. The unchanged text should be removed

SuggestedRemedy

Per comment. Remove all unchanged text and subclauses from Clause 79 and leave only changed text / tables / content with appropriate editorial comments for such changes

Proposed Response *Response Status* **O**

Cl **33** *SC* **79** *P* **208** *L* **2** # 237

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

If PSE issues only single class event due to power limitations, it can't know what is the PD physical advertised class.
At this point nobody has this information.
Now if PSE has the power budget, and PD wants for more through DLL to increase power, he can't do it since DLL do not have the physical PD class.
As a result, we need to add to TLVs information, the PD physical class requirements.

SuggestedRemedy

Add in clause 79: "Editor Note: If TLVs doesnt contain information regarding the PD physical advertized class, to add it."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.1** *P* **208** *L* **5** # 542

McClellan, Brett Marvel

Comment Type **ER** *Comment Status* **X**

Clause 79 contains sections unchanged from the base standard. They should not be included within this amendment.

SuggestedRemedy

Remove sections 79.1 to 79.2. Section 73.1 remove the unchanged text and unchanged rows in Table 79-1. Remove sections 79.3.1 to 79.3.1.4. Section 79.3.2 remove the unchanged text. Section 79.3.2.1 remove the unchanged text and unchanged rows in Table 79-3 and insert editing instructions for 79-3. In section 79.3.2.2 provide editing instructions. Remove sections 79.3.2.3, 79.3.2.4 and Table 79-4. Remove sections 79.3.2.4.2 to 79.3.2.4.3. Sections 79.3.2.5 and 79.3.2.6 remove the unchanged text. Remove 79.3.2.7.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3** *P* **210** *L* **16** # 185

Anslow, Pete Ciena

Comment Type **T** *Comment Status* **X**

Table 79-1 has been modified by IEEE Std 802.3br-2016

SuggestedRemedy

Change the editing instruction to: "Change Table 79-1 (as modified by IEEE Std 802.3br-2016) as follows:"
and include the changes made by 802.3br
Check that the 802.3br changes don't affect the other parts of Clause 79 that are being changed by this draft.

Proposed Response *Response Status* **O**

Cl **33** *SC* **79** *P* **211** *L* **1** # 195

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

Clause 79. IEEE 802.3 Organizationally Specific Link Layer Discovery Protocol (LLDP) type, length, and value (TLV) information elements, need to be updated with more TLV information needed for the current spec and optional features to support dual-signature PDs.

SuggestedRemedy

Adopt recommendations of darshan_13_0916.pdf if available for the meeting.
If not ready, add to clause 79: "Editor Note: To verify if TLVs contain all the information required to DLL to support dual-signature DLL state machine in Figure 33-50 including optional information for future needs."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.1** *P* **212** *L* **26** # 339

Law, David HPE

Comment Type **T** *Comment Status* **X**

In Table 79–3 'MDI power capabilities/status' bit 1 is described as 'Power Sourcing Equipment (PSE) MDI power Support' yet in Table 79–8 'IEEE 802.3 Organizationally Specific TLV/LLDP Local System Group managed
object class cross references' describes this bit as 'PSE MDI power support'.

SuggestedRemedy

Since the other bits use 'PSE' rather than 'Power Sourcing Equipment (PSE)', and Table 79-8 uses 'PSE' for this bit, suggest that 'Power Sourcing Equipment (PSE) MDI power Support' be changed to read 'PSE MDI power Support'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.2** *P* **212** *L* **42** # 340

Law, David HPE

Comment Type **TR** *Comment Status* **X**

Subclause 79.3.2 defines both the 8 bits of the 'PSE power pair' field (see 79.3.2.2), and the 2 bits of 'PSE power status' field (see table 79-6a), with the same name. This is despite the former field only supporting two enumerations (signal; spare), and the latter supporting three enumerations (Both Alternatives; Alternative A; Alternative B). Further, Table 79–8 'IEEE 802.3 Organizationally Specific TLV/LLDP Local System Group managed object class cross references' specifies a mapping from these two fields with different enumerations to the one attribute, aLldpXdot3LocPowerPairs. Similarly Table 79–9 'IEEE 802.3 Organizationally Specific TLV/LLDP Remote System Group managed object class cross references' specifies a mapping from these two fields to the one attribute, aLldpXdot3RemPowerPairs

It seems in the case of other TLV fields that have been extended by adding new fields (e.g. Power class and Power type) the new field has been differentiated by the addition of 'x' to the name, and a new local and remote attribute has been added to support this new field.

SuggestedRemedy

Suggest that:

[1] The new 'PSE power pair' field defined in Table 79-6a be named 'PSE power pairx'
[2] Define a new attribute aLldpXdot3LocPowerPairsx as a subclause of subclause 30.12.2.1 'LLDP Local System Group attributes'.
[3] Add the new attribute aLldpXdot3LocPowerPairsx to the 'LLDP Power via MDI Local Package (conditional) package' in Table 30-7.
[4] Define a new attribute aLldpXdot3RemPowerPairsx as a subclause of subclause 30.12.3.1 'LLDP Remote System Group attributes'.
[3] Add the new attribute aLldpXdot3LocPowerPairsx to the 'LLDP Power via MDI Remote Package (conditional) package' in Table 30-7.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.4** *P* **213** *L* **6** # 341

Law, David HPE

Comment Type **T** *Comment Status* **X**

Suggest that tables that defines the contents of a field include the word 'field' in their title as Tables 79-4 through 79-6c and 79-6e already do.

SuggestedRemedy

Suggest that:

[1] The Table 79–3 title 'MDI power capabilities/status' be changed to read 'MDI power capabilities/status field'.
[2] The Table 79-6d title 'Autoclass' be changed to read 'Autoclass field'.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **214** *L* **20** # 62

Ran, Adee Intel

Comment Type **TR** *Comment Status* **X**

The comma here seems to be decimal point indicator. (This equation appears in the base document with a period, as in all other equations. It should not be changed at all)

There are other cases of using comma as decimal indicator. This is against the style manual (12.2 item a: "The decimal marker should be a dot on the line (decimal point).")

SuggestedRemedy

Change decimal marker from comma to period across the document.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6** *P* **214** *L* **40** # 318

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

Draft 1.4, comment 160 resulted in using the same starting value for power values. Previously, DLL values were permitted to start a 0 while LLDP values were required to start at 1. The change made all values start at 1. Reserved TLV fields are normally zero but this value is allowed for values that have meaning. Using zero rather than one for all starting references would have them all start at the same value and permit a means for the PD to signal to the PSE that power should be removed. If other believe this change is acceptable (discussion are in progress now) then 79.3.2.6e Request power down could be eliminated in the TLV.

SuggestedRemedy

Replace all one (1) values with zero (0).
page 214, line 15, and 40.
page 179, line 47.
page 180 lines 3, 10, 20, 27, 31,
Delete section 79.3.2.6e on page 217.
On page 211 correct the TLV, delete the “Power down” value and adjust TLV information string length from 18 to 17. This comment is related to other comments markedt COMMENT-1.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6** *P* **214** *L* **52** # 317

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

Legacy text was changed and a typo resulted in "… compute Pas …" rather than "… compute Pclass …".

SuggestedRemedy

Use "Pclass".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6a** *P* **214** *L* **54** # 186

Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**

We do not use the term "Section" when referring to another part of the draft.

SuggestedRemedy

Change the editing instruction to: "Insert 79.3.2.6a, 79.3.2.6b, 79.3.2.6c, 79.3.2.6d and 79.3.2.6e after 79.3.2.6 as follows:"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6a** *P* **215** *L* **6** # 125

Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

If Table 79-6a is a new table, there is no need to use any underline in the table to indicate inserted text

SuggestedRemedy

Remove all underline from Table 79-6a. The same applies for Table 79-6b

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6b** *P* **216** *L* **25** # 342

Law, David HPE

Comment Type **TR** *Comment Status* **X**

Table 79–6b 'System setup value field' defines a 'PD load' and 'PD Mode selection' field yet Table 79–8 'IEEE 802.3 Organizationally Specific TLV/LLDP Local System Group managed object class cross references' does not list these fields and there are no attributes to support these fields defined in Clause 30. A similar issue exists for Table 79–9 'IEEE 802.3 Organizationally Specific TLV/LLDP Remote System Group managed object class cross references'.

SuggestedRemedy

Suggest that:

[1] The following entries be added to Table 79–8:

PD load aLldpXdot3LocPDLoad
PD Mode selection aLldpXdot3LocPDModeSelection

[2] Add the following attributes to the 'LLDP Power via MDI Local Package (conditional) package' in Table 30-7 as well as definitions for each attribute as subclauses of subclause 30.12.2.1 'LLDP Local System Group attributes':

aLldpXdot3LocPDLoad
aLldpXdot3LocPDModeSelection

[3] The following entries be added to Table 79–9:

PD load aLldpXdot3RemPDLoad
PD Mode selection aLldpXdot3RemPDModeSelection

[4] Add the following attributes to the 'LLDP Power via MDI Remote Package (conditional) package' in Table 30-7 as well as definitions for each attribute as subclauses of subclause 30.12.3.1 'LLDP Remote System Group attributes':

aLldpXdot3RemPDLoad
aLldpXdot3RemPDModeSelection

Proposed Response *Response Status* **O**

Cl **79** *SC* **79** *P* **216** *L* **26** # 247

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

Table 79-6b System setup value field bit 1:
It is not clear that the function PD load value/meaning is relevant to dual-signature PD only.

SuggestedRemedy

Add the following to bit 1 "value/meaning" column:
"Note: This bit is relevant to dual-signature PD only and has no meaning when single-signature PD is used."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79** *P* **216** *L* **29** # 248

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

Comment
Table 79-6b System setup value field bit 0, value/meaning:
1 = PD requested power applies to Mode A pairset
0 = PD requested power applies to Mode B pairset

The problems are:
1.System wise we need to know WITHIN single transaction what is the PD requested power for Mode A pairset and for Mode B pairset simultaneously.
1.1It looks that this bit covers operation on 2-pairs only.
1.2Currently it says that "PD requested power applies to Mode A pairset or Mode B pairset but no information about what both pairsets requested power are.
1.34-pairs operation is not covered

SuggestedRemedy

1. Add additional bit/s to indicate dual-signature PD or Single-signature PD. Use bits 7:4 reserved bits to indicate:
-Dual-signature Type 3 (use reserved codes "1011").
-Dual-signature Type 4 (use reserved codes "1010").
-The other Type 3 and 4 PDs in bits 7:4: add the "single-signature Type x PD"
2. Split Table 79-5 to Mode A and Mode B and A+B. when Mode A and B are used, Total value is set to zero.
3. Update Figure 79-3, PD requested power value for the final number of octects .

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6b.2** *P* **216** *L* **34** # 477

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

The PD 4PID bit allows a PD to indicate if it supports powering over both Modes simultaneous or not.
To be consistent with 33.2.6.7 we should indicate the specific cases where the PD may actually set this.

SuggestedRemedy

Append:
"This field shall be set to '1' when the power type is Type 3 PD or Type 4 PD."
after:
"This field shall be set to 0 when the power type is PSE."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6b.3** *P* **216** *L* **37** # 320

Schindler, Fred Seen Simply, Broadco

Comment Type **T** *Comment Status* **X**

The System setup value field "PD PI" is no longer required because a dual-signature classification mechanism was added--see PD Mode selection. The solution provided should be discussed as recent changes to dual-signature text could require this bit with some minor text modifications.

SuggestedRemedy

Replace Table 79-6b bit- 2 function and value/meaning fields with, "Reserved" and "Transmit as zero. Ignore on receive.", respectively. Delete section 79.3.2.6b.3.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6b.3** *P* **216** *L* **37** # 478

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

The PD PI bit in the System setup field is not in line with the classification scheme we have.
For single-signature PDs, the communicated Class is for the entire PD.
For dual-signature PDs, the communicated Class on a pairset is for that pairset.
This bit seems to indicate that choice is possible when it is not.

SuggestedRemedy

TFTD.

Unless we can give meaning to this bit, we should remove it.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6b.5** *P* **216** *L* **51** # 319

Schindler, Fred Seen Simply, Broadco

Comment Type **TR** *Comment Status* **X**

The text does not clarify that the PD power Mode option only has meaning for DS PDs.

SuggestedRemedy

Modify existing text, "… when the power type is PD." to "… when the power type is PD and a dual-signature PD (see 1.4.186a and 33.3.2) is the source of the LLDPPDU." Replace the next sentence with "This field shall be set to 0 when the power type is PSE or the PD sourcing the LLDPPDU is a single-signature PD (see 1.4.381a)."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6c** *P* **217** *L* **12** # 343

Law, David HPE

Comment Type **T** *Comment Status* **X**

This field is defined in Figure 79–3 'Power Via MDI TLV format' as 'PSE Maximum available power' and the related attributes are named aLldpXdot3LocPSEMaxAvailPower and aLldpXdot3RemPSEMaxAvailPower yet the related TLV variable in Table 79–8 'IEEE 802.3 Organizationally Specific TLV/LLDP Local System Group managed object class cross references' and Table 79–9 'IEEE 802.3 Organizationally Specific TLV/LLDP Remote System Group managed object class cross references' is listed as 'PSE available power' missing the work 'maximum'. In addition in Table 79–6c 'PSE maximum available power field' the function is described as 'PSE maximum available power value'.

SuggestedRemedy

Suggest that:

[1] The 'Function' column in Table 79-6c that reads 'PSE maximum available power value' be changed to read 'PSE maximum available power'.
[2] The 'TLV variable' row in Table 79–8 that reads 'PSE available power' be changed to read 'PSE maximum available power'.
[3] The 'TLV variable' row in Table 79–9 that reads 'PSE available power' be changed to read 'PSE maximum available power'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **79.3.2.6d** *P* **217** *L* **19** # 232

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

The text says:
"Using the Autoclass field to trigger a new Autoclass measurement allows a PD to change maximum power consumption."
In addition Table 796d tries to specify some "handshak" parameters.

I believe the definitions are incomplete and may cause issues.
a)It is not clear who is initiating the request for new Autoclass measurement?
b)What is the timing sequence?
c)When to raise power?
d)When to measure?
e)Where is the final Acknowledge?
f)The flow is missing.

SuggestedRemedy

Add "Editor Note: The timing and state flow is missing for the case when triggering new Autoclass measurements.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7** *P* **218** *L* **5** # 187

Anslow, Pete Ciena

Comment Type **ER** *Comment Status* **X**

79.3.7 has already been added by IEEE Std 802.3br-2016

SuggestedRemedy

Change the editing instruction to: "Insert 79.3.8 after 79.3.7 (as inserted by IEEE Std 802.3br-2016) as follows:"
Renumber 79.3.7 to 79.3.8
Re-number Figure 79-3a to Figure 79-9 (since the last figure inserted by 802.3br was 79-8)
Renumber Figures 79-6f through 79-6h to Figures 79-7b through 79-7d (since the last table inserted by 802.3br above this was Table 79-7a)

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7** *P* **218** *L* **11** # 60

Ran, Adee Intel

Comment Type **E** *Comment Status* **X**

Stray hyphen in trans-mission

SuggestedRemedy

delete hyphen

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7.1** *P* **219** *L* **4** # 61

Ran, Adee Intel

Comment Type **E** *Comment Status* **X**

space before closing paren

SuggestedRemedy

delete space

Proposed Response *Response Status* **O**

Cl **33** *SC* **79.3.7.1** *P* **220** *L* **5** # 233

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

Table 79-6f - PD measurements
All measurements need to be for pairset A and B separately for accurate measurement.
Example: dual-signature dual load will have different voltages at the PD input over the modes.
Same for currents, energy, accuracy etc.

SuggestedRemedy

Add "Editor Note: Split Table 79-6f to Mode A and Mode B to have separate field."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7.1** *P* **220** *L* **6** # 63

Ran, Adee Intel

Comment Type **T** *Comment Status* **X**

"(decimal value of bits)" is meaningless here. A bit field that carries a value typically encodes that value to a binary representation unless stated otherwise. The number is not decimal or binary, the base only affects the text representation.

Also applies to the next two bit fields.

SuggestedRemedy

Either delete "(decimal value of bits)" or change it to "(encoded as unsigned binary)", in all occurences

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7.1** *P* **220** *L* **16** # 64

Ran, Adee Intel

Comment Type **T** *Comment Status* **X**

"VPort_PD-2P = (decimal value of bits) mV" is an awkward way of describing the value or meaning of this bits. Also, a voltage value is not "decimal", only the text representation has a base.

I assume the measured value is rounded down or to the nearest mV and the result is encoded.

This applies to many other occurences of "decimal value of bits" in this amendment. I am aware of two occurences in the base document, but this amendment adds a lot more.

SuggestedRemedy

Change this one to
"VPort_PD-2P / 1 mV, rounded down and encoded as unsigned binary"
or
"VPort_PD-2P in mV units, rounded down and encoded as unsigned binary"

(or rounded up or whatever is intended)

Change other occurences in a simiar style (with appropriate units and resolution).

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7.2** *P* **221** *L* **44** # 65

Ran, Adee Intel

Comment Type **E** *Comment Status* **X**

x used instead of multiplication sign, twice

SuggestedRemedy

Change to multiplication signs

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7.2** *P* **221** *L* **44** # 479

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

Table 79-6g, for Current measurement.
Improper capitalization of IPORT and IPORT-2P

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7.3** *P* **222** *L* **3** # 68

Ran, Adee Intel

Comment Type **TR** *Comment Status* **X**

It is not clear from this description how this value should be set or interpreted. Is it a completely implementation dependet field? Does a number lower than 1000 indicate power is cheap (and if so, what should be done)? Does a very high number mean power is about to go out?

SuggestedRemedy

Clarify the intent. If meaning of this field is implementation dependent please state it.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7.3** *P* **222** *L* **14** # 67

Ran, Adee Intel

Comment Type **E** *Comment Status* **X**

"= decimal value of bits" does not add any clarity here

SuggestedRemedy

delete these words

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7.3** *P* **222** *L* **15** # 344
Law, David HPE

Comment Type **E** *Comment Status* **X**
Suggest the text '... through65535' should be changed to read '... through 65535'.

SuggestedRemedy
See comment.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7.3** *P* **222** *L* **15** # 188
Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**
space missing in "through65535"

SuggestedRemedy
change to "through 65535"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7.3** *P* **222** *L* **15** # 66
Ran, Adee Intel

Comment Type **E** *Comment Status* **X**
missing space before 65535

SuggestedRemedy
insert space

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.7.4** *P* **222** *L* **20** # 69
Ran, Adee Intel

Comment Type **TR** *Comment Status* **X**
Does "should" here mean it is only a recommendation? Is it OK to have more than one?

Also applies to 79.3.2.7, although it is in the base document.

SuggestedRemedy
Change to "shall" unless there is no problem with having more than one.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4.2** *P* **224** *L* **1** # 126
Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**
Editorial instruction refers to Table 79-9/10 and shown tables are 79-8/9.

SuggestedRemedy
Update editorial instruction to match proper tabel numbers

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4.2** *P* **224** *L* **4** # 189
Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X**
Tables shown as 79-8 and 79-9 should be Tables 79-9 and 79-10 (as in the editing instruction)

SuggestedRemedy
Re-number the tables.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4.2** *P* **224** *L* **35** # 345

Law, David HPE

Comment Type **TR** *Comment Status* **X**

Table 79–8 'IEEE 802.3 Organizationally Specific TLV/LLDP Local System Group managed object class cross references' lists a number of new attributes in the 'LLDP Local System Group managed object class attribute' column for the 'Power via MDI' TLV that have not been defined in Clause 30.

SuggestedRemedy

Add the following attributes to the 'LLDP Power via MDI Local Package (conditional)' package in Table 30-7 as well as definitions for each attribute as subclauses of subclause 30.12.2.1 'LLDP Local System Group attributes'.

aLldpXdot3LocPowerClassx
aLldpXdot3LocPowerTypex
aLldpXdot3Loc4PID
aLldpXdot3LocPDPI
aLldpXdot3LocPSEMaxAvailPower
aLldpXdot3LocPSEAutoclassSupport
aLldpXdot3LocAutoclassCompleted
aLldpXdot3LocAutoclassRequest
aLldpXdot3LocPowerDownRequest

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.5** *P* **225** *L* **13** # 54

Bennett, Ken Sifos Technologies, In

Comment Type **E** *Comment Status* **X**

Table 33-60 describes transactions using "LLDP Frame". All other data link classification transactions in the standard use the more specific terms: "Power via MDI TLV", "LLDPDU", or "TLV Frame".

There isn't a formal "LLDP Frame" definition in Clause 33, whereas "TLV Frame" is specifically defined in section 33.6.1.

SuggestedRemedy

Change all instances of "LLDP Frame" in table 33-60 to:

"TLV Frame" or "LLDPDU"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4.2** *P* **225** *L* **23** # 346

Law, David HPE

Comment Type **TR** *Comment Status* **X**

Table 79–8 'IEEE 802.3 Organizationally Specific TLV/LLDP Local System Group managed object class cross references' lists a number of new attributes in the 'LLDP Local System Group managed object class attribute' column for the 'Power via MDI Measurements' TLV that have not been defined in Clause 30.

SuggestedRemedy

[1] Add a new 'LLDP Power via MDI measurement Local Package (conditional)' package to Table 30-7.
[2] Add the following attributes to the new 'LLDP Power via MDI measurement Local Package (conditional)' package.
[3] Add definitions for each of the following attribute as subclauses of subclause 30.12.3.1 'LLDP Local System Group attributes'.

aLldpXdot3LocPDMeasVoltageSupport
aLldpXdot3LocPDMeasCurrentSupport
aLldpXdot3LocPDMeasEnergySupport
aLldpXdot3LocPDMeasurementSource
aLldpXdot3LocPDMeasurementVoltage
aLldpXdot3LocPDMeasurementCurrent
aLldpXdot3LocPDMeasurementEnergy
aLldpXdot3LocPSEMeasVoltageSupport
aLldpXdot3LocPSEMeasCurrentSupport
aLldpXdot3LocPSEMeasEnergySupport
aLldpXdot3LocPSEMeasurementSource
aLldpXdot3LocPSEMeasurementVoltage
aLldpXdot3LocPSEMeasurementVoltage
aLldpXdot3LocPSEMeasurementCurrent
aLldpXdot3LocPSEMeasurementEnergy
aLldpXdot3LocPSEPowerPriceIndex

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4.2** *P* **226** *L* **32** # 347

Law, David HPE

Comment Type **TR** *Comment Status* **X**

Table 79–9 'IEEE 802.3 Organizationally Specific TLV/LLDP Remote System Group managed object class cross references' lists a number of new attributes in the 'LLDP Remote System Group managed object class attribute' column for the 'Power via MDI' TLV that have not been defined in Clause 30.

SuggestedRemedy

Add the following attributes to the 'LLDP Power via MDI Remote Package (conditional)' package in Table 30-7 as well as definitions for each attribute as subclauses of subclause 30.12.3.1 'LLDP Remote System Group attributes'.

aLldpXdot3RemPowerClassx
aLldpXdot3RemPowerTypex
aLldpXdot3Rem4PID
aLldpXdot3RemPDPI
aLldpXdot3RemPSEMaxAvailPower
aLldpXdot3RemPSEAutoclassSupport
aLldpXdot3RemAutoclassCompleted
aLldpXdot3RemAutoclassRequest
aLldpXdot3RemPowerDownRequest

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4.2** *P* **226** *L* **49** # 43

Trowbridge, Steve Nokia

Comment Type **E** *Comment Status* **X**

Missing line under Maximum Frame Size row

SuggestedRemedy

Add the line

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4.2** *P* **227** *L* **23** # 348

Law, David HPE

Comment Type **TR** *Comment Status* **X**

Table 79–9 'IEEE 802.3 Organizationally Specific TLV/LLDP Remote System Group managed object class cross references' lists a number of new attributes in the 'LLDP Remote System Group managed object class attribute' column for the 'Power via MDI Measurements' TLV that have not been defined in Clause 30.

SuggestedRemedy

[1] Add a new 'LLDP Power via MDI measurement Remote Package (conditional)' package to Table 30-7
[2] Add the following attributes to the new 'LLDP Power via MDI measurement Remote Package (conditional)' package.
[3] Add definitions for each of the following attribute as subclauses of subclause 30.12.3.1 'LLDP Remote System Group attributes'.

aLldpXdot3RemPDMeasVoltageSupport
aLldpXdot3RemPDMeasCurrentSupport
aLldpXdot3RemPDMeasEnergySupport
aLldpXdot3RemPDMeasurementSource
aLldpXdot3RemPDMeasurementVoltage
aLldpXdot3RemPDMeasurementCurrent
aLldpXdot3RemPDMeasurementEnergy
aLldpXdot3RemPSEMeasVoltageSupport
aLldpXdot3RemPSEMeasCurrentSupport
aLldpXdot3RemPSEMeasEnergySupport
aLldpXdot3RemPSEMeasurementSource
aLldpXdot3RemPSEMeasurementVoltage
aLldpXdot3RemPSEMeasurementVoltage
aLldpXdot3RemPSEMeasurementCurrent
aLldpXdot3RemPSEMeasurementEnergy

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.2.1** *P* **228** *L* **15** # 127

Hajduczenia, Marek Charter Communicatio

Comment Type **ER** *Comment Status* **X**

Changes to 79.5.2.1 are not really marked in any way at this time - it is not clear what was added / deleted.

SuggestedRemedy

Please update 79.5 (PICS for Clause 79) to show only changes (additions / deletions) and not show all PICS for Clause 79 with unmarked changes

Proposed Response *Response Status* **O**

Cl **33A** SC **33A** P **233** L **8** # 145
Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **X**

Looks like the book is now properly ordered.

SuggestedRemedy

Remove the Editor's note.

Proposed Response *Response Status* **O**

Cl **33A** SC **33A** P **233** L **8** # 349
Szczepanek, Andre Inphi

Comment Type **E** *Comment Status* **X**

Redundant (or unimplemented) editors note giving instructions on what to do BEFORE WG ballot. This is the WG ballot !

"Editor's Note: (to be removed prior to Working Group ballot) - All annexes are to be at the end of the draft.
Prior to Working Group ballot, editor should move Clause 79 before Annex 33A in the frame book."

SuggestedRemedy

Remove editprs note

Proposed Response *Response Status* **O**

Cl **33A** SC **33A** P **233** L **8** # 150
Laubach, Mark Broadcom Limited

Comment Type **E** *Comment Status* **X**

Editor's note is not in proper format and looks like it should have been removed prior to going to Working Group ballot.

SuggestedRemedy

Remove the editor's note.

Proposed Response *Response Status* **O**

Cl **33A** SC **33A** P **233** L **8** # 112
Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

Editorial note to be remved

SuggestedRemedy

Per comment

Proposed Response *Response Status* **O**

Cl **33A** SC **33A** P **233** L **8** # 104
Zimmerman, George CME Consulting, Aqua

Comment Type **E** *Comment Status* **X**

Edtitor's note should have been removed, annex is in the right place in the frame book.

SuggestedRemedy

Delete editor's note

Proposed Response *Response Status* **O**

Cl **33A** SC **33A.3** P **233** L **14** # 114
Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

Seems that subclause numbering is off by 2

SuggestedRemedy

Change 33A.3 to 33A.1 and propagate through Annex 33A

Proposed Response *Response Status* **O**

Cl **33A** SC **33A.3** P **233** L **16** # 113
Hajduczenia, Marek Charter Communicatio

Comment Type **TR** *Comment Status* **X**

The term "Types" is not defined

SuggestedRemedy

Please consider specyfing what the particular meaning of "Types" is indended - PSE-D types or something altogether different

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.3** *P* **233** *L* **16** # 71

Ran, Adee Intel

Comment Type **TR** *Comment Status* **X**

Seems like a normative requirement in an informative annex. Also in other subclauses of 33A.

SuggestedRemedy

Make this annex normative?

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.3** *P* **233** *L* **22** # 115

Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

% sign seems to be much too small and placed incorrectly

SuggestedRemedy

Make sure it is placed in the middle of the equation and it is of proper size
The same comment applies to all equations in Annex 33A, for % and Ohm symbols

Proposed Response *Response Status* **O**

Cl **33** *SC* **33A.3** *P* **233** *L* **26** # 324

Shariff, Masood CommScope

Comment Type **TR** *Comment Status* **X**

Incorrect definitiono of resistance unbalance within a pair.

SuggestedRemedy

Change:

Rmax is the resistance of the channel conductor with the highest resistance
Rmin is the resistance of the channel conductor with the lowest resistance

To:
Rmax is the resistance of the pair conductor with the highest resistance
Rmin is the resistance of the pair conductor with the lowest resistance

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.4** *P* **233** *L* **34** # 530

Stover, David Linear Technology

Comment Type **E** *Comment Status* **X**

"…not greater than 100 milliohm or…" This is one of only two places where "ohm" is spelled out, rather than using the standard symbol.

SuggestedRemedy

Replace "100 milliohm" with "0.1Ω" on P233, L34 and on P234, L1.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.4** *P* **233** *L* **34** # 73

Ran, Adee Intel

Comment Type **E** *Comment Status* **X**

"milliohm", here and in other places. Standard symbols should be used

Several occurences.

SuggestedRemedy

change to m(uppercase letter Omega)

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.4** *P* **233** *L* **50** # 116

Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

Text alignement in lines 50-51 is not correct

SuggestedRemedy

Please make sure text in lines 50/51 has the same left alignment as text in line 42

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.5** *P* **234** *L* **7** # 72
Ran, Adee Intel

Comment Type **E** *Comment Status* **X**

"guide lines"

SuggestedRemedy

change to "guidelines"

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **234** *L* **11** # 74
Ran, Adee Intel

Comment Type **E** *Comment Status* **X**

Inconsistent use of italics between equation and text. E.g. R_Pair_PD_max

According to the style manual (12.4) quantity symbols should be set in italic letters. This applies to R for resistance, I for current, P for power, etc. Qualifiers and units should be in Roman letters.

SuggestedRemedy

Make quanitities consistently italic in equation and text, to follow style manual, across the document

Proposed Response *Response Status* **O**

Cl **33** *SC* **33A.5** *P* **234** *L* **11** # 205
Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

(See page 4 in darshan_07_0916.pdf)
Equation 33A-4 was implemented wrongly since Catania meeting.
the 4 equations apears in revers order.
The classes apears in the correct order.
It should be according to:
http://www.ieee802.org/3/bt/public/oct15/darshan_01_1015_Rev001.pdf
(Variable names in D2.0 are correct, DO NOT CHANGE IT)

SuggestedRemedy

(See corrected equation in page 4 in darshan_07_0916.pdf.)
Change only the Equations order as follows:
Rpair_PD_max = 2.200* Rpair_PD_min +0.125 For PD Type 3 class 5
Rpair_PD_max = 2.010* Rpair_PD_min +0.105For PD Type 3 class 6
Rpair_PD_max = 1.800* Rpair_PD_min +0.080For PD Type 4 class 7
Rpair_PD_max = 1.750* Rpair_PD_min +0.080 For PD Type 4 class 8

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.5** *P* **234** *L* **11** # 75
Ran, Adee Intel

Comment Type **TR** *Comment Status* **X**

Inconsistent units. 1,750 x RPair_PD_min + 0,080, all quanitifed later as Ohms, but RPair_PD_min is already in Ohms.

SuggestedRemedy

Change all equations to include Ohm units for the constants, remove the Ohm subscript.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.5** *P* **234** *L* **11** # 76
Ran, Adee Intel

Comment Type **E** *Comment Status* **X**

It would be clearer if the class-dependent numbers were placed in a table, and the inline equation that appears below (line 18) used instead.

SuggestedRemedy

Usa alpha and beta in the equation, add a table for alpha and beta per class.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.5** *P* **234** *L* **17** # 117
Hajduczenia, Marek Charter Communicatio

Comment Type **ER** *Comment Status* **X**

Incorrect use of "will" in "stringent requirement will be needed"

SuggestedRemedy

Change to "stringent requirement is needed"
Please review the use of key words in the whole draft, includign "will", "must", etc. - see Style Manual

Proposed Response *Response Status* **O**

Cl **33** *SC* **33A.5** *P* **234** *L* **21** # 229
Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

(See page 4 in darshan_07_0916.pdf for editing marks)
In the following text:
"RPair_PD_max and RPair_ PD_min represent PD common mode input effective impedance of pairs of the same polarity. The effective resistance Rn is the measured voltage Veff_pd_n, divided by the current through the path as described below and as shown in the example in Figure 33A–4, where n is the pair number."
1. Mixed use of "resistance" and "impedance". Use only resistance for contintency.
2. The common mode effective resistance is not sufficiently defined as done for Rsource (PSE) in 33.3.8.10 . Only how to measure it is defined.

SuggestedRemedy

(See page 4 in darshan_07_0916.pdf for editing marks)
Chane lines 21-24 from:
"RPair_PD_max and RPair_ PD_min represent PD common mode input effective impedance of pairs of the same polarity. The effective resistance Rn is the measured voltage Veff_pd_n, divided by the current through the path as described below and as shown in the example in Figure 33A–4, where n is the pair number."

To:
"RPair_PD_max and RPair_ PD_min represent PD common mode input effective resistance of pairs of the same polarity. Common mode effective resistance is the resistance of two conductors of the same pair and their other components connected in parallel including the effect of PD pair-to-pair voltage difference of pairs with the same polarity (e.g. Veff_pd1-Veff_pd3 as shown in Figure 33A-4). The common mode effective resistance Rn is the measured voltage Veff_pd_n, divided by the current through the path as described below and as shown in the example in Figure 33A-4, where n is the pair number."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33A.5** *P* **234** *L* **28** # 228
Darshan, Yair Microsemi

Comment Type **E** *Comment Status* **X**

(See page 4 in darshan_07_0916.pdf for editing marks)
Figure 33A-4 in Annex 33A.5 contains the resistors R1, R2, R3 and R4 that their index numbers should be subscripted as in their equations in page 235 lines 3-7.

SuggestedRemedy

(See page 4 in darshan_07_0916.pdf for editing marks)
In Figure 33A-4, subscript the index number of R1, R2, R3 and R4.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.4** *P* **234** *L* **36** # 531
Stover, David Linear Technology

Comment Type **ER** *Comment Status* **X**

Figure 33A-4 labels for "R_pair_PD_max" and "R_pair_PD_min" are jumbled.

SuggestedRemedy

Relabel R2 to "R_pair_PD_min" and R3 to "R_pair_PD_max".

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B** *P* **237** *L* **2** # 79
Ran, Adee Intel

Comment Type **TR** *Comment Status* **X**

Normative annex, but no PICS?

SuggestedRemedy

Add PICS listing the normative requirements

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B** *P* **237** *L* **6** # 81
Ran, Adee Intel

Comment Type **E** *Comment Status* **X**

Editorial instruction should be before the new annexes and can cover both 33B and 33C.

SuggestedRemedy

Move before annex heading and change to
"Insert Annexes 33B and 33C as follows:"

(see 802.3by or P802.3bs D2.0 for example)

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B.1** *P* **237** *L* **8** # 118
Hajduczenia, Marek Charter Communicatio

Comment Type **ER** *Comment Status* **X**

No subclause numbers

SuggestedRemedy

Please add subclause numbers in Annex 33B

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B** *P* **237** *L* **15** # 532
Stover, David Linear Technology

Comment Type **T** *Comment Status* **X**

"The details for derivation of R_load_max and R_load_min, which are composed of compliant channel and PD effective resistances, can be found in Annex 33D." This draft does not include an Annex 33D.

SuggestedRemedy

May be OBE by stover_01. If not, TFTD what to do with Annex 33D.

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B** *P* **237** *L* **16** # 77
Ran, Adee Intel

Comment Type **TR** *Comment Status* **X**

Annex 33D doesn't seem to exist.

SuggestedRemedy

Add the required details here or conjure the missing annex…

Proposed Response *Response Status* **O**

Cl **33** *SC* **Annex 33B** *P* **237** *L* **16** # 250
Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

(See darshan_06_0916.pdf)
Annex 33B directs the reader to Annex 33D to find important informative data to how Rload_min/max where derived and other parts that are pair to pair related. This Annex is missing and should be added as planned.

Annex D is needed since all the parts of pair to pair unbalance are spread all over the spec and it is hard to see the whole picture. I find it very useful to have short summary that show the whole spec explained in short in 1.5 pages and it was planned to be there long time ago. Annex D content was reviewed many times in the original contribution (see the reference at the end) and base on it, the whole spec was built.

SuggestedRemedy

See proposed remedy in darshan_06_0916.pdf for Annex D.

Proposed Response *Response Status* **O**

Cl **33** *SC* **Annex 33B** *P* **237** *L* **16** # 193
Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

(See darshan_06_0916.pdf)
Annex 33B directs the reader to Annex 33D to find important informative data to how Rload_min/max where derived. This Annex is missing and should be added as planned.

SuggestedRemedy

See proposed remedy in darshan_06_0916.pdf for Annex D.

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B.1** *P* **237** *L* **16** # 119

Hajduczenia, Marek — Charter Communicatio

Comment Type **TR** *Comment Status* **X**

"can be found in Annex 33D" - said Annex does not exist

SuggestedRemedy

Either add the missing Annex or revise the text to eliminate reference to non-existing Annex

Proposed Response *Response Status* **O**

Cl **33** *SC* **ANNEX 33B** *P* **237** *L* **18** # 201

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

(See editing marks on page 5 in darshan_07_0916.pdf)
In the text "A compliant unbalanced load, Rload, consists of the channel (cables and connectors) and the PD effective resistances."

Rload is actually Rload_min and Rload_max as discussed in Annex 33B.
In addition for improved clarity, to tie Rload with Rchan and RPair_ PD.

SuggestedRemedy

(See editing marks on page 5 in darshan_07_0916.pdf)
Change:
"A compliant unbalanced load, Rload, consists of the channel (cables and connectors) and the PD effective resistances."

To:
"A compliant unbalanced load, Rload_min and Rload_max consists of the channel (cables and connectors), PD effective resistances and PSE PI effective resistance. See Annex D.

Proposed Response *Response Status* **O**

Cl **33** *SC* **Annex B** *P* **237** *L* **18** # 253

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

Annex B needs some updates.
See darshan_07_0916.pdf pages 5-8 for editing marked document.

SuggestedRemedy

See proposedd updates in darshan_07_0916.pdf pages 5-8 for editing marked document.

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B** *P* **237** *L* **22** # 78

Ran, Adee — Intel

Comment Type **E** *Comment Status* **X**

Equation 33-14 defines R_PSE_max. The sentence is not clear.

The next paragraph seems to repeat the same idea.

SuggestedRemedy

Change
"the relationship between PSE PI Equation (33–14) and Rload_min and Rload_max"
to
"the relationship between effective resistances at the PSE PI (Equation (33–14)) and Rload_min and Rload_max"

Consider merging the first sentence of the next paragraph into this one.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33B.1** *P* **238** *L* **30** # 204

Darshan, Yair — Microsemi

Comment Type **TR** *Comment Status* **X**

Figure 33B-2:
1. The drawing looks like broken on the left side at the connections to Vport_pse, Vdiff1 and Vdiff2.
2. The arrows marking the point of measuring Veff1, Veff1, Veff3 abd Veff4 are not sufficiently clear where they are pointing. Follow the original drawing darshan_03_0916.pdf for the intent.

SuggestedRemedy

Editor to:
1. Fix the broken connection in Figure 33B-2.
See reference in darshan_03_0916.pdf.
2. To align the arrows to the correct position as exactly as shown in darshan_03_0916.pdf.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.B.1** *P* **238** *L* **30** # 44
Trowbridge, Steve Nokia

Comment Type **E** *Comment Status* **X**

Several sloppy elements in Figure 33B-2 - the vertical lines at the left between Vdiff1 and Vport_PSE and between Vport_PSE and Vdiff2 are composed of multiple line segments that don't line up. Several of the lines that are supposed to meet in the figure cross over

SuggestedRemedy

Zoom in close and tidy up the figure

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B.4** *P* **240** *L* **34** # 80
Ran, Adee Intel

Comment Type **E** *Comment Status* **X**

This subclause does not seem to fit in the hierarchy after 33B.1, 33B.2, 33B.3. This text seems to apply to all cases. Should it be in the heading of 33B?

SuggestedRemedy

Consider moving to 33B (just before 33B.1).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33B.4** *P* **240** *L* **37** # 200
Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

(see editing marks on page 8 in darshan_0716.pdf)
"ICon_2P_unb and Equation (33–14) are specified for total channel common mode pair resistance from 0.1 ohm to 12.5 ohm and worst case unbalance contribution by a PD. When the PSE is tested for channel common mode resistance less than 0.1 ohm, i.e. 0 ohm < Rchan < 0.1 ohm, the PSE shall be tested with (Rload_min – Rchan) and (Rload_max – Rchan) to meet ICon-2P-unb requirements and RPSE_min and RPSE_max conformance to Equation (33–14)."
In the above text it is about Rchan-2P which range from 0.2 ohm to 12.5 ohm.

SuggestedRemedy

(See editing marks on page 8 in darshan_0716.pdf)
In 33B.4:
1. Replace all "0.1 ohm" with "0.2 ohm".
2. Replace "Rchan" with "Rchan-2P".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33B.4** *P* **240** *L* **37** # 252
Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

(This comment is identical to other comment in which only file name was corrected.)

(see editing marks on page 8 in darshan_07_0916.pdf)
"ICon_2P_unb and Equation (33–14) are specified for total channel common mode pair resistance from 0.1 ohm to 12.5 ohm and worst case unbalance contribution by a PD. When the PSE is tested for channel common mode resistance less than 0.1 ohm, i.e. 0 ohm < Rchan < 0.1 ohm, the PSE shall be tested with (Rload_min – Rchan) and (Rload_max – Rchan) to meet ICon-2P-unb requirements and RPSE_min and RPSE_max conformance to Equation (33–14)."
In the above text it is about Rchan-2P which range from 0.2 ohm to 12.5 ohm.

SuggestedRemedy

(See editing marks on page 8 in darshan_07_0916.pdf)
In 33B.4:
1. Replace all "0.1 ohm" with "0.2 ohm".
2. Replace "Rchan" with "Rchan-2P".

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B.4** *P* **240** *L* **38** # 120
Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

There are plenty of "shall" statements in 33B, but no PICS for compliance statement

SuggestedRemedy

Consider adding PICS to cover individual mandatory requirements included in Annex 33B

Proposed Response *Response Status* **O**

Cl **A33C** *SC* **A33C** *P* **241** *L* **1** # 480
Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **X**

Page 1 of accepted baseline lukacs_01_0516_timings_baseline_rev5.pdf was not implemented in D1.8.

SuggestedRemedy

Implement page 1 of lukacs_01_0516_timings_baseline_rev5.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **Annex 33C** *P* **241** *L* **14** # 231

Darshan, Yair Microsemi

Comment Type **TR** *Comment Status* **X**

Annex 33c objective is to supply informative data regarding the timing relationships between detection and connection check as function of CC_DET_SEQ variable options.
After reviewing it, it seems to supply also information regarding if classification must be done in parallel when dual-signature PD is detected and Class_4PID_mult_events_sec is TRUE which is not necessarily correct.
Staggered classification can be done regardless if it is single or dual signature PD and staggered classification can be done regardless if it is Class_4PID_mult_events_sec is TRUE or FALSE.
In addition, in all drawings, PWRUP starts at the same time while in dual-signature or even single signature, PWR_UP can be done in different times.

SuggestedRemedy

Update drawing to address the following points:
a)In dual-signature classification can be done in parallel or in staggered way. See example in figure 33C-2, 33C-5 that classification is in parallel and cab ne also staggered. Or add note saying "The drawing show one option to classification and POWER_ON timing. Staggered classification and POWER_ON can be done."
b)Scan all drawing in Annex 33C and repeat the fix if required.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33C.1.1** *P* **241** *L* **25** # 202

Darshan, Yair Microsemi

Comment Type **E** *Comment Status* **X**

"Figure 33C–2 illustrates a PSE implementing CC_DET_SEQ=0 when the result of connection check is ‘single’."

It should be Figure 33C–1.

SuggestedRemedy

Replace Figure 33C–2 with Figure 33C–1.

Proposed Response *Response Status* **O**

Cl **33C** *SC* **33C.1.1** *P* **242** *L* **1** # 121

Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

Sentence in lines 1 and 2 is broken in the middle

SuggestedRemedy

Make sure that the sentence is NOT broken in the middle.

Proposed Response *Response Status* **O**

Cl **33C** *SC* **33C.1.1** *P* **242** *L* **45** # 122

Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

Consider adding forced line break in caption of Figure 33C-5/6/8/9 after the word "dual" to avoid automatic hyphenation

SuggestedRemedy

Per comment

Proposed Response *Response Status* **O**

Cl **33** *SC* **33C.2** *P* **245** *L* **20** # 203

Darshan, Yair Microsemi

Comment Type **T** *Comment Status* **X**

Figure 33C-12: Missing TCLE1 lable and arrow as done for Figure 33C-13.

SuggestedRemedy

Add TCLE1 lable and arrow to Figure 33C-12.

Proposed Response *Response Status* **O**

Cl **33C** *SC* **33C.3** *P* **246** *L* **20** # 123

Hajduczenia, Marek Charter Communicatio

Comment Type **E** *Comment Status* **X**

Avoid the use of relative figure references: "The following sample timing diagram"

SuggestedRemedy

Change to "Figure 33C-15" - make sure the link is live

Proposed Response *Response Status* **O**