Cl **FM** *SC* **FM** *P* **1** *L* **25** # 3

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **D** *Editorial*

The amendment purpose and ballot stage has disappeared.

SuggestedRemedy

Change "This draft is an amendment of IEEE Std 802.3-2015. The purpose of the amendment [complete]. Draft D2.2 is prepared for [review/balloting stage]." to:
"This draft is an amendment of IEEE Std 802.3-2015 as amended by IEEE Std 802.3bw-2015, IEEE Std 802.3by-2016, IEEE Std 802.3bq-2016, IEEE Std 802.3bp-2016, IEEE Std 802.3br-2016, IEEE Std 802.3bn-2016, IEEE Std 802.3bz-2016, IEEE Std 802.3bu-201x, and IEEE Std 802.3bv-201x. This amendment increases the maximum PD power available by utilizing all four pairs in the specified structured wiring plant. Draft D2.2 is prepared for Working Group ballot recirculation."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **FM** *SC* **FM** *P* **1** *L* **25** # 429

Yseboodt, Lennart — Philips

Comment Type **ER** *Comment Status* **D** *Editorial*

"This draft is an amendment of IEEE Std 802.3-2015. The purpose of the amendment [complete]. Draft D2.2 is prepared for [review/balloting stage]."

A new frontmatter template was used for D2.2, I missed this fields when inserting it.

SuggestedRemedy

Replace by:
"This draft is an amendment of IEEE Std 802.3-2015. This amendment increases the maximum PD power available by utilizing all four pairs in the specified structured wiring plant. Draft <DRAFTNR> is prepared for Working Group ballot recirculation."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 3

Cl **FM** *SC* **FM** *P* **1** *L* **25** # 430

Zimmerman, George — CME Consulting, Aqua

Comment Type **E** *Comment Status* **D** *Edtiorial*

Fill out the purpose of the amendment and ballot stage, which somehow got deleted from D2.1 to D2.2

SuggestedRemedy

See comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 3

Cl **FM** *SC* **FM** *P* **1** *L* **29** # 4

Anslow, Pete — Ciena

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

The copyright_year variable in the frontmatter file should be 2016

SuggestedRemedy

Set the copyright_year variable in the frontmatter file to the appropriate year (probably 2017).
(Remember to change the copyright_year variable in the other files to 2017 also.)

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **8** *L* **1** # 5

Anslow, Pete — Ciena

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

The members of the Working Group ballot pool beyond "Kent Lusted" have disappeared.

SuggestedRemedy

Put them back

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **10** *L* **5** # 431

Zimmerman, George CME Consulting, Aqua

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

Fill in amendment title - (doesn't actually need to match the PAR - but is better if it does), needs to match the amendment title at the front cover.

SuggestedRemedy

See comment

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **12** *L* **7** # 432

Zimmerman, George CME Consulting, Aqua

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

802.3bu was approved at the December 2016 IEEE-SA meeting, making it IEEE Std 802.3bu-2016.

SuggestedRemedy

Change 802.3bu-20xx to 802.3bu-2016, change editing instruction reference on pg 23 line 1 as well.

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **12** *L* **22** # 6

Anslow, Pete Ciena

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

The P802.3bt amendment will only be Amendment 10 if the Working Group Chair determines that it is likely to be the first amendment approved after Amendment 9 (P802.3bv). As far as I am aware, the Working Group Chair has not announced that this is the case.

SuggestedRemedy

Unless the Working Group Chair has announced that the P802.3bt amendment is likely to be the first amendment approved after Amendment 9, change "Amendment 10—This" to "This"

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **21** *L* **42** # 433

Zimmerman, George CME Consulting, Aqua

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

If this format of including all PoE matter in the amendment is to continue to sponsor ballot, the standard editor's note should be amended to note this unusual practice. (note - I support the practice, just want to make sponsor ballot pool members aware of it)

SuggestedRemedy

Insert additional editor's note box under existing one - "This amendment makes extensive changes to existing IEEE Std 802.3-2015 text related to DTE Power via MDI to add new functionality. Because of the extensive relationship of the changes in 802.3bt to the existing clauses of IEEE Std 802.3-2015 relating to DTE Power via MDI, existing, unmodified text of IEEE Std 802.3-2015 related to DTE Power via MDI is included in (the draft of) this amendment."

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.3** *P* **22** *L* **3** # 434

Zimmerman, George CME Consulting, Aqua

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

Editor's note is no longer relevant

SuggestedRemedy

Delete Editor's note

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.3** *P* **22** *L* **10** # 7

Anslow, Pete — Ciena

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

There are two places where the draft refers to "TIA TSB-184-A".
The note to Table 33-1, which says: "For additional information on Type 4 current unbalance, see TIA TSB-184-A and ISO/IEC TS 29125 Edition 2."
In text two paragraphs below which says "See TIA TSB-184-A and ISO/IEC TS 29125 Edition 2 for additional information on pair-to-pair resistance unbalance."
The table note is informative (see IEEE style manual) and the later text seems informative also.
Consequently, it is inappropriate to add TIA TSB-184-A to the list of normative references in addition to adding it to the Annex A bibliography.

SuggestedRemedy

Remove TIA TSB-184-A from 1.3.
In the two places in Clause 33 where TIA TSB-184-A is referred to add a cross-reference to the bibliography entry.

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4** *P* **22** *L* **22** # 239

Schindler, Fred — Seen Simply, Cisco, T

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

The existing text,
"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)." should be improvide to avoid uncertainty as to which device is providing the power.

SuggestedRemedy

Replace the referenced sentence with,
"IEEE 802.3 Power over Ethernet (IEEE 802.3 PoE): A system consisting of one PSE, which may source power, and one
PD, which may consume power, across balanced twisted-pair cabling. (See IEEE Std 802.3, Clause 33)."

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4** *P* **22** *L* **33** # 26

Beia, Christian — STMicroelectronics

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

TDL 2p1 #173 - Review use of word channel in clause 33.

The definition of channel in 1.4.134 is far away from the meaning in clause 33. Here is the definition from IEEE Std 802.3-2015:
1.4.134 channel: In 10BROAD36, a band of frequencies dedicated to a certain service transmitted on the broadband medium. (See IEEE Std 802.3, Clause 11.)

A new definition is needed to make it unambiguous.
"Power channel" may be used to replace "channel" in clause 33, keeping some continuity with the legacy text.

SuggestedRemedy

See beia_01_0117.pdf

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.415** *P* **22** *L* **39** # 8

Anslow, Pete — Ciena

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

The description of editing instructions in the IEEE style manual and on page 21 of the draft says:
"Replace is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one."
Consequently the replace editing instruction should not be used for text.

SuggestedRemedy

Change to a "Change" editing instruction and show the changes to the definitions.

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.415** *P* **22** *L* **41** # 436

Zimmerman, George — CME Consulting, Aqua

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

Type 1 and Type 2 PDs are not adequately differentiated in their definitions, under these definitions, a PD may be both Type 1 and Type 3, or Type 2 and Type 3. I believe the intent was that there could be Type 3 PDs which are 2 pair and Class 4 or less.

SuggestedRemedy

Either: change Type 1 and Type 2 PD definitions by inserting at the end of the sentence, "and is not a Type 3 PD", after "classification" (or "Data Link Layer Classification" in the Type 2 PD definition)

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4** *P* **22** *L* **44** # 240

Schindler, Fred — Seen Simply, Cisco, T

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

The existing sentence can be improved.
"Type 1 PSE: A PSE that supports Class 0 to Class 3 power levels and provides power over 2-pair. (See IEEE 802.3, Clause 33)."
Note that “2-pair” was replaced by “2-pairs”.

SuggestedRemedy

Replace the referenced sentence with,
"Type 1 PSE: A PSE that supports Class 0 to Class 3 power levels and provides power over 2-pairs. (See IEEE 802.3, Clause 33)."
The editor is authorized to use "two pairs" if this is preferred.

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.416** *P* **22** *L* **44** # 437

Zimmerman, George — CME Consulting, Aqua

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

Type 1 and Type 2 PSE types are not adequately differentiated from 3 and 4. A PSE which supports 2-pair power only up to Class 3 or 4, but also supports short MPS will be both type 3 and type 1 (or 2 if it supports class 4). A PSE which supports 2-pair power as well as 4-pair, and the other type 4 features and only supports up to class 3 or 4 could be both type 4 and type 1 or 2.

SuggestedRemedy

Either: (option a) change Type 3 and Type 4 definitions from "supports up to Class..." to "supports up to at least Class...", or (option b) change type 1 and type 2 definitions by inserting at the end of the sentence, "and is not a type 3 or type 4 PSE."

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.418ac** *P* **23** *L* **8** # 439

Zimmerman, George — CME Consulting, Aqua

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

Related to comment on 1.4.416: Intent was that a Type 3 PSE could ONLY support a maximum of Class 6 power level - definition doesn't say this, because of the change in language from the way Type 1 and Type 2 were written, a PSE might support up to Class 6, but more than class 6 would be allowed.

SuggestedRemedy

Change Type 3 PSE definition as similarly to say "up to at most Class 6 power levels".

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.418ad** *P* **23** *L* **15** # 438

Zimmerman, George — CME Consulting, Aqua

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

Related to comment on 1.4.416: A PSE under these definitions which supports only to Class 6, short MPS and 4-pair power would be be both type 3 and type 4.

SuggestedRemedy

Change "up to Class 8 power levels" to "up to at least Class 7 and at most Class 8 power levels".

Proposed Response *Response Status* **O**

Cl **25** *SC* **25** *P* **25** *L* **1** # 9

Anslow, Pete Ciena

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

Clause 25 is missing from the compare version of the draft. It is usual to include all clauses in the draft in the compare version (even if there were no changes to a particular clause) or else if there are few changes to show only changed pages.

SuggestedRemedy

Include all clauses in the compare version or else show only changed pages.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30** *P* **26** *L* **1** # 78

Darshan, Yair Mirosemi

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

All new TLVs need to be added to this section. This include Autoclass, Measurements and new dual-signature material.

SuggestedRemedy

If not resolved yet for D2.2, add it to the TDL for the next draft.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.4a** *P* **30** *L* **14** # 10

Anslow, Pete Ciena

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

The newly inserted editing instruction "Insert 30.9.1.1.4a as follows:" comes part way through the changes for the previous editing instruction "Change 30.9.1.1.2 through 30.9.1.1.11 as follows:" This is confusing.

SuggestedRemedy

Change the earlier editing instruction to "Change 30.9.1.1.2 through 30.9.1.1.4 as follows:" and add a subsequent editing instruction "Change 30.9.1.1.5 through 30.9.1.1.11 as follows:"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.4a** *P* **30** *L* **15** # 146

Law, David HPE

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

Subclause 8.6 'Organizationally Specific TLVs' of IEEE Std 802.1AB 'Station and Media Access Control Connectivity Discovery' states that 'Each set of Organizationally Specific TLVs shall include associated LLDP MIB extensions and the associated TLV selection management variables and MIB/TLV cross reference tables.'.

This statement seems to require MIB attributes in the subclause 30.12.2 'LLDP Local System Group managed object class' oLldpXdot3LocSystemsGroup object and in the subclause 30.12.3 'LLDP Remote System Group managed object class' oLldpXdot3RemSystemsGroup object for each of the TLV fields since these managed object classes are to support LLDP. The subclause 30.9.1 'PSE managed object class' however is to support management of the PSE regardless of the presence of LLDP, hence while some of the content many be the same as the LLDP Local System Group managed object class, is orthogonal to LLDP management, and therefore the statement does not seem to apply to it.

Based on this, while an attribute needs to be added to both the oLldpXdot3LocSystemsGroup and oLldpXdot3RemSystemsGroup objects to support the new Power Pairsx field defined in subclause 79.3.2.6a.1, there isn't a need to add the new aPSEPowerPairsx attribute to the oPSE object. In addition the aPSEPowerPairsx attribute is duplicative of subclause 30.9.1.1.4 aPSEPowerPairs which has had the enumeration 'both' added to its enumerations.

SuggestedRemedy

Suggest that subclause 30.9.1.1.4a is deleted.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.2** *P* **33** *L* **25** # 147

Law, David HPE

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

This managed object class is empty as it has no attributes, actions or notifications that relate to the monitoring or control of a PD.

SuggestedRemedy

Deleted subclause 30.9.2 and it subclauses, as well as it entry in subclause in the list in 30.2.2.1, Table 30–4 'DTE Power via MDI capabilities' and Figure 30–4 'Repeater entity relationship diagram'.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.8** *P* **36** *L* **38** # 148

Law, David HPE

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

The reference to the pethPsePortPowerPairsControlAbility object in the behaviour text of the aLldpXdot3LocPowerPairControlable attribute is somewhat indirect since the pethPsePortPowerPairsControlAbility object in RFC 3621 (which is now in strikeout I assume due to its deprecation by IEEE Std 802.3.1-2013) and in IEEE Std 802.3.1-2013, both reference back to IEEE Std 802.3, subclause 30.9.1.1.3 aPSEPowerPairsControlAbility. Rather than reference an item in an external standard, that then references back in to a subclause of IEEE Std 802.3, suggest that a direct reference to the subclause in IEEE Std 802.3 be provided. The same is also true for the reference to the pethPsePortPowerPairs object in the behaviour of the aLldpXdot3LocPowerPairs attribute (see 30.12.2.1.8) as well as the similar references in the behaviour of the equivalent LLDP Remote System Group managed object class attributes aLldpXdot3RemPowerPairControlable (see 30.12.3.1.8) and aLldpXdot3RemPowerPairs (see 30.12.3.1.9).

In addition the objects pethPsePortPowerPairsControlAbility and pethPsePortPowerPairs are part of the pethPsePortEntry object, a set of objects '... that display and control the power characteristics of a power Ethernet PSE port ...' (see IEEE Std 802.3.1-2013 subclause 8.5) and hence only exist for a PSEs. This makes sense as these attributes relate to which PSE Pinout Alternative is used for PD detection and power (see 33.2.4), however based on this there is no behaviour defined for the aLldpXdot3LocPowerPairControlable and aLldpXdot3LocPowerPairs attributes in an instance of the LLDP Local System Group managed object class in a PD, or for aLldpXdot3RemPowerPairControlable and aLldpXdot3RemPowerPairs in an instance of the LLDP Remote System Group managed object class in a PSE.

Further, the behaviour text of the LLDP Remote System Group managed object class attribute aLldpXdot3RemPowerPairControlable doesn't seem entirely clear. It states that the attribute is '... derived from the value of ...' pethPsePortPowerPairsControlAbility object. What isn't clear from this is, as a remote attribute, it is the value of the aLldpXdot3LocPowerPairControlable attribute, as communicated across the link by LLPD, and as such is derived from the value of the pethPsePortPowerPairsControlAbility object on the remote, not local, system.

Finally, since the 'PSE Power pair' field in the Power Via MDI TLV that support the aLldpXdot3LocPowerPairs and aLldpXdot3RemPowerPairs attributes (see Table 79–9 and 79-10) is not being expanded, and instead the 'PSE power pairsx' bits are being added (see Table 79–6a), text similar to that in subclause 79.3.2.2 'PSE power pair' that states 'Either pairset may be indicated when furnishing power on both pairsets, as that condition is communicated by the PSE power status value field defined in 79.3.2.6a.' needs to be added to the aLldpXdot3LocPowerPairs and aLldpXdot3RemPowerPairs behaviours. In addition, subclause 30.9.1.1.4 aPSEPowerPairs has had a 'both' enumeration added to it, hence aLldpXdot3LocPowerPairs can no longer 'contain' aPSEPowerPairs but instead will have to be 'derived' from aPSEPowerPairs and the 'appropriate syntax' of aLldpXdot3LocPowerPairs and aLldpXdot3RemPowerPairs can no longer be the same as aPSEPowerPairs.

Note that while the text in subclause 79.3.2.2 states that furnishing power on both pairsets can be communicated by PSE power pairsx bits (see 79.3.2.6a), a legacy PD that implements DLL classification will not support these additional bits. This could lead to the situation where such a PD is reporting in the aLldpXdot3RemPowerPairs attribute that it is being powered on PSE Pinout Alternative B when in fact it is being powered by PSE Pinout Alternative A.

SuggestedRemedy

Suggest that:

[1] Subclause 30.12.2.1.8 aLldpXdot3LocPowerPairControlable 'behaviour defined as' text be changed to read 'A read-only Boolean value used to indicate the ability to control which PSE Pinout Alternative (see 33.2.4) is used for PD detection and power. For a PSE this attribute contains the value of the aPSEPowerPairsControlAbility attribute (see 30.9.1.1.3), for a PD the contents of this attribute is undefined.;'.

[2] Subclause 30.12.2.1.9 aLldpXdot3LocPowerPairs 'appropriate syntax' be changed to read:
An ENUMERATED VALUE that has one of the following entries:
signal PSE Pinout Alternative A
spare PSE Pinout Alternative B

[3] Subclause 30.12.2.1.9 aLldpXdot3LocPowerPairs 'behaviour defined as' text be changed to read 'A read-only value that identifies the PSE Pinout Alternative (see 33.2.4) in use for detecting and supplying power to the PD. For a PSE this attribute contains a value derived from the aPSEPowerPairs attribute (see 30.9.1.1.4), for a PD the contents of this attribute is undefined. A Type 3 or Type 4 PSE detecting or supplying power on both PSE Pinout Alternatives can return either PSE Pinout Alternative as this configuration is communicated through the aLldpXdot3LocPowerPairsX attribute. A Type 3 or Type 4 PSE supplying power on only one PSE Pinout Alternative shall return that PSE Pinout Alternative;'.

[4] Subclause 30.12.3.1.8 aLldpXdot3RemPowerPairControlable 'behaviour defined as' text be changed to read 'A read-only Boolean value used to indicate the ability to control which PSE Pinout Alternative (see 33.2.4) is used for PD detection and power on the given port on the remote system. For a PD this attribute contains the value of the aPSEPowerPairsControlAbility attribute (see 30.9.1.1.4) on the given port on the remote system, for a PSE the contents of this attribute is undefined.;'.

[5] Subclause 30.12.3.1.9 aLldpXdot3RemPowerPairs 'appropriate syntax' be changed to read:
An ENUMERATED VALUE that has one of the following entries:
signal PSE Pinout Alternative A
spare PSE Pinout Alternative B

[6] Subclause 30.12.3.1.9 aLldpXdot3RemPowerPairs 'behaviour defined as' text be changed to read 'A read-only value that identifies the supported PSE Pinout Alternative (see 33.2.4) in use for supplying power to the PD on the given port on the remote system. For a PD this attribute contains a value derived from the aPSEPowerPairs attribute (see

30.9.1.1.3) on the given port on the remote system, for a PSE the contents of this attribute is undefined. A Type 3 or Type 4 PSE detecting or supplying power on both PSE Pinout Alternatives can return either PSE Pinout. If the aLldpXdot3RemPowerPairsX attribute is avalible, it will report this configuation. A Type 3 or Type 4 PSE supplying power on only one PSE Pinout Alternative will return that PSE Pinout Alternative;'.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.8** *P* **36** *L* **46** # 11

Anslow, Pete Ciena

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

There is strikethrough text in 30.12.2.1.8, 30.12.2.1.9, 30.12.2.1.10, 30.12.3.1.8, 30.12.3.1.9, and 30.12.3.1.10 without any corresponding editing instructions.
Also, despite the fact that FrameMaker does not show font changes as a change, this should have been highlighted in the compare document manually. e.g. by showing "defined in IETF RFC 3621" in red strikethrough followed by "defined in IETF RFC 3621" again in blue strikethrough and underline.

SuggestedRemedy

Add editing instructions for the changes in 30.12.2.1.8, 30.12.2.1.9, 30.12.2.1.10, 30.12.3.1.8, 30.12.3.1.9, and 30.12.3.1.10.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.9** *P* **37** *L* **2** # 149

Law, David HPE

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

Typo.

SuggestedRemedy

Suggest that 'A read-only the value ...' should be changed to read 'A read-only value ...'

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.10** *P* **37** *L* **5** # 150

Law, David HPE

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

The reference to the pethPsePortPowerClassifications object in the behaviour text of the aLldpXdot3LocPowerClass attribute is somewhat indirect since the pethPsePortPowerClassifications object in RFC 3621 (which is now in strikeout I assume due to its deprecation by IEEE Std 802.3.1-2013) and in IEEE Std 802.3.1-2013, both reference back to IEEE Std 802.3, subclause 30.9.1.1.6 aPSEPowerClassification. Rather than reference an item in an external standard, that then references back in to a subclause of IEEE Std 802.3, suggest that a direct reference to the subclause in IEEE Std 802.3 be provided. The same is also true of the aLldpXdot3RemPowerClass attribute.

In addition the pethPsePortPowerClassifications object is part of the pethPsePortEntry object, a set of objects '... that display and control the power characteristics of a power Ethernet PSE port ...' (see IEEE Std 802.3.1-2013 subclause 8.5) and hence only exist for a PSEs. Further the behaviour of aPSEPowerClassification, referenced by pethPsePortPowerClassifications, states 'A read-only value that indicates the PD Class of a detected PD as specified in 33.2.7.1.'. As such there is no behaviour defined for the aLldpXdot3LocPowerClass attribute in an instance of the LLDP Local System Group managed object class in a PD, or for aLldpXdot3RemPowerClass attribute in an instance of the LLDP Remote System Group managed object class in a PSE.

Finally, since the 'Power class' field in the Power Via MDI TLV that support the aLldpXdot3LocPowerClass and aLldpXdot3RemPowerClass attributes (see Table 79–9 and 79-10) is not being expanded, and instead the 'Power class' bits are being added (see Table 79–6a), text needs to be added to state that the aLldpXdot3LocPowerClass and aLldpXdot3RemPowerClass attributes only support class 0 through 4 enumerations and that aLldpXdot3LocPowerClassx and aLldpXdot3RemPowerClassx, if implemented, communicate class 5 and above. In addition, since subclause 30.9.1.1.6 aPSEPowerClassification has had enumeration for class 5 through 8 added to it, hence aLldpXdot3LocPowerClass and aLldpXdot3RemPowerClass can no longer 'contain' aPSEPowerClassification but instead will have to be 'derived' from aPSEPowerClassification and the 'appropriate syntax' of aLldpXdot3LocPowerClass and aLldpXdot3RemPowerClass can no longer be the same as aPSEPowerClassification.

SuggestedRemedy

Suggest that:

[1] Subclause 30.12.2.1.10 aLldpXdot3LocPowerClass 'appropriate syntax' be changed to read:

An ENUMERATED VALUE that has one of the following entries:
class0 Class 0 PD
class1 Class 1 PD
class2 Class 2 PD
class3 Class 3 PD
class4 Class 4 PD

[2] Subclause 30.12.2.1.10 aLldpXdot3LocPowerClass 'behaviour defined as' text be

changed to read 'A read-only value that indicates the PD Class of the detected PD as specified in 33.2.7.1. For a PSE this attribute contains a value derived from the aPSEPowerClassification attribute (see 30.9.1.1.6), for a PD the contents of this attribute is undefined. This attribute shall return an enumeration of "class4" for a PD of Class 4 or higher as such PD Classes are identified through the aLldpXdot3LocPowerClassx attribute.;'.

[3] Subclause 30.12.3.1.10 aLldpXdot3RemPowerClass 'appropriate syntax' be changed to read:

An ENUMERATED VALUE that has one of the following entries:

class0 Class 0 PD
class1 Class 1 PD
class2 Class 2 PD
class3 Class 3 PD
class4 Class 4 PD

[4] Subclause 30.12.3.1.10 aLldpXdot3RemPowerClass 'behaviour defined as' text be changed to read 'A read-only value that identifies the PD Class of the detected PD as specified in 33.2.7.1. on the given port on the remote system. For a PD this attribute contains a value derived from the aPSEPowerClassification attribute (see 30.9.1.1.6) on the given port on the remote system, for a PSE the contents of this attribute is undefined. This attribute will return an enumeration of "class4" for a PD of Class 4 or higher as such PD Classes are identified through the aLldpXdot3RemPowerClassx attribute.;'.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.10** *P* **37** *L* **12** # 151

Law, David HPE

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

Typo.

SuggestedRemedy

Suggest that 'A read-only the value ...' should be changed to read 'A read-only value ...'

Proposed Response *Response Status* **O**

Cl **30** *SC* **30** *P* **37** *L* **24** # 79

Darshan, Yair Mirosemi

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

TDL #52 D2.1.
"aLldpXdot3LocPowerType" There is no value for Type 3 or Type 4.
(See comment #490 in D2.0)

SuggestedRemedy

If not resolved yet for D2.2, keep it in the TDL.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.14** *P* **37** *L* **24** # 152

Law, David HPE

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

IEEE P802.3bt draft D2.1 comment #52 reads '"aLldpXdot3LocPowerType" There is no value for Type 3 or Type 4. (See comment #490 in D2.0)'.

The 'power type' bits in the 'Type/source/priority' field defined in subclause 79.3.2.4 have not been extended to support Type 3 and Type 4 (see page 238, line 10 to 13), presumably because an existing Type 1 or Type 2 implementation would not be able to understand these addition bits. Instead text has been added to state that a Type 3 or Type 4 device shall set this field to Type 2 and an additional field 'Power typex' defined in subclause 79.3.2.6b.1 has been added to the Type 3 and Type 4 extension of the TLV.

Subclause 8.6 'Organizationally Specific TLVs' of IEEE Std 802.1AB 'Station and Media Access Control Connectivity Discovery' states that 'Each set of Organizationally Specific TLVs shall include associated LLDP MIB extensions and the associated TLV selection management variables and MIB/TLV cross reference tables.'. This therefore requires two attributes for each field, one for the local copy and one for the remote. Based on this there is the aLldpXdot3RemPowerType and the aLldpXdot3RemPowerType attribute for the Power type field and the aLldpXdot3LocPowerTypex and aLldpXdot3RemPowerTypex attribute for the Power typex field.

Hence since the 'power type' bits are not being extended to support Type 3 and Type 4 the related attributes still only support Type 1 or Type 2. This however should be noted in the attribute with a reference to the Power typex related attributes.

NOTE: This comment relates to TDL D2.1 #52.

SuggestedRemedy

Suggest the text '... indicates Type 1 or Type 2.' be changed to read '... indicates Type 1 or Type 2. Type 2 will also be indicated for Type 3 and Type 4. The attribute aLldpXdot3LocPowerTypex, if supported, provides an indication of Type 1 through Type 4.'.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.17** *P* **38** *L* **1** # 12

Anslow, Pete Ciena

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

The description of editing instructions in the IEEE style manual and on page 21 of the draft says:
"Replace is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one."
Consequently the replace editing instruction should not be used for text.

SuggestedRemedy

Change to a "Change" editing instruction for 30.12.2.1.17 and 30.12.2.1.18 and show the changes to the definitions.

Proposed Response *Response Status* **O**

Cl **30.12** *SC* **30.12.2.1.17** *P* **38** *L* **3** # 275

Skinner, John Sifos Technologies, In

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

No managed objects defined for the Power Via MDI TLV fields "PD requested power value Mode A", "PD requested power value Mode B", "PSE allocated power value Alternative A", and "PSE allocated power value Alternative B".

SuggestedRemedy

Add aLldpXdot3LocPDRequestedPowerValueModeA,
aLldpXdot3LocPDRequestedPowerValueModeB,
aLldpXdot3LocPSEAllocatedPowerValueModeA, and ,
aLldpXdot3LocPSEAllocatedPowerValueModeB.

Add cross references to these objects in Table 79–9 starting at line 26 on page 248.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18a** *P* **38** *L* **36** # 153

Law, David HPE

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

The attribute aLldpXdot3LocPSEPowerPairsx is being added to a subclause of the LLDP Local System Group managed object class subclause and therefore I assume is intended to be part of the oLldpXdot3LocSystemsGroup object. Since this object is instantiated in both PSEs and PDs the behaviour of this attribute needs to be described for both.

SuggestedRemedy

Suggest that the 'behaviour defined as' text be changed to read 'A read-only value that identifies the supported PSE Pinout Alternative specified in 33.2.4. For a PSE this attribute contains the value of the aPSEPowerPairsx attribute (see 30.9.1.1.4a), for a PD the contents of this attribute is undefined.'.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18a** *P* **38** *L* **36** # 154

Law, David HPE

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

I can't seem to find the attribute aLldpXdot3LocPSEPowerPairsx in Table 30–7 'LLDP capabilities' although I do see the very similarly named attribute aLldpXdot3LocPowerPairsx (page 26, line 38) listed which doesn't appear anywhere else in the draft.

SuggestedRemedy

Either change the attribute name in Table 30-7 from 'aLldpXdot3LocPowerPairsx' to 'aLldpXdot3LocPSEPowerPairsx' or globally replace 'aLldpXdot3LocPSEPowerPairsx' with 'aLldpXdot3LocPowerPairsx'. Note that the existing related attribute is 'aLldpXdot3LocPowerPairs' (see IEEE Std 802.3-2015 Section page 488).

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18b** *P* **39** *L* **2** # 13

Anslow, Pete Ciena

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

"that returns the if the load" is garbled.

SuggestedRemedy

change to "that returns whether the load"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.12.2.1.18c** *P* **39** *L* **4** # 302

Yseboodt, Lennart Philips

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

The Clause 30 managed object aLldpXdot3LocPDModeSelection is no longer needed as we removed the corresponding LLDP bit.

SuggestedRemedy

Remove aLldpXdot3LocPDModeSelection section and remove the line from Table 30-7.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18e** *P* **39** *L* **34** # 14

Anslow, Pete Ciena

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

"The most significant first three bits indicates the Type." should be "The three most significant bits indicate the Type."

SuggestedRemedy

Change "The most significant first three bits indicates the Type." to "The three most significant bits indicate the Type."
Make the same change in 30.12.3.1.18e.

Proposed Response *Response Status* **O**

Cl **33** *SC* **30.12.2.1.18e** *P* **39** *L* **34** # 303

Yseboodt, Lennart Philips

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

The descriptive text for managed object aLldpXdot3LocPowerTypex contains two "shalls". Likely this text was copied from Clause 79.
Since these are the only shalls in Clause 30, this tells me we shouln`t be doing this.

SuggestedRemedy

Replace the word "shall set" with "sets" in two locations.

Proposed Response *Response Status* **O**

Cl **33** *SC* **30.12.3.1.18e** *P* **39** *L* **34** # 304
Yseboodt, Lennart Philips

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

The descriptive text for managed object aLldpXdot3RemPowerTypex contains two "shalls". Likely this text was copied from Clause 79.
Since these are the only shalls in Clause 30, this tells me we shouln`t be doing this.

SuggestedRemedy

Replace the word "shall set" with "sets" in two locations.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18j** *P* **40** *L* **36** # 15
Anslow, Pete Ciena

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

There seems to be a spurious new paragraph after "an Autoclass measurement"

SuggestedRemedy

Delete it.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18j** *P* **40** *L* **36** # 301
Yseboodt, Lennart Philips

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

In aLldpXdot3LocAutoclassRequest an accidental paragraph put "and power budget adjustment" in the wrong place.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18b** *P* **46** *L* **51** # 16
Anslow, Pete Ciena

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

"Boolean value use to" should be "Boolean value used to"

SuggestedRemedy

Change "Boolean value use to" to "Boolean value used to"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.12.3.1.18c** *P* **47** *L* **1** # 305
Yseboodt, Lennart Philips

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

The Clause 30 managed object aLldpXdot3RemPDModeSelection is no longer needed as we removed the corresponding LLDP bit.

SuggestedRemedy

Remove aLldpXdot3RemPDModeSelection section and remove the line from Table 30-7.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18i** *P* **48** *L* **22** # 17
Anslow, Pete Ciena

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

"remote???PSE"

SuggestedRemedy

Change "remote???PSE" to "remote PSE"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18j** *P* **48** *L* **32** # 18
Anslow, Pete Ciena

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

"remote???PD"

SuggestedRemedy

Change "remote???PD" to "remote PD"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33** *P* **51** *L* **4** # 129

Jones, Chad Cisco

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

this is the solution to the TO DO 63 from D2.1 (which is also TO DO 171 from D2.0)
See jones_01_0117.pdf for the solution to significant digits comments

SuggestedRemedy

adopt jones_01_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33** *P* **53** *L* **1** # 306

Yseboodt, Lennart Philips

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

Some table cells that are empty should have an Em-Dash to indicate an explicit empty.
eg. Additional information

SuggestedRemedy

sigh Editor to visit every Table and fix.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33** *P* **55** *L* **33** # 19

Anslow, Pete Ciena

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

The rebuttal to unsatisfied required comment #9 against D2.1 says: "The trailing zeroes are included because the style guide requires that decimal places are aligned in a table format." This does not stand up to scrutiny. For example in the second column of Table 33-1, the decimal points would be aligned if the trailing zeros were not there. In the Max column of Table 33-10 the decimal points do not align anyway.
If the numbers are to be aligned at the decimal points, then this has to be done using a decimal tab and that works irrespective of whether there are trailing zeros or not. (But it has not been done in any recently published 802.3 amendment).

SuggestedRemedy

Since the trailing zeros have no significance, bring the draft into line with all other recent amendments and remove the trailing zeros.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.1** *P* **55** *L* **34** # 80

Darshan, Yair Mirosemi

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

(TDL #63 D2.1)
This comment is about addressing the significant digits for the numbers/equations/constant in the standard and try to be satisfied with 3 significant digits unless it violates the accuracy required for equations result and not cause system over design.

SuggestedRemedy

Adopt darshan_06_0117.pdf if available. If not available keep it in the TDL.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **56** *L* **1** # 241

Schindler, Fred Seen Simply, Cisco, T

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

Existing text is not clear and probably incorrect.
"ICable in Table 33–1 is defined for 100% pair-to-pair balanced operation where the total 4-pair current for Type 3 and Type 4 is 2 × ICable."
Current imbalance is used to indicate what portion of the total current exists on a pairset. Table 33-1 indicates the nominal highest pairset current. This limit does not restrict the number of pairsets used. The sentence following the called-out sentence provides additional clarification for 4-pair operation.

SuggestedRemedy

Strike the called-out sentence.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **56** *L* **1** # 307

Yseboodt, Lennart Philips

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

"I Cable in Table 33-1 is defined for 100% pair-to-pair balanced operation where the total 4-pair current for Type 3 and Type 4 is 2 x I Cable . In Type 3 and Type 4 operation over 4-pairs, the current may be unbalanced causing one pair to have a higher current than I Cable while the other pair of the same polarity will have a lower current than I Cable , resulting in a total current over 4-pairs of 2 x I Cable ."

Repetitive.

SuggestedRemedy

"ICable, defined in Table 33-1, is the highest nominal current on a pair for a system without pair-to-pair current unbalance. When power is provided over 4-pairs, the current may be unbalanced, causing one pair to have a higher current than ICable, while the other pair of the same polarity carries a corresponding lower current than ICable. The maximum nominal total 4-pair current is twice the value of ICable."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.4** *P* **56** *L* **17** # 440

Zimmerman, George CME Consulting, Aqua

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

I_Port and I_Port-2P are introduced here without any corresponding reference to them. It leaves the reader searching around. The first time they show up is several pages later in connection with the state diagrams.

SuggestedRemedy

Either, delete lines 11 through 17, or, insert the following sentence at line 10: "In addition to I_Cable, the requirements of this standard reference current on a per port and per pairset basis, which are described here for reference."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3** *P* **56** *L* **21** # 308

Yseboodt, Lennart Philips

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

Comment #174 from D2.1 not completely implemented.
"R Chan is the actual DC loop resistance from the PSE PI to the PD PI and back."

SuggestedRemedy

Change to:
"R Chan is the actual DC resistance from the PSE PI to the PD PI and back."

To avoid the term "DC loop resistance".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3.1** *P* **56** *L* **36** # 242

Schindler, Fred Seen Simply, Cisco, T

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

Modified legacy text is incorrect for Type 4 system heating effects. Legacy text assumed either half or all the conductors provide 600 mA per pairset. This is still valid for Type 2 and Type 3 systems because the conductor currents are the same.

SuggestedRemedy

Replace legacy text,
“Under worst-case conditions, Type 2, Type 3, and Type 4 operation requires a 10 °C reduction in the maximum ambient temperature when all cable pairs are energized at ICable (see Table 33–1), or a 5 °C reduction in the maximum ambient temperature when half of the cable pairs are energized at ICable.”

with,

“Under worst-case conditions, Type 2, and Type 3, operation requires a 10 °C reduction in the maximum ambient temperature when all cable pairs are energized at ICable (see Table 33–1), or a 5 °C reduction in the maximum ambient temperature when half of the cable pairs are energized at ICable.”

A scaled version for Type-4 PSEs produces impractical operational guidelines. The Task Force should provide Type 4 PSE requirements, or reference appropriate cable standards, or create a TDL a for a cable-subject-matter expert (not the commenter).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3.1** *P* **56** *L* **48** # 271
Shariff, Masood CommScope

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

Correct reference to ISO/IEC TS 29125

SuggestedRemedy

Change globally all instances of ISO/IEC TR 29125 to ISO/IEC TS 29125.
Also globally delete "Edition 2" after 29125 since with the change of designation to a "TS" this is effectively a first edition.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.3.1** *P* **56** *L* **54** # 309
Yseboodt, Lennart Philips

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

Footnote 1 says: "The numbers in brackets correspond to those of the bibliography in Annex A."

SuggestedRemedy

This illumination is only used in one other place in 802.3 and is unnecessary.
Remove footnote.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2** *P* **57** *L* **15** # 243
Schindler, Fred Seen Simply, Cisco, T

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

Legacy text uses bullet points that should be improved to reduce repetition and improve readability.
"— To search the link section for a PD
— To supply power to the detected PD through the link section
— To monitor the power on the link section
— To remove power when no longer requested or required, returning to the searching state"

SuggestedRemedy

Remove "To " from each bullet. Add a period to the last bullet.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2** *P* **57** *L* **20** # 244
Schindler, Fred Seen Simply, Cisco, T

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

Legacy text appears to have been converted from sentences to bullet points. This has left the last bullet and connected sentence disconnected.
"— To remove power when no longer requested or required, returning to the searching state"

"An unplugged link section is one instance when power is no longer required."

SuggestedRemedy

Move the called-out sentence after the last bullet (a period was added after this bullet in another comment).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.1** *P* **57** *L* **31** # 130
Jones, Chad Cisco

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

802.3-2015 has this statement: "A PSE shall meet one of the allowable classification permutations listed in Table 33–8." Table 33-8 has been divided into two tables, 33-2 and 33-21. I cannot find the commensurate shalls for these new tables.

SuggestedRemedy

add the sentence "A PSE shall meet one of the allowable classification permutations listed in Table 33–2." to the end of the paragraph at line 31.
also, page 136, line 23. add the sentence "A PD shall meet at least one of the allowable classification permutations listed in Table 33–21."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.1** *P* **57** *L* **35** # 325

Wendt, Matthias Philips

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

Words cannot describe how much I dislike these table/footnote puzzles to refer to subclauses.

SuggestedRemedy

In Table 33-2, replace the 3 footnotes by a Note at the bottom as follows:
"NOTE --- See 33.2.7 and Table 33-13 for classification and maximum available power. See 33.5 for Data Link Layer classification. See 33.2.10 for MPS. See 33.2.7.3 and 33.3.6.3 for Autoclass."

(set left/right margin to zero for the note cell).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.1** *P* **57** *L* **36** # 326

Yseboodt, Lennart Philips

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

"Range of maximum Classes supported", not range of Classes.
Only one Class is the maximum.

SuggestedRemedy

change to:
"Range of maximum Class supported"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.2** *P* **57** *L* **37** # 20

Anslow, Pete Ciena

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

The IEEE style manual says: "A table footnote should be marked with lowercase letters starting with “a” for each table."

SuggestedRemedy

Change the footnotes to Table 33-2, Table 33-18, Table 33-30, Table 33-41, and Table 33-42 to use letters.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.1** *P* **57** *L* **47** # 327

Yseboodt, Lennart Philips

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

In column "Range of maximum Classes supported":
5th row "Class 3 to 6", overlaps with previous line.

SuggestedRemedy

change to:
"Class 5 to 6"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.4** *P* **65** *L* **19** # 328

Yseboodt, Lennart Philips

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

In Table 33-3 and 33-4 it would be more logical to list Alt B(X) before Alt B(S), since this matches with the order of Alt A where MDI-X comes before MDI.

SuggestedRemedy

Swap columns Alternative B(S) and Alternative B(X) in both Tables.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.1** *P* **66** *L* **17** # 329

Yseboodt, Lennart Philips

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

"The polarity of PSE voltages during its operating states (detection, connection check, classification, power up, and power on) is the same as was used in the detection state and defined per Table 33-3 in 33.2.4."

This is not actually a requirement per the text as it is.
The only 'shall' requires Class and Mark polarity to match with POWER_UP/POWER_ON polarity.

In addition, the reference should be to Table 33-4.

SuggestedRemedy

Since there seems to be no justification for adding a requirement, propose to fix the descriptive text:

"The polarity of PSE voltages during its operating states (power up and power on) is the same as was used during classification and defined per Table 33-4 in 33.2.4."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.1** *P* **66** *L* **18** # 441

Zimmerman, George CME Consulting, Aqua

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

"The polarity of PSE voltages during its operating states (detection, connection check, classification, power up, and power on) is the same as was used in the detection state and defined..." - first, "same as was used in the detection state" is circular with the parenthetical, which includes "detection", second, the states listed here don't match the names of states in the state diagram (there is no state named "detection" state or "classification"), and, since this section is related to type 1 and type 2 PSEs, includes the connection check which doesn't exist in Type 1 and Type 2 PSEs.

SuggestedRemedy

Change parenthetical from being a list of states to ", i.e., in states where a detection, classification, or powering voltage is applied to the PI,"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.1.1** *P* **66** *L* **49** # 285

Stover, David Linear Technology

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

"…the behaviors of the Alternatives may be reversed…", "…the alternatives are named the Primary Alternative and the Secondary Alternative." Mixed-case usage of "Alternatives".

SuggestedRemedy

Grant editorial license to use appropriate case for "alternative" throughout document (for example this mixed usage also occurs in 33.2.4). Consult style guide?

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.1.1** *P* **67** *L* **4** # 286

Stover, David Linear Technology

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

"Dual signature" missing hyphen in 2 locations within document (both in this paragraph).

SuggestedRemedy

Replace "dual signature" with "dual-signature" in both instances. (lines 4 and 7-8)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.1.1** *P* **67** *L* **4** # 330

Yseboodt, Lennart Philips

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

"If the connected PD is identified as dual signature, the top level state diagram will proceed to the... "
dual signature has no hyphen.

SuggestedRemedy

Change to:
"If the connected PD is identified as dual-signature, the top level state diagram will proceed to the... "

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.1.1** *P* **67** *L* **6** # 287

Stover, David Linear Technology

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

"semi independent" missing hyphen in 1 location within document.

SuggestedRemedy

Replace "Semi independent" with "Semi-independent".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.1.1** *P* **67** *L* **7** # 331

Yseboodt, Lennart Philips

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

"Dual signature classification is defined in Figure 33-19 and Figure 33-20 for the Primary and Secondary... "
dual signature has no hyphen.

SuggestedRemedy

Change to:
"Dual-signature classification is defined in Figure 33-19 and Figure 33-20 for the Primary and Secondary... "

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.4** *P* **68** *L* **35** # 332

Yseboodt, Lennart Philips

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

Type 1/2 State diagram variable mr_pse_alternative contains this text in the description:
"This variable is provided by a management interface that may be mapped to the PSE Control register Pair Control bits (11.3:2) or other equivalent function."

Management has been removed.

SuggestedRemedy

Remove quoted sentence.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.4** *P* **68** *L* **43** # 333

Yseboodt, Lennart Philips

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

Type 1/2 State diagram variable mr_pse_enable contains this text in the description:
"This variables is provided by a management interface that may be mapped to the PSE Control register PSE Enable bits (11.1:0), as described below, or other equivalent functions."

Management has been removed.

SuggestedRemedy

- Remove quoted sentence
- Remove the lines that say "This value corresponds to MDIO register bits 11.1:0 ..." in the values

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.4** *P* **70** *L* **1** # 334

Yseboodt, Lennart Philips

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

Type 1/2 State diagram variable pse_dll_capable contains this text in the description:
"This variable is provided by a management interface that may be mapped to the PSE Control register Data Link Layer Classification Capability bit (11.5), as described below, or other equivalent functions."

Management has been removed.

SuggestedRemedy

Remove quoted sentence

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **74** *L* **24** # 245

Schindler, Fred — Seen Simply, Cisco, T

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

The legacy state diagram (page 74) and text do not match the behavior for the processing time of the tdbo_timer cover in text on page 109 line 21. Legacy text indicates,
"If a PSE that is performing detection using Alternative B (see 33.2.4) determines that the impedance at the PI is greater than Ropen as defined in Table 33–12, it may optionally consider the link to be open circuit and omit the tdbo_timer interval."
The state diagrams require that Type 1 and 2 PSEs skip the BACKOFF state when the signature is open_circuit while the text makes this behavior optional.

SuggestedRemedy

State diagrams override text. I believe Chad enthusiastically decline the opportunity to submit a maintenance request for this concern, I am not sure that I will be attending long enough to shepherd this through maintenance but I have provided details to make this possible. Midspans use this ability so a midspan vendor should facilitate this effort.

The solution provided may be incorporated now or by maintenance. Either way this comment should remain unsatisfied until the proposed corrective action is made.

Repeat the fix made to the Type 3 and 4 PSE state diagram for the Type 1 and 2 PSE state diagram.
Add variable,

"option_tdbo_omit
A variable indicating if the PSE omits the Tdbo back off timer if it detects an open circuit on when performing detection only on alternative B.
Values:
FALSE: The PSE does not omit the Tbdo back off timer.
TRUE: The PSE omits the Tdbo back off timer."

For Type 1 and 2 state SIGNATURE_INVALID replace the existing exit condition,

"(mr_pse_alternative = B) * (signature <> open_circuit)", with

"(mr_pse_alternative = B) * ((signature = open_circuit) * !option_tdbo_omit + (signature = invalid))"

For the same state diagram, state SIGNATURE_INVALID, replace the existing exit condition,

"(mr_pse_alternative = A) + ((mr_pse_alternative=B) * (signature = open_circuit))", with
"(mr_pse_alternative = A) + ((mr_pse_alternative=B) * (signature = open_circuit) * option_tdbo_omit)"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.7** *P* **74** *L* **48** # 155

Law, David — HPE

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

There is an assignment to the pd_dll_power_type variable in the INITIALIZE state of Figure 33–46 'PSE power control state diagram' as well as a mapping to it in Table 33–41 'Attribute to state diagram variable cross-reference' so effectively there are two sources to this variable. There is a case where a Type 2 PSE that supports 1-event physical layer classification, Data Link Layer Classification, and chooses the option of setting the parameter_type variable to 1 in the set_parameter_type function if mutual identification is not complete, is connected to a Type 2 PD, which will result in two different values for pd_dll_power_type from these two sources.

After a successful detection Figure 33-13 'Type 1 and Type 2 PSE state diagram' will transition in to the DETECT_EVAL state and then to the ONE_EVENT_CLASS state (arrow B) since the PSE supports 1-event physical layer classification (class_num_events = 1). The state diagram will then call the do_classification function which will result in the pd_requested_power variable being set to 3 and the mr_pd_class_detected variable being set to 4. The state diagram will then proceed to the CLASSIFICATION_EVAL and, assuming sufficient power, to the POWER_UP state.

Once power up has been completed successfully, since this is a TYPE 2 PSE (PSE_TYPE = 2) the state diagram will transition from the POWER_UP state to the SET_PARAMETERS state calling the set_parameter_type function. Since only 1-event physical layer classification has taken place mutual identification is not complete however a Type 2 PD has been detected since the mr_pd_class_detected variable is set to 4. The PSE therefore has the option of setting the parameter_type variable to 1 (see page 72, line 54, 'When a Type 2 PSE powers a Type 2 PD, the PSE may choose to assign a value of '1' to parameter_type if mutual identification is not complete ...'). I will assume this option is taken.

The state diagram will therefore transition to the POWER_ON state. At some point later, since Data Link Layer Classification is supported, the pse_dll_ready variable becomes TRUE and the aLldpXdot3RemPowerType attribute will return a bit string indicating a Type 2 PD. This, according to Table 33–41 'Attribute to state diagram variable cross-reference', also results in pd_dll_power_type being set to 2. The problem is that, according to the Figure 33-46 'PSE power control state diagram', when pse_dll_ready becomes TRUE the value of parameter_type is latched on to pd_dll_power_type, and at that point in time it is 1.

Now it seems that the intent was that when pd_dll_power_type became 2 due to Data Link Layer Classification, the equation on the transition from the POWER_ON state to the SET_PARAMETERS state became true ((PSE_TYPE = 2) * (pd_dll_power_type = 2) * (parameter_type = 1)) resulting in the set_parameter_type function being called for a second time. The parameter_type variable would then be set 2 enabling the PSE to increase the power it supplies from Type 1 to Type 2 limits.

The problem is there are two values of pd_dll_power_type once Data Link Layer Classification is in operation, the one based on the Table 33–41 mapping which in this case would be set to a value of 2, and the one output by the Figure 33-46 state diagram,

which in this case would be set to a value of 1. As well as the statement that 'State diagrams take precedence over text.' incorporated by the reference to subclause 21.5 in subclause 33.2.5.2 the definition of the pd_dll_power_type variable in subclause 33.2.5.4 'Type 1 and Type 2 variables' for Figure 33-13 state that it is 'control variable output by the PSE power control state diagram (Figure 33–46) ...'. Based on this it would seem that the latter value of 1 should be used, however the problem with that is the second call to SET_PARAMETERS state will then never happen, and the PSE will have to continue using Type 1 limits.

It would seem a better approach would be to remove the assignment of parameter_type to pd_dll_power_type in the INITIALIZE state of Figure 33–46 'PSE power control state diagram' and just use the Table 33–41 'Attribute to state diagram variable cross-reference' mapping for Figure 33-13. This is the only use of the parameter_type and pd_dll_power_type variables in Figure 33–46 so they can also be removed from the associated variable definition lists.

The variable pd_dll_power_type however has to gated while pse_dll_ready is FALSE, since at that time aLldpXdot3RemPowerType is undefined and therefore the mapping of Table 33–41 'Attribute to state diagram variable cross-reference' is undefined. There also needs to be some qualification based on DLL being implemented for the case of a Type 2 PSE with 2-event physical layer classification but no Data Link Layer Classification.

Based on this the use of pd_dll_power_type on the POWER_ON to SET_PARAMETERS transition should be qualified with pse_dll_capable = TRUE and pse_dll_ready = TRUE, so the equation would become (PSE_TYPE = 2) * (pd_dll_power_type = 2) * (parameter_type = 1) * pse_dll_capable * pse_dll_ready.

NOTE: This comment relates to TDL D2.1 #118, #122, #140 and #25.

SuggestedRemedy

Suggest that:

[1] The equation on the transition from the POWER_ON state to the SET_PARAMETERS state in Figure 33-13 'Type 1 and Type 2 PSE state diagram' be changed to read '(PSE_TYPE = 2) * (pd_dll_power_type = 2) * (parameter_type = 1) * pse_dll_capable * pse_dll_ready'.
[2] The assignment 'pd_dll_power_type <= parameter_type' in the INITIALIZE state in Figure 33–46 'PSE power control state diagram' be removed.
[3] The definition of parameter_type be removed from 33.5.3.3 'Single-signature system Variables'.
[4] The definition of pd_dll_power_type be removed from 33.5.3.3 'Single-signature system Variables'.
[5] In definition of pd_dll_power_type in subclause 33.2.5.4 'Type 1 and Type 2 variables' change the text 'A control variable output by the PSE power control state diagram (Figure 33–46) that indicates ...' to read 'A variable mapped from the aLldpXdot3RemPowerType as defined in Table 33-41 that indicates ...'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **77** *L* **5** # 289

Stover, David Linear Technology

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

Text and PSE SD are in conflict. 33.2.5.1.1: "In any implementation, the behaviors of the Alternatives may be reversed as long as the roles are established in IDLE and shall be maintained in every other state." Whereas, in the PSE SD, the definition of alt_pri is assigned in IDLE and in TEST_MODE.
Also, the assignment of alt_pri is forced to "a" in TEST_MODE, though it should probably be user defined.
Finally, when pingpong_en==TRUE, assignment of alt_pri in IDLE depends on previous value, but alt_pri initial value is unspecified.
Otherwise, everything is fine.

SuggestedRemedy

See stover_02_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **78** *L* **29** # 443

Zimmerman, George CME Consulting, Aqua

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

Text describes det_once_sec as only being valid when sism = TRUE, however, det_once_sec is set in ENTRY_SEC, which only happens while sism = FALSE. (I believe the intent of the limitation will be met if the definitions are changed as suggested in another, editorial, comment)

SuggestedRemedy

delete "This variable is only valid when sism is TRUE."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **78** *L* **31** # 442

Zimmerman, George CME Consulting, Aqua

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

det_once_sec TRUE and FALSE conditions don't match description, and don't reference when the variable is reset.

SuggestedRemedy

Change "FALSE: The PSE has not probed on the Secondary Alternative." to "FALSE: The PSE has not probed on the Secondary Alternative since entering the secondary state alternative diagram.", also,change "TRUE" definition, by appending "since entering the secondary state alternative diagram."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **79** *L* **25** # 156

Law, David HPE

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

Subclause 33.2.5.9 'Type 3 and Type 4 variables' defines the iclass_lim_det as a '... variable indicating if any IClass measured by the PSE during do_classification is invalid or equal to or greater than IClass_LIM min ...'. Based on this isn't this a variable output by the do_classification and as such should be listed as part of the definition of the do_classification found in subclause 33.2.5.11 'Type 3 and Type 4 functions' along with the other variables listed after the text 'This function returns the following variables:'. Similar issues exist with the iclass_lim_det_pri and iclass_lim_det_sec variables.

SuggestedRemedy

Suggest that:

[1] The iclass_lim_det variable definition should be moved in to the do_classification variable list.

[2] The iclass_lim_det_pri variable definition should be moved in to the do_classification_pri variable list.

[3] The iclass_lim_det_sec variable definition should be moved in to the do_classification_sec variable list.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **80** *L* **34** # 444

Zimmerman, George CME Consulting, Aqua

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

"This optional variable" - the variable can't be optional, otherwise the state diagram is undefined on the arcs that use it. There are arcs which use both true and false of this variable to exit IDLE in the secondary SISM - it is unclear what is intended if the variable is not present.

SuggestedRemedy

Change "this optional variable" to "this variable". If necessary, define what the value is supposed to be considered as if the option were not implemented, or define another variable to clarify the arcs.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **81** *L* **3** # 234

Picard, Jean — Texas Instruments

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

1) pd_cls_4PID_xx (used in state diagram) are missing.
2) The "pd_cls_4Ptype_xx" name does not clearly represent what this variable is about, which is 4PID.
3) If the PSE decides to use the staggered detection, the pd_cls_4PID_xx will never be set, since the main SD does not care about the state of this variable (if sec is already powered, it becomes obvious that it is 4P capable). So, we canNOT state that the state of this variable unilaterally means if it is 4P capable or not (or that it is Type 3-4 or not), it is just the result of a very specific test method (3-finger class and parallel detection).

SuggestedRemedy

Remove pd_cls_4Ptype_pri and pd_cls_4Ptype_sec from list of variables.

Insert the following definitions:
pd_cls_4PID_pri:
This variable indicates 4PID and Type 3 or Type 4 dual-signature PD has been established by using the method to generate 3 class events on the Primary Alternative.
TRUE: PD is a candidate for 4-pair power.
FALSE: PD not a candidate for 4-pair power OR the PSE has not used the method to determine 4P capability by generating 3 class events.

pd_cls_4PID_sec:
This variable indicates 4PID and Type 3 or Type 4 dual-signature PD has been established by using the method to generate 3 class events on the Secondary Alternative.
TRUE: PD is a candidate for 4-pair power.
FALSE: PD not a candidate for 4-pair power OR the PSE has not used the method to determine 4P capability by generating 3 class events.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **81** *L* **38** # 335

Yseboodt, Lennart — Philips

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

"pd_cls_4Ptype_pri" and "pd_cls_4Ptype_sec" have lowercase type

SuggestedRemedy

Change to:
"pd_cls_4PType_pri" and "pd_cls_4PType_sec" in variable list and state diagram.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **84** *L* **12** # 336

Yseboodt, Lennart — Philips

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

"pse_ss_mode will be re-evaluated once"
The behaviour in the statediagram of the re-evaluation should be decoupled from the explanation of the variables.

SuggestedRemedy

Change to:
"pse_ss_mode will be re-evaluated"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.9** *P* **84** *L* **12** # 445

Zimmerman, George — CME Consulting, Aqua

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

pse_ss_mode_update needs a way to be reset, otherwise it creates a loop/race-condition in POWER_ON

SuggestedRemedy

Insert "pse_ss_mode_update is set to FALSE after pse_ss_mode is evaluated in POWER_ON." after "A control variable that is used to cause the PSE to re-evaluate to value of pse_ss_mode if it is in the POWER_ON state.". Modify state diagram (Fig 33-15, pg 95) POWER_ON state to insert "pse_ss_mode_update <= FALSE" after if-then-else constructions. (note - presentation may be provided - this might not be the right fix, need time to think).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.10** *P* **85** *L* **53** # 157

Law, David — HPE

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

Suggest that there should be a specific reference to which time is Table 33–9 is being referenced. This would align this timer definition with the others in this subclause.

SuggestedRemedy

Suggest that 'See Table 33–9.' should be changed to read 'See Tcc2det in Table 33–9.'

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.10** *P* **86** *L* **4** # 337

Yseboodt, Lennart — Philips

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

tclass_reset_timer is not used in any statediagram

SuggestedRemedy

Remove timer variable "tclass_reset_timer"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **88** *L* **4** # 159

Law, David — HPE

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

Suggest that a more detailed explanation of 'Functions references appended with "_done" indicate that the function has completed and returned its variables' be provided such as when this viable is set to FALSE.

SuggestedRemedy

Suggest that the first sentence of subclause 33.2.5.11 be changed to read:

The variable formed by the function name appended with "_done" is used to indicate when the function has completed. This variable is set to FALSE when the function is called and is set to TRUE once the function is complete and its output variables are valid.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.11** *P* **88** *L* **11** # 81

Darshan, Yair — Mirosemi

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

(TDL #54 D2.1)
The pd_autoclass term is never ready by the state diagram.

SuggestedRemedy

If not resolved yet for D2.2, keep it in the TDL.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **92** *L* **1** # 284

Stover, David — Linear Technology

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

TDL 2.1: Add Autoclass power measurement to SDs.

SuggestedRemedy

See stover_01_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **92** *L* **1** # 338

Yseboodt, Lennart — Philips

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

Classification state diagrams to be updated to get rid of class_num_events and implement class probing.

SuggestedRemedy

Adopt yseboodt_01_0117_classification.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **92** *L* **3** # 246

Schindler, Fred — Seen Simply, Cisco, T

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

Four unlabeled state entry values are shown on lines state IDLE (bock label was IDLE) , START_CXN_CHK (was B), START_DETECT (was C) and SISM_START (was G). Also see page 146 State INRUSH is entered by an unlabeled input.

This seems to be a new approach used to reduce space consumed in the state diagrams. The empty box is a problem for anyone trying to evaluate connections to a specific state.

SuggestedRemedy

For all state diagrams,

Option-1
Place the source state name in the state-entry box.

Option-2
Create a table, in the state diagram section, that lists all states with an unlabeled entry condition. In the table list all states that enter the called-out state.

ex/

State Entered	Exit state
START_CXN_CHK	DETECT_EVAL

The Task Force should also determine whether Clause 33 needs to add text clarifying the new approaches taken when documenting behavior. Any required text should be provided as part of this comment resolution.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **92** *L* **12** # 160

Law, David — HPE

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

The use of conditions such as 'IF' is defined in subclause 1.2, the addition of ELSE to the construct is defined in IEEE Std 802.3-2015 Table 21–1 although I think that was more as a valid transition qualifier rather than part of an IF statement (see IEEE Std 802.3-2015 subclause 21.5.3, item e), the addition of END to the construct isn't defined. Suggest that the IF-THEN-ELSE-END construct be locally defined in subclause 33.2.5.2 .

SuggestedRemedy

Suggest that the following definition be added to subclause 33.2.5.2:

Some states in the state diagrams use an IF-THEN-ELSE-END construct to condition which action are taken with the state. If the logical expression associated with the IF evaluates true all the actions listed between THEN and ELSE will be executed. In the case where the ELSE is omitted, the actions listed between THEN and END will be executed. If the logical expression associated with the IF evaluates true false the actions listed between ELSE and END will be executed. After executing the actions listed between THEN and ELSE, between the THEN and END, or between the ELSE and END, the actions following the END, if any, will be executed.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **92** *L* **43** # 161

Law, David HPE

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

The variables do_detect_pri_done and do_detect_sec_done, used for example to qualify some of the transitions out of the START_DETECT state of Figure 33–15 'Type 3 and Type 4 top level PSE state diagram' are not defined. Suggest that these variables should be added to the variables returned by the do_detect_pri and do_detect_sec functions respectively. A similar issue exits with the do_detection_done variable used in Figure 33–13 'Type 1 and Type 2 PSE state diagram'.

SuggestedRemedy

Suggest that

[1] In subclause 33.2.5.11 'Type 3 and Type 4 functions' add to the end of the list of variables returned by the do_detect_pri function (page 90, line 47) the following:

do_detect_pri_done: This variable indicates if the detection function is complete and if the other variables returned by this function are valid.
TRUE: Detection complete and the other variables returned by this function are valid.
FALSE: Detection incomplete and the other variables returned by this function are not yet valid.

[2] In subclause 33.2.5.11 'Type 3 and Type 4 functions' add to the end of the list of variables returned by the do_detect_sec function (page 91, line 47) the following:

do_detect_sec_done: This variable indicates if the detection function is complete and if the other variables returned by this function are valid.
TRUE: Detection complete and the other variables returned by this function are valid.
FALSE: Detection incomplete and the other variables returned by this function are not yet valid.

[3] In subclause 33.2.5.6 'Type 1 and Type 2 functions' add to the end of the list of variables returned by the do_detection function (page 72, line 36) the following:

do_detection_done: This variable indicates if the detection function is complete and if the other variables returned by this function are valid.
TRUE: Detection complete and the other variables returned by this function are valid.
FALSE: Detection incomplete and the other variables returned by this function are not yet valid.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **92** *L* **51** # 162

Law, David HPE

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

The conditions equation for the transition from CXN_CHK_EVAL to IDLE should be placed near the exit from the CXN_CHK_EVAL state before the arrow from SISM_START. With the current position of the equation it isn't clear that it doesn't apply to the transition from SISM_START to IDLE.

SuggestedRemedy

Move the conditions equation for the transition from CXN_CHK_EVAL to IDLE to near the exit from the CXN_CHK_EVAL state.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **94** *L* **28** # 290

Stover, David Linear Technology

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

Hanging open paren in transition between DETECT_EVAL and START_DETECT: "(pse_alternative = both) * ("

SuggestedRemedy

Move open paren down to next line

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **94** *L* **38** # 247

Schindler, Fred Seen Simply, Cisco, T

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

The Type 3 and 4 state diagram (page 94) and text do not match the behavior for the processing time of the tdbo_timer cover in text on page 109 line 21, because an incomplete fix was made to create this draft. This comment is related to D2.1 TDL 112.

SuggestedRemedy

For the DETECT_EVAL exit path that is shared by the BACKOFF state exit path add the following term which enables the optional behavior.

“+ (pse_alternative = b) * ((sig_pri=open_circuit)*optional_tdbo_omit)”

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **95** *L* **7** # 295

Stover, David — Linear Technology

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

CLASS_EVAL checks for ted_timer_done. However, ted_timer from dual-signature state arcs is not checked. Implication is that PSE may error_delay/remove power from dual-signature PD and power single-signature PD before T_ED.

SuggestedRemedy

Change xition from CLASS_EVAL to POWER_UP
From: "ted_timer_done * …"
To: "ted_timer_done * ted_timer_pri_done * ted_timer_sec_done * …"

Change xition from CLASS_EVAL to POWER_DENIED
From: "ted_timer_done + …"
To: "!ted_timer_done + !ted_timer_pri_done + !ted_timer_sec_done + ..."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **95** *L* **9** # 163

Law, David — HPE

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

In the POWER_UP state in Figure 33–15 'Type 3 and Type 4 top level PSE state diagram (continued)' alt_pwrd_pri is set to TRUE as a result of the IF statement evaluating true or false. Based on this alt_pwrd_pri is set TRUE regardless so should be oved out of the IF-THEN-ELSE-END statement and simply be set TRUE by this state. This would also remove the ELSE portion of this IF-THEN-ELSE-END statement.

SuggestedRemedy

Suggest that the actions in the POWER_UP state be changed to read:

alt_pwrd_pri <= TRUE
IF (pse_alternative = both) * (pse_ss_mode = 1) + (pd_allocated_pwr > 4) THEN
  alt_pwrd_sec <= TRUE
END

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **95** *L* **26** # 310

Yseboodt, Lennart — Philips

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

pse_ss_mode_update is not set to False in POWER_ON
(editing mistake in implementing yseboodt_07_1116_2p4p.pdf).

SuggestedRemedy

add in POWER_ON:
"pse_ss_mode_update = False"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **95** *L* **31** # 311

Yseboodt, Lennart — Philips

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

There is a host of "multiple true" errors in the POWER_ON state.

SuggestedRemedy

Adopt yseboodt_03_0117_power_on_state_fix.txt

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **96** *L* **27** # 291

Stover, David — Linear Technology

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

SEMI_PWRON_PRI and SEMI_PWRON_SEC bypass POWER_DENIED, which is inconsistent with behavior of "!power_available" out of POWER_ON state.

SuggestedRemedy

See stover_02_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **96** *L* **28** # 299

Stover, David — Linear Technology

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

In "yseboodt_03_0117_power_on_state_fix", it is proposed to collapse 3 "error" variables in single-signature PSE SD that are often used together into "error_pri", "error_sec". This is a fine idea. Let's do this for dual-signature SDs in Type 3/4 PSE SD, as well.

SuggestedRemedy

Replace "!short_det_pri * !ovld_det_pri * !option_vport_lim" with "!error_pri", "short_det_pri + ovld_det_pri + option_vport_lim" with "error_pri" in the following locations:
P96,L28; P98,L30

Perform the appropriate changes for "error_sec" in the following locations:
P96,L37; P100,L29

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **97** *L* **4** # 292

Stover, David — Linear Technology

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

Asynchronous entry arcs into IDLE_PRI, IDLE_SEC states may be true when transition is not applicable, requiring SISM SMs to be in two states (ENTRY_* and IDLE_*) simultaneously.

SuggestedRemedy

Change entry arc into IDLE_PRI from "iclass_lim_det_pri" to "sism * i_class_lim_det_pri". Repeat change for IDLE_SEC.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **98** *L* **6** # 293

Stover, David — Linear Technology

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

Conditional logic for "pd_4pair_cand<=TRUE" in CLASS_EVAL_PRI does not match 33.2.6.7. For example, do we expect "pwr_app_pri" to be true in CLASS_EVAL_PRI? Let's instead make this logic symmetric to CLASS_EVAL_SEC, which seems correct.

SuggestedRemedy

Change condional logic for "pd_4pair_cand<=TRUE" in CLASS_EVAL_PRI:
From "pd_cls_4PID_sec * (sig_sec = valid) * (sig_pri = valid) + pwr_app_pri)"
To "pd_cls_4PID_pri * (sig_pri = valid) * ((sig_sec = valid) + pwr_app_sec)"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **98** *L* **6** # 312

Yseboodt, Lennart — Philips

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

In D1.7 we decided to rename pd_cls_4PID_pri/sec to pd_cls_4PType_pri/sec.
This was done in the variable list, but not in the SD.

SuggestedRemedy

Global search and replace to make it pd_cls_4PType_pri/sec.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **98** *L* **7** # 83

Darshan, Yair — Mirosemi

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

Figure 33-16 CLASS_EVAL_PRI state:
1. pd_cls_4PID_sec doesn't exists.
2. It is primary alternative and not secondary and It has to be pd_cls_4Ptype_pri.
3. Scan for all primary drawings in the state machine and replace pd_cls_4PID_sec with pd_cls_4Ptype_pri.

SuggestedRemedy

See above.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **98** *L* **7** # 235

Picard, Jean — Texas Instruments

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

"pri" and "sec" have been interchanged at 2 locations in the following statement.
pd_cls_4PID_sec * (sig_sec = valid) * (sig_pri = valid) + pwr_app_pri

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **98** *L* **7** # 313

Yseboodt, Lennart Philips

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

The IF statement in CLASS_EVAL_PRI seems to befuddle us nearly every cycle.
The make matters worse, this Figure went from Visio to Frame during this cycle and I suspect a copy/paste mistake was made.
Note: watch out for correct parenthesis !!

SuggestedRemedy

Replace
"IF (pd_cls_4PID_sec * (sig_sec = valid) * (sig_pri = valid) + pwr_app_pri) THEN"
by
"IF (pd_cls_4PID_pri * (sig_pri = valid) * (sig_sec = valid) + pwr_app_sec) THEN"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **98** *L* **10** # 294

Stover, David Linear Technology

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

CLASS_EVAL_PRI and CLASS_EVAL_SEC check for "_done" on their respective T_ED timers. However, ted_timer from single-signature state arcs is not checked. Implication is that PSE may error_delay/remove power from single-signature PD and power dual-signature PD before T_ED.

SuggestedRemedy

Change xition CLASS_EVAL_PRI to POWER_UP_PRI
From: "ted_timer_pri_done * …"
To "ted_timer_pri_done * ted_timer_done * …"

Change xition CLASS_EVAL_PRI to POWER_DENIED_PRI
From: "!ted_timer_pri_done + …"
To: "!ted_timer_pri_done + !ted_timer_done + …"

Make appropriate changes to CLASS_EVAL_SEC.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **98** *L* **22** # 296

Stover, David Linear Technology

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

The definition of pwr_app_* includes the statement "A variable indicating that the PSE has begun steady state operation…and is not in a current limiting mode…"
Then, it is redundant and noisy to include the term "(I_Port-2P-pri >= I_Inrush-2P)" in xition logic from POWER_UP_* to ERROR_DELAY_* when we already check for "!pwr_app_*"

SuggestedRemedy

Change xition logic from POWER_UP_* to ERROR_DELAY_* (3 locations)
From: "tinrush_timer_*_done * (!pwr_app_* + (I_Port-2P-* >= I_Inrush-2P))
To: "tinrush_timer_*_done * !pwr_app_*"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **98** *L* **27** # 297

Stover, David Linear Technology

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

POWER_ON_* states are missing xition arc into ERROR_DELAY_* states.

SuggestedRemedy

Add xition arc from POWER_ON_PRI to ERROR_DELAY_PRI:
"short_det_pri + ovld_det_pri + option_vport_lim"

Make appropriate change to POWER_ON_SEC state.

Replace aforementioned logic with "error_pri", "error_sec" as appropriate, if "yseboodt_03_0117_power_on_state_fix" accepted.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **98** *L* **27** # 314

Yseboodt, Lennart Philips

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

Exit branch from POWER_ON_PRI to ERROR_DELAY_PRI is missing.

SuggestedRemedy

Add branch as shown in draft 2.1 to figure 33-16

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **98** *L* **28** # 230

Picard, Jean — Texas Instruments

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

There is a missing link from POWER_ON_PRI to ERROR_DELAY_PRI block

SuggestedRemedy

Put back the link between POWER_ON_PRI and ERROR_DELAY_PRI. The condition is short_det_pri + ovld_det_pri + option_vport_lim

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **98** *L* **43** # 298

Stover, David — Linear Technology

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

New to Frame-based dual-signature POWER_ON figures: Strange transition arrows into IDLE_PRI and IDLE_SEC pointers. For example, some transitions are missing an arrowhead.

SuggestedRemedy

Revise transition arrows into IDLE_PRI, IDLE_SEC, to reflect pre-Frame formatting.
See, for example, SEMI_PWRON_* arcs for an example of how arcs connect.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **100** *L* **6** # 233

Picard, Jean — Texas Instruments

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

Parenthesis is at wrong location in the CLASS_EVAL_SEC block for following equation.
IF (pd_cls_4PID_sec * (sig_sec = valid) * ((sig_pri = valid) + pwr_app_pri))
The first condition is applicable if the PSE does parallel detection and uses the 3-finger method to determine if 4P capable; in this case, both signatures must show valid.
The second condition is applicable if the PSE does staggered detection; if sec is already powered, it becomes obvious that it is 4P capable since we cannot reach the CLASS_EVAL_PRI unless the pri signature is valid too.

SuggestedRemedy

Replace with this:
IF ((pd_cls_4PID_sec * (sig_sec = valid) * (sig_pri = valid)) + pwr_app_pri)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **100** *L* **6** # 84

Darshan, Yair — Mirosemi

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

Figure 33-16 CLASS_EVAL_PRI state:
The logic of "(pd_cls_4PID_sec * (sig_sec = valid) * ((sig_pri = valid) + pwr_app_pri))" is incorrect. There is redundant parenthesis at the end. It should be the same construct as in the primary.

SuggestedRemedy

Change to: "(pd_cls_4PID_sec * (sig_sec = valid) * ((sig_pri = valid) + pwr_app_pri)"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **100** *L* **8** # 85

Darshan, Yair — Mirosemi

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

Figure 33-16 CLASS_EVAL_PRI state:
1. pd_cls_4PID_sec doesn't exists. It has to be pd_cls_4Ptype_sec.
3. Scan for all secondary drawings in the state machine and replace pd_cls_4PID_sec with pd_cls_4Ptype_sec.

SuggestedRemedy

See above.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **100** *L* **27** # 315

Yseboodt, Lennart — Philips

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

Exit branch from POWER_ON_SEC to ERROR_DELAY_SEC is missing.

SuggestedRemedy

Add branch as shown in draft 2.1 to figure 33-17

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **100** *L* **28** # 231

Picard, Jean — Texas Instruments

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

There is a missing link from POWER_ON_SEC to ERROR_DELAY_SEC block

SuggestedRemedy

Put back the link between POWER_ON_SEC and ERROR_DELAY_SEC. The condition is short_det_sec + ovld_det_sec + option_vport_lim

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **100** *L* **37** # 232

Picard, Jean — Texas Instruments

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

sec has been interchanged with pri in the exit condition of ERROR_DELAY_SEC block

SuggestedRemedy

Replace "ted_timer_pri_done + option_detect_ted_pri"
with this:
ted_timer_sec_done + option_detect_ted_sec

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **101** *L* **1** # 164

Law, David — HPE

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

Not sure why the single-signature classification is drawn in a separate diagram in Figure 33–18. As stated in subclause 33.2.5, the single-signature classification diagram is active when a connected PD is identified as single-signature. Based on this Figure 33–18 is not an implementation option that could be omitted dependant on the configuration of the PSE.

Due to this approach Figure 33–15 has a transition to a state CLASS_EV1_LCE that isn't part of that state diagram (page 94, line 17) and if followed to Figure 33–18 as described in subclause 33.2.5 due to a single-signature PD results in no states in the Figure 33–15 Type 3 and Type 4 top level PSE state diagram being active. Similarly for Figure 33–18 it has transition to CLASS_EVAL and IDLE which aren't part of that state diagram, and for most of the time has no state that is active.

Based on this Figure 33–18 is just a collection of related states extracted from Figure 33–15 and so should be part of Figure 33–15, and not labelled as a separate Figure.

SuggestedRemedy

Suggest that

[1] Figure 33-18 is moved to immediately after Figure 33-15.

[2] The title of Figure 33-18 be changed to 'Figure 33–15—Type 3 and Type 4 top level PSE state diagram (continued)'.

[3] The fourth paragraph of subclause 33.2.5.1.1 be deleted.

[4] The text '... in Figure 33–13, Figure 33–18, Figure 33–19 ...' in subclause 33.2.7.2 be change to read '... in Figure 33–13, Figure 33–15, Figure 33–19 ...'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.5.12** *P* **101** *L* **22** # 82

Darshan, Yair Mirosemi

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

(TDL for comment #178 and #55 , D2.1)
The PSE state machine part for single signature (Figure 33-18) 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. is missing.
This is covered by the text but not in the state machine.

SuggestedRemedy

Add to figure 33-18 the missing state machine part if available for the meeting. If not available, keep it in the TDL.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.1** *P* **105** *L* **37** # 316

Yseboodt, Lennart Philips

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

"Type 3 and Type 4 PSEs that will deliver power on both pairsets shall complete a connection check prior to the classification of a PD as specified in 33.2.7. During connection check, the PSE shall determine if both pairsets are connected to a single-signature PD configuration, a dual-signature PD configuration, or both pairsets are invalid."

These are two very similar shalls that can easily be merged.

SuggestedRemedy

"Type 3 and Type 4 PSEs that will deliver power on both pairsets shall complete a connection check prior to the classification of a PD as specified in 33.2.7 to determine if both pairsets are connected to a single-signature PD configuration, a dual-signature PD configuration, or both pairsets are invalid."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.4** *P* **108** *L* **39** # 86

Darshan, Yair Mirosemi

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

The text: "In a multiport system, the implementer should maintain DC isolation through the termination circuitry to eliminate cross-port leakage currents." is not sufficiently clear to prevent detection signature pollution due to cross-port leakage currents.

SuggestedRemedy

Option 1 (preferred):
"In a Type 1 and Type 2 PSES, in a multiport system, the implementer should maintain DC isolation through the termination circuitry to eliminate cross-port leakage currents that will affect the equivalent signature resistor value of the PD as seen by the PSE."

Type 3 and Type 4 PSEs , in a multiport system, the implementer shall maintain DC isolation through the termination circuitry to eliminate cross-port leakage currents that will affect the equivalent signature resistor value of the PD as seen by the PSE."

Option 2:
"In a multiport system, the implementer should maintain DC isolation through the termination circuitry to eliminate cross-port leakage currents that will affect the equivalent signature resistor value of the PD as seen by the PSE."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.6.7** *P* **109** *L* **33** # 28

Chabot, Craig UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PSE37a
Feature: Apply 4-pair power
Subclause: 33.2.6.7
Value/Comment: Only if a valid detection signature has been detected on both pairsets and one or more of the lettered conditions in 33.2.6.7 has been met
Status: PSE4P:M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **110** *L* **6** # 119

Johnson, Peter — Sifos Technologies

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

The phrase

"...when the PSE asserts a voltage in
the range of VClass as defined in Table 33–16 onto one or both pairset."

reads like any PSE can classify on both pairsets. Obviously, that is not true.

SuggestedRemedy

Change to:

"...when the PSE asserts a voltage in
the range of VClass as defined in Table 33–16 onto a pairset."

4-pair PSE's classifying single signature PD's must assert Vclass on "a pairset" and could redundantly do this on both pairsets. 4-Pair PSE's classifying dual siganture PD's must evaluate class per pairset.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **110** *L* **14** # 120

Johnson, Peter — Sifos Technologies

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

Following text intermixes general PSE behavior with Type-3/4 specific behavior:

"The assigned Class is the result of the PD's requested Class and the number of class events produced by the PSE as shown in Table 33–13. See 33.3.6 for PD classification behavior. When a single-signature PD requests a higher Class than a Type 3 or Type 4 PSE can support..."

Suggest breaking this into two paragraphs.

SuggestedRemedy

Suggest breaking this into two paragraphs:

"The assigned Class is the result of the PD's requested Class and the number of class events produced by the PSE as shown in Table 33–13. See 33.3.6 for PD classification behavior.

When a single-signature PD requests a higher Class than a Type 3 or Type 4 PSE can support..."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **110** *L* **52** # 317

Yseboodt, Lennart — Philips

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

Missing comma before "as defined in Table 33-27"

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **111** *L* **1** # 318

Yseboodt, Lennart — Philips

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

"If the PD connected to the PSE performs Autoclass (see 33.2.7.3 and 33.3.6.3), the PSE may set its minimum supported output power based on P Autoclass , the power drawn during Autoclass measurement window, increased by at least the margin P ac_margin calculated from the measured power by Equation (33-4), in order to account for potential increase in channel resistance due to temperature increase, with a maximum value defined in Table 33-13 of the Class assigned to the PD and a minimum of 4.0 Watt."

Autoclass is optional, however when it is implemented is must follow the minimum and maxima of that sentence.
A shall is missing.

SuggestedRemedy

"If the PD connected to the PSE performs Autoclass (see 33.2.7.3 and 33.3.6.3), the PSE may set its minimum supported output power based on P Autoclass , the power drawn during Autoclass measurement window. PAutoclass shall be increased by at least P ac_margin calculated from the measured power by Equation (33-4), in order to account for potential increase in channel resistance due to temperature increase, up to the value defined in Table 33-13 of the Class assigned to the PD, and with a minimum power allocation of Class 1. PSEs that have additional information about the actual channel DC resistance or temperature conditions may choose to use a lower Autoclass margin than that defined by Equation (33-4)."

Proposed Response *Response Status* **O**

Cl **44** *SC* **33.2.7** *P* **112** *L* **3** # 121

Johnson, Peter — Sifos Technologies

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

Table 33-13 is titled inappropriately.

"Table 33–13—Physical Layer power classifications for single-signature PDs (PClass)"

The table now applies to all PD's / PSE's including Type 1, Type 2 PSE's that know nothing of "single signature".

SuggestedRemedy

Re-title as:

"Table 33–13—Physical Layer power classifications"

Also, suggest adding the footnote designations to Table 33-13 headings:

Number of PSE class events (3)
PClass (1)
PClass-2P (2)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **112** *L* **4** # 319

Yseboodt, Lennart — Philips

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

header "Table 33-13--Physical Layer power classifications for single-signature PDs (PClass)" is not only containing PClass anymore.

SuggestedRemedy

Change to:
"Table 33-13--Physical Layer PD classifications"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **112** *L* **14** # 320

Yseboodt, Lennart — Philips

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

Table 33-13, several rows can be merged now. Goal is to have only a single occurance for each Assigned Class.

For Type 1/2:
Row 3 | 1 | 3 and 4 | 1 | 3 can be merged

For Type 3/4 connected to single-signature.
The rows with requested Class 0 and "3 to 8" can be merged into the "3 to 8".

SuggestedRemedy

Type 1/2
- Merge row 3 | 1 | 3 and 4 | 1 | 3 into "3, 4" | 1 | 3

Type 3/4 Single sig
- Merge row 0 | 1 | 3 and "3 to 8" | 1 | 3 into "0, 3 to 8" | 1 | 3

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **112** *L* **16** # 321

Yseboodt, Lennart — Philips

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

Table 33-13, Type 1/Type 2, Request=4, Class events=1 claims the assigned Class is 3. This should be 0 per legacy text.

SuggestedRemedy

Change 3 to 0 for Assigned Class the row "4 / 1 / 3 / 15.4W"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **112** *L* **44** # 322

Yseboodt, Lennart — Philips

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

The notes below Table 33-13 are not aligned with the Table boundary.

SuggestedRemedy

Change the cell left/right margin to zero for the note cell.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **113** *L* **5** # 131

Jones, Chad Cisco

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

this topic again, I know…
"Data Link Layer classification takes precedence over Physical Layer classification."
The problem is this sentence leaves the max allowed power open to interpretation. There cannot be an interpretation - the text has to state the behavior. Read that sentence and tell me how it says what we intend the standard to say.

SuggestedRemedy

change to:
Data Link Layer classification takes precedence over Physical Layer classification but is less than or equal to the power the PSE is capable of assigning on the Physical Layer under normal operation.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **113** *L* **9** # 323

Yseboodt, Lennart Philips

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

Table 33-14 is not very clear that the first two columns are for single-signature and the other two columns are for dual-signature.
Also, make Assigned Class for dual-sign. more explicit.

SuggestedRemedy

Add row on top with two fields, first cell is named "single-signature" and spans first two columns, second cell is named "dual-signature" and spans last two columns.

Add "for Mode M" to "Assigned Class" for dual-signature.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **113** *L* **10** # 122

Johnson, Peter Sifos Technologies

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

Table 33-14 seems a bit redundant. It has two columns for PSEAllocatePowerValue and two additionally columns for PSEAllocatedPowerValue_mode(M). All of the relationships are the same for the dual signature case.

SuggestedRemedy

Column 1 could be "PSEAllocatedPowerValue or PSEAllocatedPowerValue_mode(m)" and a footnote added "PSEAllocatedPowerValue_mode(m) can only take on values for Assigned Class 1 through 5."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **113** *L* **10** # 324

Yseboodt, Lennart Philips

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

"Assigned Class" header in column for dual-signature is the same name as column 2. Can cause confusion.
It would also be better to make single/dual signature explicit.

SuggestedRemedy

Change to:
"Assigned Class for Mode M"

Add row on top with two cells, first cell "single-signature" and spans first two columns, second cell "dual-signature" and spans final two columns.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **113** *L* **19** # 339

Yseboodt, Lennart Philips

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

PSEAllocatedPowerValue_mode(M) has field "256 to 400" has to limited range.
This should be 999 divided by 2, thus 499

SuggestedRemedy

Change to "256 to 499"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **113** *L* **50** # 132

Jones, Chad Cisco

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

PICS PSE48 (pg 213, ln 47) applies to only Type 3 and 4 PSEs. The shall from the text is: "When connected to a dual-signature PD, the PSE shall treat the requested power over each pairset independently."
Seems the PICS editor got it right that this only applies to Type 3 and 4 PSEs. Need to make the text reflect this.
additionally, this applies only when operating in 4P mode.

SuggestedRemedy

change to "When connected to a dual-signature PD, the Type 3 PSE operating over 4-pairs or Type 4 PSE shall treat the requested power over each pairset independently."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.1** *P* **114** *L* **8** # 133

Jones, Chad Cisco

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

Page 110, line 10 states: "Polarity shall be the same as defined for VPort_PSE-2P in 33.2.4 and timing specifications shall be as defined in Table 33–16."
Page 114, line 8 states: "Polarity shall be the same as defined for VPort_PSE-2P in 33.2.4 and timing specifications shall be as defined by Tpdc in Table 33–16."
Two identical shalls (actually four). Also leads to two pairs identical PICS in 33.2.7 (PSE40, 41) and 33.2.7.1 (PSE50, 51)

SuggestedRemedy

delete the shall on page 114 line 8, delete PSE50, delete PSE51.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.2** *P* **115** *L* **5** # 340

Yseboodt, Lennart Philips

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

"Type 3 and Type 4 PSEs that require more class events for mutual identification than the available power allows may issue a class reset event after performing mutual identification."

Use comma after "allows" for better readability.

SuggestedRemedy

Add comma.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.2** *P* **115** *L* **20** # 29

Chabot, Craig UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PSE59a
Feature: Class events for Type 1 and Type 2 PSEs
Subclause: 33.2.7.2
Value/Comment: Issue no more than the class they are capable of supporting
Status: PSET1:M PSET2:M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.2** *P* **115** *L* **20** # 134

Jones, Chad Cisco

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

"Type 1 and Type 2 PSEs shall issue no more class events than the Class they are capable of supporting". There is no PICS associated with this shall.

SuggestedRemedy

add new PICS to 33.7.3.2

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7** *P* **115** *L* **20** # 341

Yseboodt, Lennart Philips

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

"Type 1 and Type 2 PSEs shall issue no more class events than the Class they are capable of supporting."

This is a new requirement (+ new PICS) for Type 1 and Type 2.
Since this behavior is already guaranteed by the legacy state diagram, there is no need for this shall.

SuggestedRemedy

Remove quoted text.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.2** *P* **115** *L* **21** # 30

Chabot, Craig UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PSE59b
Feature: Class events for Type 3 and Type 4 PSEs
Subclause: 33.2.7.2
Value/Comment: Issue no more 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 any of the power up states
Status: PSET3:M PSET4:M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.2** *P* **115** *L* **21** # 135

Jones, Chad Cisco

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 21 between the most recent time VPSE was at VReset for at least TReset and a transition to any of the power up 22 states." There is no PICS associated with this shall.

SuggestedRemedy

add new PICS to 33.7.3.2

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.2** *P* **115** *L* **22** # 342

Yseboodt, Lennart Philips

Comment Type **T** *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 any of the power up states."

"at VReset" is not the usual way to refer to this.

SuggestedRemedy

Change to:
"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 in the range of VReset for at least TReset and a transition to any of the power up states."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.7.3** *P* **117** *L* **17** # 446

Zimmerman, George CME Consulting, Aqua

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

Is autoclass mandatory or optional for the Type 3 and Type 4 PSE? Line 23 gives permission to implement autoclass ("may implement"), whereas the (text deleted from draft 2.1 to 2.2) in line 27 make measuring Pautoclass mandatory for a PSE when connected to a PD which requests it. "shall measure... when pd_autoclass is TRUE"

SuggestedRemedy

Reinstate "If the PSE implements Autoclass" (line 27) or change the "may implement an extension" (line 23) to "shall implement..."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **118** *L* **24** # 343

Yseboodt, Lennart Philips

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

Table 33-18
Both the construction "per the assigned Class" and "per the Class assigned to the PD" are in use.
Good, we`re down to two.

SuggestedRemedy

Replace all of these by "per the assigned Class" in Table 33-18.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **118** *L* **36** # 344

Yseboodt, Lennart Philips

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

Table 33-18, item 4, Ripple and Noise has no Symbol name.
So sad.

SuggestedRemedy

Name it V_Noise

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **118** *L* **44** # 2

Abramson, David Texas Instruments

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

Table 33-18, Item 5. Values for Class 5-8 should depend on VPSE, just as Icon depends on VPSE.
I have calculated the power constants for my suggested remedy using the worst case VPSE for a given class and the Icon-2p-unb values currently in the table.

SuggestedRemedy

Replace the values for Item 5 as follows:
Class 0 to 4: Leave as is
Class 5: Replace 0.550 with 27.5/VPSE
Class 6: Replace 0.682 with 34.1/VPSE
Class 7: Replace 0.777 with 40.4/VPSE
Class 8: Replace 0.925 with 48.1/VPSE

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **119** *L* **36** # 345

Yseboodt, Lennart Philips

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

Table 33-18, item 9, add info has a reference colored green.

SuggestedRemedy

Change character tag to normal.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **120** *L* **7** # 346

Yseboodt, Lennart Philips

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

Table 33-18, item 12, TLIM-2P.
Change to legacy requirement.

We have changed TLIM-2P into a Class-dependent parameter.
Whereas in the 2015 spec, a Type 2 PSE has a minimum of 10ms regardless of Class, now it must support 50ms minimum of it assigns Class 0-3.

SuggestedRemedy

Do we break anything if we turn this into a Type based parameter ? TFTD.

Change to:
Parameter "Short circuit time limit per pairset"
Symbol <unchanged>
Unit <unchanged>
Min:
50.0 for PSE Type 1
10.0 for PSE Type 2, 3
6.0 for PSE Type 4
Max: <unchanged>
Add info: <unchanged>

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **120** *L* **7** # 87

Darshan, Yair Mirosemi

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

This comment is marked TLIM-2P.
It doesn't make sense that TLIM-2P will be changed per the assigned class.
Examples:
If PSE is type 4 which need only to meet TLIM-2P=6msec, when connected to Type 3 assigned class 1 in case of faulty PD, will have now to endure 50msec of TLIM-2P. This is high stress on PSE for no reason.

SuggestedRemedy

Change from: "Short circuit time limit per pairset, per the Class assigned to the PD"
To:
Option 1: "Short circuit time limit per pairset, per the Class required by the PD"
Option 2: "Short circuit time limit per pairset" and merge the parameter column to "Single-signature all classes" and Dual-signature all classes" [In order that PSE will set TLIM-2P only per its Type].

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **120** *L* **9** # 347

Yseboodt, Lennart Philips

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

Table 33-18, Item 12 has "See Info" in the maximum, but no description in the Additional information column. Looking at Figures 33-27 through 33-29 it is allowed for the PSE to maintain the short circuit current Ilim-2P indefinitely. That would suggest there is no meaningful maximum for Tlim-2P.

SuggestedRemedy

- Remove "See Info"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8** *P* **121** *L* **10** # 348

Yseboodt, Lennart Philips

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

Table 33-18, item 22, Iunb.
Looks horrible, doesn`t fit the table.

SuggestedRemedy

Since this is not numerical in nature, we better move it off completely to subsection 33.2.8.12.
Do:
- REMOVE item 22 from Table 33-18
- Replace first paragraph of 33.2.8.12:
"The PSE shall support an intra-pair current unbalance of I unb, as defined in Equation 33-22a.
The intra-pair current unbalance is the current unbalance between the two conductors for a power pair over the current load range."

- Insert Equation 33-22a after first paragraph of 33.2.8.12:

I_unb = { 3% x ICable for Type 1

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.2** *P* **121** *L* **54** # 447

Zimmerman, George CME Consulting, Aqua

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

"VPort_PSE_diff, as defined in Table 33-23, is the maximum voltage...between pairs" doesn't say where it is measured.

SuggestedRemedy

insert "at the PSE PI" after "between pairs"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **122** *L* **25** # 1

Abramson, David Texas Instruments

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

Section 33.2.8.5 can be reordered to be much more clear.

SuggestedRemedy

See abramson_01_0117.pdf for changes.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **122** *L* **26** # 248

Schindler, Fred — Seen Simply, Cisco, T

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

The text in this section can be improved. The existing sentence,

"For Type 1 and Type 2 PSEs, IPort-2P is defined in 33.2.5.4. For Type 3 and Type 4 PSEs, IPort-2P and
IPort-2P-other are the currents on the pairs with the same polarity of the two pairsets and are defined in Equation (33–5) and in Equation (33–6)."

The reference for the Iport-2P definition references 33.2.5.4 where the reader must scroll to locate Iport-2P on the next page, p68. This point then references 33.2.8.7, which is on page 127. There seems to be a stealth definition for Iport-2p in the first sentence,

"If IPort-2P, the current supplied on a pairset by the PSE to the PI, exceeds ICUT-2P for longer than TCUT-2P, the PSE may remove power from that pairset."

This definition covers all Types but the text originally referenced indicates that Type 3 and 4 are defined by equations 33-5 and 33-6.

SuggestedRemedy

Replace the original referenced text with,

"IPort-2P is the current supplied on a pairset by the PSE to the PI. For Type 3 and Type 4 PSEs, IPort-2P and IPort-2P-other are the currents on the pairs with the same polarity with values defined in Equation (33–5) and in Equation (33–6), respectively."

On page 68 line 13, replace the existing definition,

"IPort-2P
Output current (see 33.2.8.7)."

With
"IPort-2P
is the current supplied on a pairset by the PSE to the PI."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **122** *L* **29** # 250

Schindler, Fred — Seen Simply, Cisco, T

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

The word "total" is used to mean A + B but could also mean what is on A or B. A better word for A + B is "combined." This existing text is confusing because currents on both conductors of a pairset are also combined. The solution provided uses combined and pairset to improve clarity. This method of use appears in sentences,

p122 l28
"IPort is the total current on both pairs with the same polarity and is defined in Equation (33–7)."

p123 l23
"ICon is the total current of both pairs with the same polarity .."

p123 l25
"IPeak is the total current of both pairs with the same polarity …"

SuggestedRemedy

Replace "total" in the called out sentences with "combined", and replace "pairs" with "pairset".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **122** *L* **43** # 249

Schindler, Fred — Seen Simply, Cisco, T

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

The text in this section can be improved. The existing sentence,
“IPort-2P-pri is the output current sourced by the Primary Alternative, defined in 33.2.5.9
IPort-2P-sec is the output current sourced by the Secondary Alternative, defined in 33.2.5.9”

The reference to 33.2.5.9 takes the reader to a point where they need to scroll to page 80 for a definition that references the section that started this quest (a circular reference).

“IPort-2P-pri
Total output current sourced by Primary Alternative (see 33.2.8.5).
IPort-2P-sec
Total output current sourced by Secondary Alternative (see 33.2.8.5).”

This text does not expand on what is already present in the text referring to this section. The definition also does not provide guidance on what Primary Alternative is.

A helpful definition for Primary and Secondary appears on p66 lines 46 -50 of section 33.2.5.1.1:

“In the Type 3 and Type 4 state diagram, Alternative A and Alternative B are depicted as serving distinct
roles during 4-pair operation. In any implementation, the behaviors of the Alternatives may be reversed as long as the roles are established in IDLE and shall be maintained in every other state. In the state diagram, the alternatives are named the Primary Alternative and the Secondary Alternative.”

SuggestedRemedy

Add the following after the sentence on page 122 line 30,
“The definition for Primary and Secondary Alternative is defined in 33.2.5.1.1."

Replace the called out original sentence with.
“IPort-2P-pri is the output current sourced by the Primary Alternative
IPort-2P-sec is the output current sourced by the Secondary Alternative”

Replace the definitions on page 80 line 1 with,
“IPort-2P-pri
The output current sourced by the Primary Alternative (see 33.2.8.5).
IPort-2P-sec
The output current sourced by the Secondary Alternative (see 33.2.8.5).”

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **123** *L* **3** # 124

Johnson, Peter — Sifos Technologies

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

Present text says:

"where
PClass is PClass as defined in Table 33–13
PClass-2P is PClass-2P as defined in Table 33–13"

But Pclass is defined more broadly by EQ 33-2 and PClass-2P by EQ 33-3.

SuggestedRemedy

Revise to:

"where
PClass is PClass as defined in Equation (33-2)
PClass-2P is PClass-2P as defined in Equation (33-3)"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **123** *L* **21** # 125

Johnson, Peter — Sifos Technologies

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

Present text is a bit vague about definitions of Ipeak-2P and Ipeak.

"The PSE shall support the AC current waveform parameter IPeak-2P, defined in Equation (33–14), while within the operating voltage range of VPort_PSE-2P, for a minimum of TCUT-2P and a duty cycle of at least 5%".

First, it should be explained that Ipeak-2P is a pairset current and applies to all powered pairsets.

Next, it

SuggestedRemedy

Add the qualifier for powered pairset:

"The PSE shall support the AC current waveform parameter IPeak-2P, defined in Equation (33–14), on each powered pairset, while within the operating voltage range of VPort_PSE-2P, for a minimum of TCUT-2P and a duty cycle of at least 5%."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **123** *L* **25** # 448

Zimmerman, George — CME Consulting, Aqua

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

"IPeak is the total current of both pairs with the same polarity that a PSE supports, as defined in Equation (33–10), when powering either in 2-pair or 4-pair powering a single-signature PD." the notion of "both pairs with the same polarity" doesn't make much sense when powering in 2-pair...

SuggestedRemedy

change "of both" to "of the powered" (pairs with the same polarity).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **123** *L* **25** # 126

Johnson, Peter — Sifos Technologies

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

Present text is a bit vague about definitions of Ipeak-2P and Ipeak. Ipeak defined as if it applies only to 4-pair PSE's.

"IPeak is the total current of both pairs with the same polarity that a PSE supports, as defined in Equation (33–10), when powering either in 2-pair or 4-pair powering a single-signature PD. IPeak-2P-unb is the minimum current due to unbalance effects that a PSE supports on a pairset, as defined by Equation (33–11), when powering a single-signature PD over 4-pair."

SuggestedRemedy

Revise this paragraph to the following two paragraphs:

"IPeak, as defined in Equation (33–10), is the combined current of all powered pairsets needed to deliver Ppeak_PD to a PD given loop resistance Rchan. It is applicable to a PSE powering 2 pair and to a PSE powering 4 pair to a single signature PD.

IPeak-2P-unb, as defined by Equation (33–11), is the minimum pairset current needed to deliver Ppeak_PD over 4 pair, to a single signature PD, in order to overcome pair-to-pair unbalance effects."

Move the second of these paragraphs to just before Equation 33-11.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **123** *L* **37** # 251

Schindler, Fred — Seen Simply, Cisco, T

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

Existing text usage may confuse the new reader because incomplete information is provided.

Line 37 and line 47 both cover a quantity.
“PPeak_PD is the total peak power a PD may draw for its Class; see Table 33–30”

“IPeak is the total peak current a PSE supports per Equation (33–10)”

Since there is only one PD the word “total” may be removed from the first sentence. The second sentence assumes the reader is aware that each pairset provides current that is combined to give a total quantity being defined.

SuggestedRemedy

Delete “total” in the first sentence called out. Replace the second sentence with,

“IPeak is the combined peak current for each pairset a PSE supports per Equation (33–10)”

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **124** *L* **1** # 136

Jones, Chad — Cisco

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

Kipeak is defined for Classes 5-8, and it is my understanding this is for 4P powering. But we have defined new Type 3 Class 1-4 4P modes. Why don't we have curvefit values for classes 1-4 in EQ 33-12?

SuggestedRemedy

provide the curvefit values for Class 1-4 in EQ 33-12

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **124** *L* **13** # 127

Johnson, Peter — Sifos Technologies

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

The following phrase includes the value judgement "worst case" and might better explain why it is provided in the first place.

"The worst case value of IPeak-2P-unb is IPeak-2P-unb_max which is defined by Equation (33–13)."

SuggestedRemedy

Alter this sentence to:

"For all values of Ipeak and Rchan-2P, the maximum possible value for Ipeak-2P_unb is bounded by Equation (33–13)."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5** *P* **124** *L* **32** # 252

Schindler, Fred — Seen Simply, Cisco, T

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

The word “total” is used when it does not have to be. This occurs on,

p124 l32
“IPeak is the total peak current a PSE supports per Equation (33–13)”

p124 l40
“PPeak_PD-2P is the total peak power a dual-signature PD may …”

p125 l1
“and will be higher than ICon/2. ICon-2P-unb applies for total channel common mode pair resistance”

p163 l8
“The total PD inrush time duration is …”

p163 l34
“CPort in Table 33–30 is the total PD input capacitance …”

p169 l26
“…effect of the total system pair to pair voltage …”

p245 l16 and on p246 l35
“Total energy consumed at the port or pairset …”

p257 l24
“Therefore, the total Port output impedance …”

p263 l24
“ICon-2P-unb and Equation (33–15) are specified for total channel common mode pair resistance …”

p115 l30
“The total timing specification for Type 3 and Type 4 PSEs in the states …”

SuggestedRemedy

Remove the word “total” from the referenced sentences and have the Editor ensure correct capitalization as appropriate when making these changes.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5.1** *P* **124** *L* **43** # 288
Stover, David Linear Technology

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

TDL 2.1: System Unbalance Requirements

SuggestedRemedy

See paul_01_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5.1** *P* **124** *L* **43** # 280
Stewart, Heath Linear Technology

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

During discussions in San Antonio it was generally agreed that PSE unbalance requirements can best be addressed by:
1) Moved RPSE style requirements from the main body of clause 33 to annex 33B
2) Promoting 33B.4 to the main body of clause 33
3) Removing shalls from remainder of Annex 33B

SuggestedRemedy

See paul_01_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5.1** *P* **124** *L* **44** # 88
Darshan, Yair Mirosemi

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

(TDL #162 from D2.1)
Move normative requirements from Annex 33B into main body of standard. Make Annex 33B informative.

SuggestedRemedy

See Darshan_01_0117.pdf for proposed remedy.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5.1** *P* **124** *L* **45** # 349
Yseboodt, Lennart Philips

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

"This section describes unbalance requirements for Type 3 and Type 4 PSEs that operate over 4-pair."

We don`t use the word section. We also need a bit of an intro to this section.

SuggestedRemedy

"Type 3 and Type 4 PSEs that operate over 4-pair are subject to unbalance requirements."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5.1** *P* **125** *L* **2** # 89
Darshan, Yair Mirosemi

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

In the text "ICon-2P-unb applies for total channel common mode pair resistance from 0.2 ohm to RCh." It has to be "Rchan-2P" and not "Rch".

SuggestedRemedy

Change text to: "ICon-2P-unb applies for total channel common mode pair resistance from 0.2 ohm to Rchan-2P."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.5.1** *P* **125** *L* **11** # 90
Darshan, Yair Mirosemi

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

Currently, PSE unbalanced requirements for class 6 and 8 extended power are not define and therefore interoperability between PD that wants it to a PSE that want to support it is not guaranteed.

SuggestedRemedy

Addopt darshan_03_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.6** *P* **125** *L* **44** # 350

Yseboodt, Lennart Philips

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

Equation 33-16 uses on the third line a dot for multiplication, should be x.

SuggestedRemedy

Change dot to x.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.6** *P* **126** *L* **15** # 351

Yseboodt, Lennart Philips

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

"t0+1ms" is missing spaces.

SuggestedRemedy

Change to: "t0 + 1 ms"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.7** *P* **127** *L* **18** # 253

Schindler, Fred Seen Simply, Cisco, T

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

Existing text usage may confuse the new reader because incomplete information is provided.

“The right side vertical axis in Figure 33–28 and Figure 33–29 indicates the total current when a Type 3 or Type 4 PSE supplies power to a single-signature PD over 4-pair.”

The sentence assumes the reader is aware that each pairset provides current that is combined to give a total quantity being defined.

SuggestedRemedy

Replace the called out sentence with,

“The right side vertical axis in Figure 33–28 and Figure 33–29 indicates the combined pairset current when a Type 3 or Type 4 PSE supplies power to a single-signature PD over 4-pair.”

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.8** *P* **127** *L* **40** # 352

Yseboodt, Lennart Philips

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

"Editor's Note: Figures 33-27 through 33-29 (POWER_ON operating template) have been redrawn to better fit the page (wider, but less high). No technical changes to these figures compared to D2.0."

SuggestedRemedy

Remove note.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.8** *P* **128** *L* **12,3** # 238

Picard, Jean Texas Instruments

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

ILIM has disappeared from figures 33-28 and 33-29. Comment 221 of last comment cycle was about writing it correctly, not to delete it.

SuggestedRemedy

Put back ILIMmin

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.13** *P* **131** *L* **14** # 123

Johnson, Peter — Sifos Technologies

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

As described in the referenced 33.2.8.13:

"PType min is the minimum power a PSE is capable of sourcing."

So according to Table 33-18, item 13, that is 15.4W for Type 1 and 3, 30W for Type-2, and 90W for Type-4. But this is not techically correct. Pclass in 33.2.7 is described as

"The minimum power output a PSE supports for a particular PD Class.."

and there is a similar definition for Pclass-2P.

SuggestedRemedy

This can be remedied in 33.2.8.13 as follows:

"PType min is the minimum power that a PSE supplying Vport_PSE_2P(min) is capable of sourcing."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.8.13** *P* **131** *L* **15** # 137

Jones, Chad — Cisco

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

"calculated with any sliding window with a width up to 4 seconds". This statement doesn't have a minimum. Implies my window width could be 1ps…

SuggestedRemedy

give a minimum. Change to: "calculated with any sliding window with a width up to 4 seconds but at least 1 second wide."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.9** *P* **132** *L* **3** # 138

Jones, Chad — Cisco

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

the sentence: "A PSE shall not initiate power provision to one or both pairsets if the PSE has less than Class 3 power available and the connected PD requests more than the available power." establishes a new PICS against Type 1 and Type 2 PSEs. This shall was added because we formalized power demotion this time around, it should only apply to Type 3 and 4 PSEs.

SuggestedRemedy

change to: "A Type 3 or Type 4 PSE shall not initiate power provision to one or both pairsets if the PSE has less than Class 3 power 3 available and the connected PD requests more than the available power."
Change the 'status' field of PSE107 from 'M' to:
PSET3:M
PSET4:M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.10.1.2** *P* **134** *L* **27** # 139

Jones, Chad — Cisco

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

the sentence: "A PSE, depending on the connected Type of PD and whether it is connected to a single-signature PD or a dual-signature PD, shall use the applicable IHold, IHold-2P, TMPS and TMPDO values as defined in Table 33– 18." adds a new requirement to Type 1 and Type 2 PSEs. They don't have the ability to discern between SS and DS PDs. This sentence should only apply to Type 3 and Type 4 PSEs.
It seems the PICS editor understood this as it is assigned to Type 3 and Type 4 but there is an entry of DC:M. also need to remove this.

SuggestedRemedy

change to "A Type 3 PSE operating over 4-pairs or Type 4 PSE, depending on the connected Type of PD…"
Also delete DC:M from the status field of PSE115.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.10.1.2** *P* **135** *L* **2** # 254

Schindler, Fred — Seen Simply, Cisco, T

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

Existing text usage may confuse the new reader because incomplete information is provided.

"NOTE—The DC MPS requirements for Type 3 and Type 4 PSEs when connected to a single-signature PD are such that the PSE may measure either the total current (IHold) or the current on the pairset with the highest current (IHold-2P)."

The sentence assumes the reader is aware that each pairset provides current that is combined to give a total quantity being defined.

SuggestedRemedy

Replace the called out sentence with,

"NOTE—The DC MPS requirements for Type 3 and Type 4 PSEs when connected to a single-signature PD are such that the PSE may measure either the combined pairset current (IHold) or the current on the pairset with the highest current (IHold-2P)."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.2** *P* **136** *L* **44** # 353

Yseboodt, Lennart — Philips

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

Table 33-21 NOTE does not align with Table boundary.

SuggestedRemedy

Set cell margin to zero.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3** *P* **137** *L* **16** # 354

Yseboodt, Lennart — Philips

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

"Dual-signature Type 3 and Type 4 PDs shall provide the behavior of the state diagram shown in Figure 33-33."
(next sentence...)
"Dual-signature Type 3 and Type 4 PDs shall provide the behavior of the state diagram shown in Figure 33-33 over each pairset independently unless otherwise specified."

The first sentence is a subset of the second.

SuggestedRemedy

Remove first quoted sentence.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.3** *P* **137** *L* **41** # 165

Law, David — HPE

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

The constant VReset used in Figure 33–31 'PD state diagram', for example in the transition from the IDLE to DO_DETECTION state, is not defined in subclause 33.3.3.3 'Constants'.

SuggestedRemedy

Suggest that the following additional definition be added to subclause 33.3.3.3 'Constants':

VReset
Reset voltage (see Table 33–28)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.4** *P* **138** *L* **36** # 166

Law, David HPE

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

The variable 'power_received' is defined as FALSE when 'The input voltage does not meet the requirements of VPort_PD-2P in Table 33–30.' and TRUE when 'The input voltage meets the requirements of VPort_PD-2P.'. Table 33–30 'PD power supply limits' item 1 'Input DC voltage per pairset' defines VPort_PD-2P for a Type 1 PD as 42.1V minimum, 57.0V maximum. This means for a for a Type 1 PD if the input voltage is 41.(9 repeated)V, since that does not meet the minimum of 42.1V, the variable has to be FALSE, yet if the input voltage is 42.1V the variable has to be TRUE. Subclause 33.3.8.1 'Input voltage' however states that 'The PD shall turn on at a voltage in the range of VOn_PD.' and item 16 of Table 33–30 defines VOn_PD of 30.0V minimum, 42.0V maximum.
Based on this (a) there is no margin provided for the voltage at which 'power_received' is set TRUE which causes the PD state diagram to transition from detection or classification in to the MDI_POWER1 state and (b) the text and state diagram do not match in respect to at what voltage the PD turns on at, although due to the reference to subclause 21.5 in subclause 33.2.5.2 ' State diagrams take precedence over text.'.

SuggestedRemedy

Suggest that the definition of the values of the 'power_received' variable be changed to read as follows:

FALSE: The input voltage does not meet the requirements of VOn_PD in Table 33–30.
TRUE: The input voltage meets the requirements of VOn_PD.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.6** *P* **140** *L* **31** # 167

Law, David HPE

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

There is an assignment to the pse_dll_power_type variable in the INITIALIZE state of Figure 33–49 'PD power control state diagram' as well as a mapping to it in Table 33–41 'Attribute to state diagram variable cross-reference' so effectively there are two sources to this variable. There is a case where a Type 2 PD is connected to a Type 2 PSE that supports 1-event physical layer classification, Data Link Layer Classification which will result in two different values for pd_dll_power_type from these two sources.

On entry to the DO_DETECTION state of Figure 33–31 'Type 1 and Type 2 PD state diagram' the pse_power_type variable is set to 1. As a result of the 1-event physical layer classification that this PSE will perform, the state diagram will then progress to the DO_CLASS_EVENT1 state and then, assuming that the PSE starts supplying power, will progress to the MDI_POWER1 state once the power_received variable becomes TRUE.

The pd_max_power variable will be set to 0 (4 modulo 4), allowing the PD to draw up to Class 0 power (13.0W). Since pse_power_type has been set to 1 the state diagram will then progress to the DLL_ENABLE state setting the pd_dll_enabled variable to TRUE enabling Data Link Layer Classification for the PD. At this point however pse_power_type is still set to 1 so the state diagram will transition back to the MDI_POWER1 state where it will remain as pd_dll_enabled is now TRUE.

Since the PSE supports Data Link Layer Classification the aLldpXdot3RemPowerType attribute within the oLldpXdot3RemSystemsGroup managed object class will return a bit string indicating a Type 2 PSE at some point afterwards when the pd_dll_ready variable becomes TRUE. This, according to Table 33–41 'Attribute to state diagram variable cross-reference', also results in pd_dll_power_type being set to 2. The problem is that, according to the Figure 33-49 'PD power control state diagram', when pd_dll_ready becomes TRUE the value of pse_power_type is latched on to pse_dll_power_type, and at that point in time it is 1.

Now it seems that the intent was that when pse_dll_power_type became 2 due to Data Link Layer Classification, the equation on the transition from MDI_POWER1 to MDI_POWER_DLY state became true (pse_power_type = 2) + (pse_dll_power_type = 2) causing, after a delay, entry to the MDI_POWER2 state. At that point the pd_max_power variable will be increased from 0 (class_sig modulo 4) to 4 due to the assignment pd_max_power <= class_sig enabling the power drawn to increase from Type 1 to Type 2 limits.

The problem is there are two values of pse_dll_power_type once Data Link Layer Classification is in operation, the one based on the Table 33–41 mapping which in this case would be set to a value of 2, and the one output by the Figure 33-49 state diagram, which in this case would be set to a value of 1. As well as the statement that 'State diagrams take precedence over text.' the definition of the pse_dll_power_type variable in subclause 33.3.3.4 'Type 1 and Type 2 Variables' for Figure 33-31 states 'A control variable output by the PD power control state diagram (Figure 33–49) that ...'. . Based on this it would seem that the latter value of 1 should be used, however the problem with this is that

the MDI_POWER2 state will then never be reached, and the PD will have to continue draw power within the Type 1 limits.

It would seem a better approach would be to remove the assignment of pse_power_type to pse_dll_power_type in the INITIALIZE state of Figure 33–49 'PD power control state diagram' and just use the Table 33–41 'Attribute to state diagram variable cross-reference' mapping for Figure 33-31. This is the only use of the pse_power_type and pse_dll_power_type variables in Figure 33–49 so they can also be removed from the associated variable definition lists.

The variable pse_dll_power_type however has to gated while pd_dll_ready is FALSE, since at that time aLldpXdot3RemPowerType is undefined and therefore the mapping of Table 33–41 'Attribute to state diagram variable cross-reference' is undefined. Based on this the use of pse_dll_power_type on the MDI_POWER1 to MDI_POWER_DLY transition should be qualified with pse_dll_ready = TRUE, so the equation would become (pse_power_type = 2) + (pse_dll_power_type = 2 * pd_dll_ready).

Note: This comment relates to TDL D2.1 #118, #122, #140 and #25.

SuggestedRemedy

Suggest that:

[1] The equation on the transition from the MDI_POWER1 state to the MDI_POWER_DLY state in Figure 33-31 'Type 1 and Type 2 PD state diagram' be changed to read '(pse_power_type = 2) + (pse_dll_power_type = 2 * pd_dll_ready)'.
[2] The assignment 'pse_dll_power_type <= pse_power_type' in the INITIALIZE state in Figure 33–49 'PD power control state diagram' be removed.
[3] The definition of pse_power_type be removed from 33.5.3.3 'Single-signature system Variables'.
[4] The definition of pse_dll_power_type be removed from 33.5.3.3 'Single-signature system Variables'.
[5] In definition of pse_dll_power_type in subclause 33.3.3.4 'Type 1 and Type 2 Variables' change the text 'A control variable output by the PD power control state diagram (Figure 33–49) that ...' to read 'A variable mapped from the aLldpXdot3RemPowerType as defined in Table 33-41 that indicates ...'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.7** *P* **141** *L* **28** # 168

Law, David HPE

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

The definition of the constant VOff_PD used in Figure 33-32 'Type 3 and Type 4 single-signature PD state diagram' is missing from the definitions in subclause 33.3.3.7 'Type 3 and Type 4 single-signature constants'.

SuggestedRemedy

VOff_PD
PD power supply turn off voltage (see Table 33–30)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.8** *P* **142** *L* **1** # 255

Schindler, Fred Seen Simply, Cisco, T

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

The existing text is incomplete and leads to confusion on what is permitted using DLL operations. The DLL may provide the PD requested class but the PD may not draw more than pd_max_power, which is the assigned class before DLL may increase the allocated PD power. Flag-DS.

“pd_max_power
A control variable indicating the max power that the PD may draw from the PSE.”

SuggestedRemedy

Replace the called out sentence with,

“pd_max_power
A control variable indicating the assigned maximum power that the PD may draw from the PSE.”

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.8** *P* **142** *L* **29** # 169

Law, David HPE

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

The pd_undefined variable has the value 'FALSE' annotated as '(default)' in its definition. There is however no definition of what the '(default)' annotation means in subclause 33.2.5.2 'Conventions', which describes the state diagram conventions, nor in subclause 21.5 referenced by 33.2.5.2, nor in subclause 1.5 referenced by 21.5.

Default values have been used in state diagrams in the past, subclause 28.3 'State diagrams and variable definitions' is one example. It states '... variables follow the conventions of 21.5.2 except when the variable has a default value. Variables in a state diagram with default values evaluate to the variable default in each state where the variable value is not explicitly set.'.

Based on this definition, since pd_undefined is only ever assign a value of TRUE in the MDI_NOPOWER state of the Figure 33–32 'Type 3 and Type 4 single-signature PD state diagram', it will be assigned FALSE (The PD is in a defined condition) in all others states in Figure 33-32, which seems correct.

This definition however doesn't seem to work for pd_reset (page 142, line 23) which is an input and therefore is never assigned a value. Nor would it seem to work for the pi_powered variable (page 69, line 26) used in Figure 33–13 'Type 1 and Type 2 PSE state diagram'.

The pi_powered variable is defined as having a 'default' of FALSE (The PSE is not to apply power to the PI) however it is only assigned the value TRUE in the TEST MODE and POWER_UP states in Figure 33–13. As such, using the above definition, pi_powered would be set to FALSE in the POWER_ON state, which isn't correct.

Instead, since the pi_powered variable isn't assigned a value in the DISABLED or IDLE states in Figure 33–13, it would seem that what is meant be 'default' here is that the variable is set to the default value whenever the state diagram transitions to the 'open arrow' states DISABLED or IDLE. This would mean that if the PSE is applying power to the PI, and was reset for example (pse_reset = TRUE) power would be removed from the PI.

SuggestedRemedy

Suggest that:

[1] A definition of the '(default)' annotations be provided. Suggest the addition of text to subclause 33.2.5.2 that reads 'State diagram variables follow the conventions of 21.5.2 except when the variable has a default value. Variables in a state diagram with default values evaluate to the variable default in any state with a global transition to it (an open arrow (an arrow with no source block) regardless if the state entered through the global transition or any other transition.'.

[2] The '(default)' annotations be removed from inputs to state diagrams.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.8** *P* **143** *L* **26** # 355

Yseboodt, Lennart Philips

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

"pse_power_level
3: The PSE has allocated the PD's requested power or Class 3 power, whichever is less.
4: The PSE has allocated the PD's requested power or Class 4 power, whichever is less.
6: The PSE has allocated the PD's requested power or Class 6 power, whichever is less.
8: The PSE has allocated the PD's requested power or Class 8 power, whichever is less."

Only applies to 3, 6 and 8. A value of 4 means 2 or 3 class events and can only mean Class 4.

SuggestedRemedy

"pse_power_level
3: The PSE has allocated the PD's requested power or Class 3 power, whichever is less.
4: The PSE has allocated Class 4 power.
6: The PSE has allocated the PD's requested power or Class 6 power, whichever is less.
8: The PSE has allocated the PD's requested power or Class 8 power, whichever is less."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.8** *P* **143** *L* **30** # 356

Yseboodt, Lennart Philips

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

Variable "VOff_PD" is missing in the variable list for single-signature PD.

SuggestedRemedy

Add variable "VOff_PD".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **145** *L* **1** # 358

Yseboodt, Lennart Philips

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

PD state diagram updates to allow LLDP to update pd_max_power.

SuggestedRemedy

Adopt yseboodt_02_0117_lldpupdate.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **145** *L* **1** # 357

Yseboodt, Lennart Philips

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

The PD single-sig state diagram uses V_mark_th which needs to be V_Mark_th.

SuggestedRemedy

Fix per comment (complete state diagram, 13 occurences).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **145** *L* **4** # 170

Law, David HPE

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

Figure 33–32 'Type 3 and Type 4 single-signature PD state diagram' has a global (open arrow) transition in to the 'OFFLINE' state that is labelled 'BEGIN'. I cannot find a definition of the variable 'BEGIN' and this transition doesn't seem to be required for correct operation of this state diagram.

SuggestedRemedy

Remove the global transition in to the 'OFFLINE' state labelled 'BEGIN' in both Figure 33–32 and Figure 33–33 (page 150, line 5).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **145** *L* **12** # 171

Law, David HPE

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

The state OFFLINE and IDLE in Figure 33–32 'Type 3 and Type 4 single-signature PD state diagram' both contain assignments to the variable 'pd_dll_enable' whereas the state DLL_ENABLE contains an assignments to the variable 'pd_dll_enabled' and subclause 33.3.3.8 'Type 3 and Type 4 single-signature variables' defines the variable 'pd_dll_enabled' and 'pd_dll_enabled' is used by Figure 33–49 'PD power control state diagram'. Based on this the assignments in the OFFLINE and IDLE should be to 'pd_dll_enabled'.

SuggestedRemedy

Change 'pd_dll_enable <= ...' to read 'pd_dll_enabled <= ...' in the assignments in the OFFLINE and IDLE states.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **145** *L* **18** # 172

Law, David HPE

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

Figure 33–32 'Type 3 and Type 4 single-signature PD state diagram' uses Vmark_th in a number of transitions yet subclause 33.3.3.7 'Type 3 and Type 4 single-signature constants' defines VMark_th.

SuggestedRemedy

Change all occurrences of Vmark_th to read VMark_th in Figure 33–32.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **145** *L* **19** # 113

Darshan, Yair Mirosemi

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

Vmark_th doesn’t exist. We have VMark_th.

SuggestedRemedy

1. Change in from Vmark_th to VMark_th.
2. Scan Figure 33-32 page 145 and 146 Type 3 and Type 4 single-signature PD state diagram and correct accordingly.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **146** *L* **25** # 257

Schindler, Fred — Seen Simply, Cisco, T

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

The new INRUSH state changes behavior for Type 3 and 4 PDs being power by legacy devices (a Type 2 PSE is assumed for my example). The legacy Type 1 and 2 PD state diagram, on page 140, state MDI_POWER1 has statement,

"pd_max_power <= (class_sig modulo 4)" , which limits the power and current for class-4 PDs to 13.0W/37V = 0.35A.

The next state MDI_POWER_DLY, has the statement,

"start tpowerdly_timer", and MDI_POWER2 is not entered until "tpowerdly_timer_done", before power is increased,

"POWER2pd_max_power <= class_sig",where a class-4 PD would move to 25.5W (with a Type-2 PSE).

The Type 3 and 4 PD, new state INRUSH, has statement,

"pd_current_limit <= FALSE", is defined on page 141 line 49, "The PD is not required to control the input current." A PD could be damaged if a PSE did not have a current limit requirement. A Type 2 PSE is not aware of new Type 3 and 4 PDs and sees this PD as a Type 2 device.

When"inrushpd_timer_done" state MDI_POWER1 is entered where statement,

"pd_max_power <= min(3, pd_req_class)
pd_current_limit <= TRUE", would move a Type-2 PD to 13W and remove the unlimited current in-rush.

However, the exit condition,
"((pse_power_level > 3) +
(pse_dll_power_type > 1)) *
tpowerdly_timer_done", causes an immediate exit (in 0-time) for a Type-2 PD where the PD moves to 25.5W in state MDI_POWER2 with statements,

"pd_max_power <= min(pse_power_level, pd_req_class)
pd_current_limit <= FALSE".

In essence the Type 3, or 4 PD moves directly to 25.5W, while a legacy PD would move from 13W then wait tinrushpd before moving to 25.5W.

But wait—there is more—Type 1 and 2 PDs use tpowerdly_timer (with a delay of Tdelay-2P, which is 80 ms minimum), while Type 3 and 4 PDs use tinrushpd (with delay Tinrush_PD, which is 50 ms maximum!). This is another difference in behavior.

Many people have been working on in-rush for over a year but it appears that not everyone I checked with is aware of this change in behavior.

SuggestedRemedy

The Task Force should determine if this was the intended behavior and whether legacy PSEs will be impacted by this change. Working Group members are encouraged to review these and other changes made to PD in-rush behavior and comment on them.

A TDL should be assigned to provide correct required action if the change in behavior is not acceptable.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **146** *L* **25** # 256

Schindler, Fred — Seen Simply, Cisco, T

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

The new INRUSH state changes behavior for Type 3 and 4 PDs being power by legacy devices. The legacy Type 1 and 2 PD state diagram, on page 140, state MDI_POWER1 has statement,

"pd_max_power <= (class_sig modulo 4)" , which limits the power and current for Type-2 PDs to 13.0W/37V = 0.35A.

The Type 3 and 4 PD, new state INRUSH, has statement,

"pd_current_limit <= FALSE", is defined on page 141 line 49, "The PD is not required to control the input current." A PD could be damaged if a PSE did not have a current limit requirement. A Type 2 PSE is not aware of new Type 3 and 4 PDs and sees this PD as a Type 2 device.

Many people have been working on in-rush for over a year but it appears that not everyone I checked with is aware of this change in behavior.

SuggestedRemedy

The Task Force should determine if this was the intended behavior and whether legacy PSEs will be impacted by this change. Working Group members are encouraged to review these and other changes made to PD in-rush behavior and comment on them.

A TDL should be assigned to provide correct required action if the change in behavior is not acceptable.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **146** *L* **31** # 173

Law, David HPE

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

Since pse_dll_power_type can only take the values 1 and 2, Type 3 and 4 map to 2 along with Type 2 (see 33.5.3.3, page 143, line 2), pse_dll_power_type > 1 is actually the same as pse_dll_power_type = 2.

SuggestedRemedy

Suggest that for clarity pse_dll_power_type > 1 be changed to read pse_dll_power_type > 2 in the transition from MDI_POWER1 to MDI_POWER2 in Figure 33–32 'Type 3 and Type 4 single-signature PD state diagram'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **146** *L* **41** # 174

Law, David HPE

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

The constant VOff_PD is not defined in subclause 33.3.3.7 'Type 3 and Type 4 single-signature constants'.

SuggestedRemedy

Add a definition of VOff_PD to subclause 33.3.3.7 that reads as follows:

VOff_PD
PD power supply turn off voltage (see Table 33–30)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **146** *L* **45** # 175

Law, David HPE

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

Typo, actions should use a '<=', not a '='.

SuggestedRemedy

In the MDI_NOPOWER state change the three instances of '=' to read '<='.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.12** *P* **147** *L* **15** # 176

Law, David HPE

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

The definition of the constant VOn_PD used in Figure 33-33 'Type 3 and Type 4 dual-signature PD state diagram' is missing from the definitions in subclause 33.3.3.12 'Type 3 and Type 4 dual-signature constants'.

SuggestedRemedy

VOn_PD
PD power supply turn on voltage (see Table 33–30)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.12** *P* **147** *L* **15** # 177

Law, David HPE

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

The definition of the constant VOff_PD used in Figure 33-33 'Type 3 and Type 4 dual-signature PD state diagram' is missing from the definitions in subclause 33.3.3.12 'Type 3 and Type 4 dual-signature constants'.

SuggestedRemedy

VOff_PD
PD power supply turn off voltage (see Table 33–30)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.13** *P* **147** *L* **39** # 258

Schindler, Fred Seen Simply, Cisco, T

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

Dual-signature system operations parallel Single-signature system operations. Errors in Single-signature systems also need to be corrected in Dual-signature systems. This doubles the work load and results in fewer corrections for signal-signature systems.

SuggestedRemedy

Have commenters flag comments “flag-DS” to enable the Editor, or probably more realistically, assign a TDL to Yair to correct dual-signature system errors fixed for signal-signature systems. Of course energetic commenters may also provide complete solutions –time permitting.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.13** *P* **148** *L* **33** # 178

Law, David HPE

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

The definition of the present_mps_mode(M) variable states 'Controls applying MPS (see 33.3.8.10) ...'. Subclause 33.3.8.10 is 'PD pair-to-pair current unbalance' and therefore seems to be an incorrect, instead subclause 33.3.9 is 'PD Maintain Power Signature'.

SuggestedRemedy

Suggest that '... applying MPS (see 33.3.8.10) to the ...' should be changed to read '... applying MPS (see 33.3.10) to the ...'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.13** *P* **148** *L* **44** # 359

Yseboodt, Lennart Philips

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

"pse_power_level_mode(M)
3: The PSE has allocated the PD's requested power or Class 3 power, whichever is less.
4: The PSE has allocated the PD's requested power or Class 4 power, whichever is less.
5: The PSE has allocated the PD's requested power or Class 5 power, whichever is less."

Only applies to value 3. For values 4 and 5 it means 2,3 or 4 class events respectively and those only have one corresponding assigned Class.

SuggestedRemedy

"pse_power_level_mode(M)
3: The PSE has allocated the PD's requested power or Class 3 power, whichever is less.
4: The PSE has allocated Class 4 power.
5: The PSE has allocated Class 5 power."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.13** *P* **148** *L* **50** # 360

Yseboodt, Lennart Philips

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

Variable "VOff_PD" is missing in the variable list for dual-signature PD.

SuggestedRemedy

Add variable "VOff_PD".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **150** *L* **1** # 361

Yseboodt, Lennart Philips

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

The PD dual-sig state diagram uses V_mark_th which needs to be V_Mark_th.

SuggestedRemedy

Fix per comment (complete figure).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **6** # 117

Darshan, Yair Mirosemi

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

Figure 33-33 state OFFLINE:
"present_class_sig_mode(M) <= FALSE" need to be "present_class_sig_A_mode(M) <= FALSE". In addition: Missing "present_class_sig_B_mode(M) <= FALSE".

SuggestedRemedy

Change from: "present_class_sig_mode(M) <= FALSE" to "present_class_sig_A_mode(M) <= FALSE".
Add "present_class_sig_B_mode(M) <= FALSE".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **6** # 179

Law, David HPE

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

The variable present_class_sig_mode(M) used in a the OFFLINE state of Figure 33–33 'Type 3 and Type 4 dual-signature PD state diagram' is not defined in subclause 33.3.3.13 'Type 3 and Type 4 dual-signature variables' and is not used in any other state of the state diagram. In addition the variable would seem unnecessary due to the present_class_sig_A_mode(M) and present_class_sig_B_mode(M) variables.

SuggestedRemedy

Delete the assignment 'present_class_sig_mode(M) <= FALSE' from the OFFLINE state in Figure 33–33 'Type 3 and Type 4 dual-signature PD state diagram'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **6** # 362

Yseboodt, Lennart Philips

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

Dual-signature state diagram in Figure 33-33, state OFFLINE.
"present_class_sig_mode(M) <= FALSE"

Variable does not exist.

SuggestedRemedy

"present_class_sig_A_mode(M) <= FALSE" and "present_class_sig_B_mode(M) <= FALSE"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **7** # 180

Law, David HPE

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

The variable 'present_class_sig_mode(M)' set to FALSE in the OFFLINE state is not defined. Suggest instead that present_mark_sig_A_mode(M) and present_mark_sig_B_mode(M) should be set to FALSE in this state.

SuggestedRemedy

Suggest that 'present_mark_sig_mode(M) <= FALSE' be replaced with:

present_mark_sig_A_mode(M) <= FALSE
present_mark_sig_B_mode(M) <= FALSE

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **8** # 115

Darshan, Yair Mirosemi

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

Fugure 33-33 - Dual-signature state machine , state OFFLINE:
"pd_dll_enable_mode(M) <= FALSE".
The pd_dll is the same for both modes.

SuggestedRemedy

Change from "pd_dll_enable_mode(M)" to "pd_dll_enable"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **8** # 363

Yseboodt, Lennart Philips

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

Dual-signature state diagram in Figure 33-33, state OFFLINE.
"pd_dll_enable_mode(M) <= FALSE"

Variable does not exist, there is only pd_dll_enable.

SuggestedRemedy

"pd_dll_enable <= FALSE"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **9** # 116

Darshan, Yair Mirosemi

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

Fugure 33-33 - Dual-signature state machine , state IDLE:.
"pd_dll_enable_mode(M) <= FALSE".
The pd_dll is the same for both modes.

SuggestedRemedy

Change from "pd_dll_enable_mode(M)" to "pd_dll_enable"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **16** # 182

Law, David HPE

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

Table 33–16 'Classification signature, measured at PD input connector' lists the condition for the classification signature as 14.5V to 20.5V. This corresponds to Table 33–28 'Multiple-Event Physical Layer classification electrical requirements' which lists in item 1 'Class event voltage (VClass) as 14.5 V min to 20.5 V max.

Figure 33–33 'Type 3 and Type 4 dual-signature PD state diagram' however transitions in to DO_CLASS_EVENT states where either present_class_sig_A_mode(M) or present_class_sig_B_mode(M) is set TRUE occurs when VPD_mode(M) > Vmark_th. Table 33–28 'Multiple-Event Physical Layer classification electrical requirements' defines item 4 'Mark event threshold (VMark_th)' as 10.1 V min to 14.5 V max.

Based on this according to the state diagrams, which take precedence over text, the classification signature has to be presented at a voltage as low as 10.1 V if the minimum value of VMark_th is chosen, not 14.5 V as stated in Table 33–16.

SuggestedRemedy

Clarify if text or state diagram is correct and correct as required.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **16** # 181

Law, David HPE

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

Figure 33–33 'Type 3 and Type 4 dual-signature PD state diagrams' uses Vmark_th in a number of transitions yet subclause 33.3.3.12 'Type 3 and Type 4 dual-signature constants' defines VMark_th.

SuggestedRemedy

Change all occurrences of Vmark_th to read VMark_th in Figure 33–33.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.11** *P* **150** *L* **16** # 114

Darshan, Yair Mirosemi

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

Vmark_th doesn't exist. We have VMark_th.

SuggestedRemedy

1. Change in from Vmark_th to VMark_th.
2. Scan Figure 33-33 page 150 Type 3 and Type 4 dual-signature PD state diagram and correct accordingly.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **24** # 364

Yseboodt, Lennart Philips

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

Dual-signature state diagram in Figure 33-33, state DO_CLASS_EVENT2, DO_CLASS_EVENT3, DO_CLASS_EVENT4, DO_CLASS_EVENT5. "present_mark_sig_A_mode(M) <= FALSE"

Variable does not exist.

SuggestedRemedy

"present_mark_sig_mode(M) <= FALSE"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **27** # 183

Law, David HPE

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

The variable present_mark_sig_A_mode(M) assigned in the DO_CLASS_EVENT2, DO_CLASS_EVENT3, DO_CLASS_EVENT4 and DO_CLASS_EVENT5 is not defined. In addition what there is a class_sig_A and a class_sig_B defined in 33.3.6.2 there is only one mark event defined in 33.3.6.2.1. Based on this it seem this like an error and the present_mark_sig_mode(M) should be used instead.

SuggestedRemedy

Change 'present_mark_sig_A_mode(M) <= FALSE' to read 'present_mark_sig_mode(M) in the DO_CLASS_EVENT2, DO_CLASS_EVENT3, DO_CLASS_EVENT4 and DO_CLASS_EVENT5 states.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **150** *L* **27** # 118

Darshan, Yair Mirosemi

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

Figure 33-33, state DO_CLASS_EVENT2, DO_CLASS_EVENT3, DO_CLASS_EVENT4, DO_CLASS_EVENT5."present_mark_sig_A_mode(M) <= FALSE" need to be "present_mark_sig_mode(M) <= FALSE"

SuggestedRemedy

Change from "present_mark_sig_A_mode(M) <= FALSE" to "present_mark_sig_mode(M) <= FALSE"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **151** *L* **6** # 91

Darshan, Yair Mirosemi

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

Missing INRUSH state in Figure 33-33 dual-signature PD state machine

SuggestedRemedy

Adopt darshan_02_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.1** *P* **151** *L* **11** # 27

Bustos, Jairo Würth Elektronik eiSo

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

With the solely objective of proposing a remedy to Chads' comment #98 to D2.1, I would like to provide my suggestion. "The PD shall withstand any voltage from 0 V to 57 V at the PI indefinitely without permanent damage." We tried to fix this sentence during our last plenary in San Antonio, TX, but postponed the remedy.

SuggestedRemedy

My suggestion would be to change the above sentence as follows: „The PD shall withstand any voltage from 0 V to 57 V, according to any of the permitted pinouts within a Mode of table 33-25, at the PI indefinitely without permanent damage."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **151** *L* **21** # 184

Law, David HPE

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

Since pse_dll_power_type can only take the values 1 and 2, Type 3 and 4 map to 2 along with Type 2 (see 33.5.3.3, page 148, line 40), pse_dll_power_type > 1 is actually the same as pse_dll_power_type = 2.

SuggestedRemedy

Suggest that for clarity pse_dll_power_type > 1 be changed to read pse_dll_power_type > 2 in the transition from MDI_POWER1 to MDI_POWER2 in Figure 33–33 'Type 3 and Type 4 dual-signature PD state diagram'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **151** *L* **26** # 185

Law, David HPE

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

The pd_dll_enabled variable conditions the transition from the MDI_POWER2 state to the DLL_ENABLE state, and is set TRUE in the DLL_ENABLE. The pd_dll_enable_mode(M) variable however is used to conditions the transition from the MDI_POWER1 state to the DLL_ENABLE state. Further, the pd_dll_enable_mode(M) variable is set FALSE in the OFFLINE state. As well as the use of the _mode(M) suffix in the latter, also note 'enabled' in pd_dll_enabled as opposed to 'enable' in pd_dll_enable_mode(M).

As an output of the two instances of Figure 33–33 'Type 3 and Type 4 dual-signature PD state diagram' the variable designation _mode(M) needs to be used and based on the definition of pd_dll_enabled in subclause 33.3.3.13 'Type 3 and Type 4 dual-signature variables' suggest that pd_dll_enabled_mode(M) be used.

SuggestedRemedy

Suggest that:

[1] pd_dll_enabled be changed to read pd_dll_enabled_mode(M) in subclause 33.3.3.13 (page 147, line 34)
[2] pd_dll_enable_mode(M) be changed to pd_dll_enabled_mode(M) in the OFFLINE state in Figure 33-3 (page 150, line 7)
[3] pd_dll_enable_mode(M) be changed to pd_dll_enabled_mode(M) in the IDLE state in Figure 33-3 (page 150, line 7)
[4] !pd_dll_enable_mode(M) be changed to !pd_dll_enabled_mode(M) on the MDI_POWER1 to DLL_ENABLE transition in Figure 33-3 (page 151, line 20)
[5] !pd_dll_enabled be changed to !pd_dll_enabled_mode(M) on the MDI_POWER2 to DLL_ENABLE transition in Figure 33-3 (page 151, line 27)
[6] pd_dll_enabled be changed to pd_dll_enabled_mode(M) in the DLL_ENABLE state in Figure 33-3 (page 151, line 30)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.3.16** *P* **151** *L* **33** # 186

Law, David HPE

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

Typo, actions should use a '<=', not a '='.

SuggestedRemedy

In the MDI_NOPOWER state change the three instances of '=' to read '<='.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.4** *P* **153** *L* **21** # 224

Lukacs, Miklos Silicon Labs

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

The Voffset and Vpd=2.7V markers are shifted to the left on figure 33-34.

SuggestedRemedy

Shift Voffset and Vpd=2.7V markers to the right, correct position

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.5** *P* **153** *L* **29** # 31

Chabot, Craig UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PD13a
Feature: Detection signature for single-signature PDs
Subclause: 33.3.5
Value/Comment: Present a valid detection signature on a given Mode when no voltage or current is applied to the other Mode, and present a non-valid detection signature on that Mode when any voltage between 101. V and 57.0 V is applide to either mode
Status: PDSS:M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6** *P* **153** *L* **42** # 278

Stewart, Heath Linear Technology

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

TDL from comment #148 draft 2.1

SuggestedRemedy

See stewart_01_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6** *P* **153** *L* **52** # 276

Stewart, Heath — Linear Technology

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

The phrase "required by the PD" is not suitable

SuggestedRemedy

Change
The intent of PD classification is to provide information about the maximum power required by the PD during operation.
To
The intent of PD classification is to provide information about the maximum power drawn by the PD during operation.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6** *P* **154** *L* **24** # 32

Chabot, Craig — UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PD21b
Feature: Classification signature
Subclause: 33.3.6
Value/Comment: Conform to the characterisitics specified in Table 33-25
Status: M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6** *P* **154** *L* **27** # 225

Lukacs, Miklos — Silicon Labs

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

The two other state diagram is missing from sentence of "PD classification behavior conforms to the state diagram in Figure 33–32."
This clause is about the PD classification in general, therefore not only the Type 3 and Type 4 single-signature PD state diagram should be called out.

SuggestedRemedy

Add the two other state diagrams figure number:
"PD classification behavior conforms to the state diagrams in r Figure 33–31, Figure 33–32, and Figure 33–33."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6** *P* **154** *L* **31** # 365

Yseboodt, Lennart — Philips

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

Table 33-24 is not very clear that the first two columns are for single-signature and the other two columns are for dual-signature.

SuggestedRemedy

Add row on top with two fields, first cell is named "single-signature" and spans first two columns, second cell is named "dual-signature" and spans last two columns.

Add "for Mode M" to "Assigned Class" for dual-signature.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6** *P* **154** *L* **42** # 366

Yseboodt, Lennart — Philips

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

In column "PDMaxPowerValue_mode(M)" the range "256 to 400" is too small.
This should be the same as the PSE variable: 256 to 499.

SuggestedRemedy

Change field to "256 to 499".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.1** *P* **154** *L* **51** # 277

Stewart, Heath — Linear Technology

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

TDL from comment #26 draft 2.1.

SuggestedRemedy

See stewart_01_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.1** *P* **155** *L* **8** # 367

Yseboodt, Lennart — Philips

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

"The PD's classification behavior shall conform to the electrical specifications defined in Table 33-28."

Table 33-28 is the Multiple-Event classification table.
Somehow this requirement ended up in the Single-Event section.

TODO: the whole section is a mess.

SuggestedRemedy

No time to re-write this section now, add to TDL "Restructure PD classification section".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **155** *L* **33** # 368

Yseboodt, Lennart — Philips

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

"PDs implementing Multiple-Event Physical Layer classification shall present class_sig_A during DO_CLASS_EVENT1 and DO_CLASS_EVENT2 and class_sig_B during DO_CLASS_EVENT3, DO_CLASS_EVENT4, DO_CLASS_EVENT5 and DO_CLASS_EVENT6, as defined in Table 33-26 and Table 33-27."

This description applies to Type 2 as well, but isn`t correct for that Type.
Since ME-classification is mandatory for Type 2, 3 and 4 we can keep it compact.

SuggestedRemedy

"Type 2 PDs shall present class_sig_A during DO_CLASS_EVENT1, DO_CLASS_EVENT2, and DO_CLASS_EVENT3, as defined in Table 33-26.
Type 3 and Type 4 PDs shall present class_sig_A during DO_CLASS_EVENT1 and DO_CLASS_EVENT2 and class_sig_B during DO_CLASS_EVENT3, DO_CLASS_EVENT4, DO_CLASS_EVENT5 and DO_CLASS_EVENT6, as defined in Table 33-26 and Table 33-27."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **156** *L* **7** # 187

Law, David — HPE

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

While a note has been added to Table 33–26 and Table 33–27 referencing Table 33–25 it isn't entirely clear that it is in reference to the values in the class_sig_A and class_sig_B columns.

SuggestedRemedy

Add a header that straddles the class_sig_A and class_sig_B header that reads 'Class signature' to Table 33-26 and 33-27.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **156** *L* **28** # 369

Yseboodt, Lennart — Philips

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

Table 33-26 and 33-27, Note below table does not align with table boundary.

SuggestedRemedy

Set cell margin to zero.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **156** *L* **50** # 226

Lukacs, Miklos Silicon Labs

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

This text is confusing:
"The Class requested on each pairset is the power requested by the PD on that pairset."

SuggestedRemedy

Change the text to:
"The Class requested on each pairset defines the power requested by the PD on that pairset."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **157** *L* **1** # 33

Chabot, Craig UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PD32a
Feature: PSE assigned Class identification for Type 3 and Type 4 single-signature PDs
Subclause: 33.3.6.2
Value/Comment: As defined in Table 33-13
Status: PDT3*PDSS:M PDT4*PDSS:M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **157** *L* **7** # 34

Chabot, Craig UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PD32b
Feature: PSE assigned Class identification for Type 3 and Type 4 dual-signature PDs
Subclause: 33.3.6.2
Value/Comment: As defined in Table 33-13
Status: PDT3*PDDS:M PDT4*PDDS:M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **157** *L* **16** # 370

Yseboodt, Lennart Philips

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

In Table 33-28 the variables V_Class, V_Mark, and V_Reset are defined.
They are also defined in Table 33-16 in PSE land (with different values).

SuggestedRemedy

Rename in Table 33-28:
V_Class => V_Class_PD
V_Mark => V_Mark_PD
V_Reset => V_Reset_PD

Update parameter names in 33.3 per the rename.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2** *P* **157** *L* **28** # 371

Yseboodt, Lennart Philips

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

Table 33-28 on Multiple-Event class, Item 7 is on T_LCE_PD.
The add. info field points to the 33.3.9 MPS section, which does not explain why we have a LCE.

SuggestedRemedy

Replace 33.3.9 by 33.3.7 which is about PSE Type identification.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2.1** *P* **157** *L* **33** # 188

Law, David HPE

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

This text states 'When the PD is presenting a mark event signature as shown in the state diagram ...' which would appear to mean that when the PD state diagram is in a DO_MARK_EVENT state and therefore present_mark_sig or present_mark_sig_mode(M) is set TRUE. This seems to be confirmed by the description of the present_mark_sig and present_mark_sig_mode(M) variables which state 'Controls presenting the mark event current and impedance (see 33.3.6.2.1) by the PD' however they don't use the terminology 'mark event signature'.

SuggestedRemedy

Suggest the text '... is presenting a mark event signature as shown ...' be changed to read '... is presenting a mark event signature in a DO_MARK_EVENT state as shown ...'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2.1** *P* **157** *L* **41** # 189

Law, David HPE

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

Rather than list all of the states suggest using a similar shorthand to the paragraph below in respect to DO_MARK_EVENT states.

SuggestedRemedy

Suggest that '... of the DO_CLASS_EVENT1, DO_CLASS_EVENT2, DO_CLASS_EVENT3, DO_CLASS_EVENT4, DO_CLASS_EVENT5 or DO_CLASS_EVENT6 states ...' be changed to read '... a DO_CLASS_EVENT state ...'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2.1** *P* **157** *L* **41** # 190

Law, David HPE

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

It is stated that 'VMark_th is the PI voltage threshold at which the PD ... transitions into and out of the DO_CLASS_EVENT1 ... states as shown in Figure 33–32.'. While VMark_th is the only PI voltage threshold to transition into a DO_CLASS_EVENT state, VPD in excess of the VOn_PD threshold will also cause a transition out of a DO_CLASS_EVENT (see DO_CLASS_EVENT1 in Figure 33–32).

SuggestedRemedy

Suggest that '... transitions into and out of the DO_CLASS_EVENT1 ...' BE CHANGED TO READ '... transitions into, and one of the voltage thresholds to transition out of, the DO_CLASS_EVENT1 ...'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2.1** *P* **157** *L* **42** # 191

Law, David HPE

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

Isn't the statement made in this paragraph that 'VMark_th is the PI voltage threshold at which the PD implementing Multiple-Event class signature transitions into ...' also true for Figure 33–31 'Type 1 and Type 2 PD state diagram' (see transition from DO_DETECTION to DO_CLASS_EVENT1) and Figure 33–33 'Type 3 and Type 4 dual-signature PD state diagram' (see transition from DO_DETECTION to DO_CLASS_EVENT1)?

SuggestedRemedy

Suggest that '... in Figure 33-32.' Should be changed to read '... in Figures 33-31, 33-32 and 33-33.'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2.1** *P* **157** *L* **42** # 279

Stewart, Heath Linear Technology

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

All PD SM figures should be referenced

SuggestedRemedy

See stewart_01_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2.1** *P* **157** *L* **44** # 192

Law, David HPE

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

The first paragraph of this subclause states 'When the PD is presenting a mark event signature as shown in the state diagram ...'. As noted in another comment this seems to map to when the state diagram is in a DO_MARK_EVENT state, hence the first paragraph already states that when in a DO_MARK_EVENT state the PD shall draw IMark, and adds the other requirement, not listed in this paragraph, that the PD has to also present a non-valid detection signature. Based on this the paragraph seems to contain a duplicate, but potentially incomplete, requirement.

SuggestedRemedy

Delete 4th paragraph of subclause 33.3.6.2.1.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.2.1** *P* **157** *L* **47** # 193

Law, David HPE

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

Isn't the statement made in this paragraph that 'VReset_th is the PI voltage threshold at which the PD implementing Multiple-Event class signature transitions from a DO_MARK_EVENT state to the IDLE' also true for Figure 33–31 'Type 1 and Type 2 PD state diagram' (see transition from DO_MARK_EVENT1 to IDLE) and Figure 33–33 'Type 3 and Type 4 dual-signature PD state diagram' (see transition from DO_MARK_EVENT1 to IDLE)?

SuggestedRemedy

Suggest that '... in Figure 33-32.' Should be changed to read '... in Figures 33-31, 33-32 and 33-33.'.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.6.3** *P* **158** *L* **15** # 372

Yseboodt, Lennart Philips

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

Table 33-29 lists T_ACS in seconds resulting in "0.0755" and "0.0875".

This is the result of comment #156/D2.1 which has good rationale but a bad remedy.

SuggestedRemedy

Revert Table 33-29 back to milliseconds.
Also convert Table 33-17 to milliseconds.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.7** *P* **158** *L* **36** # 35

Chabot, Craig UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PD40a
Feature: long_class_event value
Subclause: 33.3.7
Value/Comment: Set to TRUE if the first class event is longer than TLCE_PD max
Status: PDT3:O PDT4:O

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **159** *L* **24** # 373

Yseboodt, Lennart Philips

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

There are many references in green in Table 33-30. Not sure how this happened.

SuggestedRemedy

Change character tag back to normal text.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **159** *L* **35** # 374

Yseboodt, Lennart Philips

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

Table 33-30, Item 6, the Iinrush PD description reads:
"Input inrush current per the assigned Class, when the PD is limiting the current during the inrush period per 33.3.8.3."

This is OBE by our improved inrush text in 33.3.8.3.

SuggestedRemedy

Replace by: "Input inrush current per the assigned Class."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **160** *L* **6** # 375

Yseboodt, Lennart Philips

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

Table 33-30, Item 7, the Iinrush PD-2P description reads:
"Input inrush current per pairset per the assigned Class, when the PD is limiting the current during the inrush period per 33.3.8.3."

This is OBE by our improved inrush text in 33.3.8.3.

SuggestedRemedy

Replace by: "Input inrush current per pairset per the assigned Class."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **160** *L* **22** # 377

Yseboodt, Lennart Philips

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

Table 33-30, PPeak_PD-2P.
To be more in line with earlier decision to write things out as numbers, propose to replace the equation by values.
This avoids that one needs to flip back to the PClass_PD table to look up the required value.

SuggestedRemedy

Change Item 10 Values to:

Class 1	5.00
Class 2	8.36
Class 0, 3	14.4
Class 4	28.3
Class 5	37.2

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **160** *L* **22** # 376

Yseboodt, Lennart Philips

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

Table 33-30, PPeak_PD.
To be more in line with earlier decision to write things out as numbers, propose to replace the equation by values.
This avoids that one needs to flip back to the PClass_PD table to look up the required value.

SuggestedRemedy

Change Item 10 Values to:

Class 1	5.00
Class 2	8.36
Class 0, 3	14.4
Class 4	28.3
Class 5	42.0
Class 6	53.5
Class 7	65.1
Class 8	74.8

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **160** *L* **23** # 379

Yseboodt, Lennart Philips

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

There is no specification for unbalance for PDs drawing Peak power.
On the PSE side we have a full page of equations explaining peak unbalance.

SuggestedRemedy

Add to TDL: specify peak power unbalance limits for the PD.
At this point I would strongly suggest we simplify the peak unbalance requirements to fixed numbers, otherwise we will get another page of equations for the PD peak unbalance.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **160** *L* **23** # 378

Yseboodt, Lennart Philips

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

Table 33-18, Item 10, "Peak operating power".

This parameter depends on the assigned Class and applies only to single-signature.

SuggestedRemedy

Change Item 10 Parameter name to "Peak operating power per the assigned Class for single-signature PDs"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **160** *L* **33** # 380

Yseboodt, Lennart Philips

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

Table 33-18, Item 11, "Peak operating power over a pairset".

This parameter depends on the assigned Class and applies only to dual-signature.

SuggestedRemedy

Change Item 11 Parameter name to "Peak operating power on a pairset per the assigned Class for dual-signature PDs"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **160** *L* **44** # 128

Johnson, Peter Sifos Technologies

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

Table 33-30, item 12, defines "Input current transient", Itransient, with units of mA/usec. This may be confusing to some.

From a EE perspective, "I" is a current with units mA. dI/dT would be a current slew rate with units "mA/usec".

SuggestedRemedy

Consider renaming "Input current transient" to "Input current slew rate" with variable "dI/dT" or something like this.

Then modify 33.3.8.5 to:

"When the input voltage at the PI is static and in the range of VPort_PD-2P defined by Table 33–30, the total input current drawn by a single-signature PD shall not change faster than dI/dT(max) defined in Table 33-30, in either polarity. Each pairset current drawn by a dual-signature PD while powered 4-pair shall not change faster than dI/dT(max) defined in Table 33-30, in either polarity. This limitation applies after inrush has completed (33.3.8.3) and before the PD has disconnected."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **161** *L* **11** # 381

Yseboodt, Lennart Philips

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

Table 33-30, Item 15, Ripple and noise also has no name.

SuggestedRemedy

Name it V_Noise_PD.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8** *P* **161** *L* **18** # 140

Jones, Chad Cisco

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

Table 33-30, item 16. Von_PD min was changed to 30V. This used to be 37V. Changing it to 30V aligns it with Voff_PD. A designer that sets Von_PD to 30V will get a motorboating PD as the PD will turn on, start to draw load, and pull down Vport below Voff_PD...
37V was specifically picked to add hysteresis to prevent this.

SuggestedRemedy

we need to find a better value for Von_PD min.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.2** *P* **162** *L* **31** # 92

Darshan, Yair Mirosemi

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

In the following text: "PDs that have successfully completed DLL classification, shall not exceed a power consumption of PDMaxPowerValue as defined in 33.5.3.3." It is not clear from the text that:
PDs cannot require through DLL more power than the required class.
This information is not contained in PDMaxPowerValue (this is only maximum power under the current power allocation)

SuggestedRemedy

Make the following changes: "PDs that have successfully completed DLL classification, shall not exceed a power consumption of PDMaxPowerValue as defined in 33.5.3.3. The required class is the maximum power that the PD will ever draw"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.2** *P* **162** *L* **31** # 36

Chabot, Craig UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PD45a
Feature: Power consumption after succesfully completed DLL classification
Subclause: 33.3.8.2
Value/Comment: Not to exceed PDMaxPowerValue as defined in 33.5.3.3
Status: M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.2.1** *P* **162** *L* **40** # 382

Yseboodt, Lennart Philips

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

"For Class 6 and Class 8 single-signature PDs, when additional information is available to the PD regarding actual channel DC resistance between the PSE PI and the PD PI, the PD may consume greater than P Class_PD but shall not consume greater than P Class at the PSE PI and shall not draw current in excess of I Cable as defined in Table 33-1."

ICable is the two-pair current and this text is about 4-pair. It should be 2 x ICable.

SuggestedRemedy

"For Class 6 and Class 8 single-signature PDs, when additional information is available to the PD regarding actual channel DC resistance between the PSE PI and the PD PI, the PD may consume greater than P Class_PD but shall not consume greater than P Class at the PSE PI and shall not draw a total 4-pair current in excess of 2 x I Cable as defined in Table 33-1."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.2.1** *P* **162** *L* **40** # 93

Darshan, Yair — Mirosemi

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

In the text: "For Class 6 and Class 8 single-signature PDs, when additional information is available to the PD regarding actual channel DC resistance between the PSE PI and the PD PI, the PD may consume greater than PClass_PD but shall not consume greater than PClass at the PSE PI and shall not draw current in excess of ICable as defined in Table 33–1." it is not clear that the current can be >Icable on one pair and lower than Icable on the 2nd pair.

SuggestedRemedy

Change text to: "For Class 6 and Class 8 single-signature PDs, when additional information is available to the PD regarding actual channel DC resistance between the PSE PI and the PD PI, the PD may consume greater than PClass_PD but shall not consume greater than PClass at the PSE PI and shall not draw current in excess of 2xICable. Icable is defined in Table 33–1.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.2.1** *P* **162** *L* **44** # 37

Chabot, Craig — UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PD46a
Feature: Input average power for Class 5 dual-signature PDs
Subclause: 33.3.8.2.1
Value/Comment: Not to consume greater power than Pclass-2P at the PSE PI and not to draw current in excess of Icable as defined in Tablle 33-1
Status: WEXP:M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.2.1** *P* **162** *L* **45** # 449

Zimmerman, George — CME Consulting, Aqua

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

"and shall not draw current in excess of ICable as defined in Table 33-1" - ICable is the nominal current per pairset. Since this is a key requirement on current draw, this text should reflect that so as not to be confused with total current or current per pair including unbalance effects.

SuggestedRemedy

Change "and shall not draw current in excess of ICable" to "and shall not draw nominal current per pairset in excess of ICable"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.2.2** *P* **163** *L* **1** # 450

Zimmerman, George — CME Consulting, Aqua

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

"Verification of stability is achieved when the PD ripple and noise content as defined in Table 33–30 is met while the PD is operating at or below PPort_PD or PPort_PD-2P while being powered by a voltage source set in the range of VPort_PSE-2P, as defined in Table 33–18, through a series resistance with value RCh, as defined in Table 33–1." - very wordy, hard to follow multiple conditions, 2 while clauses and a load condition.

SuggestedRemedy

Change to "Verification of stability is achieved by the PD meeting the ripple and noise content in Table 33–30 when the PD is powered by a voltage source set in the range of VPort_PSE-2P (see Table 33–18), through a series resistance of RCh (see Table 33–1), and the PD is operating at or below PPort_PD or PPort_PD-2P."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **163** *L* **52** # 383

Yseboodt, Lennart Philips

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

"At any static voltage at the PI, and any PD operating condition, with the exception described in 33.3.8.4.1, the peak power for a single-signature PDs shall not exceed P Class_PD for more than T CUT-2P min, as defined in Table 33-18 and 5% duty cycle. Peak operating power shall not exceed P Peak_PD."

The word 'single-signature' was added to D2.2. This removes the peak power requirement for legacy Types. Also fix typo.

SuggestedRemedy

"At any static voltage at the PI, and any PD operating condition, with the exception described in 33.3.8.4.1, the peak power for a Type 1, Type 2, or single-signature PDs shall not exceed P Class_PD for more than T CUT-2P min, as defined in Table 33-18 and 5% duty cycle. Peak operating power shall not exceed P Peak_PD."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **164** *L* **30** # 38

Chabot, Craig UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PD55a
Feature: Peak power for any PD operating condidtion, with exception described in 33.3.8.4.1 for dual-signature PDs
Subclause: 33.3.8.4
Value/Comment: Not to exceed Pclass_PD-2P for more than TCUT-2P min and 5% duty cycle
Status: PDDS:M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **164** *L* **31** # 39

Chabot, Craig UNH-IOL

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

New PIC entry needed related to this Shall

SuggestedRemedy

Add New PIC Entry:
Item: PD55b
Feature: Peak operating power for for dual-signaure PDs
Subclause: 33.3.8.4
Value/Comment: Not to exceed Ppeak_PD-2P
Status: PDDS:M

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.2.2** *P* **164** *L* **33** # 141

Jones, Chad Cisco

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

looks like a cut and paste error, whole paragraph at line 33.

SuggestedRemedy

delete the paragraph on page 164, line 33: "At any static voltage at the PI, and any PD operating condition, with the exception described in 33.3.8.4.1, the peak power for a dual-signature shall not exceed PClass_PD-2P for more than TCUT-2P min, as defined in Table 33–18 and 5% duty cycle. Peak operating power shall not exceed PPeak_PD-2P."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **164** *L* **33** # 384

Yseboodt, Lennart Philips

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

This paragraph is a duplicate of the previous paragraph.

SuggestedRemedy

Remove paragraph "At any static voltage at the PI..." .

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **164** *L* **33** # 94

Darshan, Yair Mirosemi

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

The text "At any static voltage at the PI, and any PD operating condition, with the exception described in 33.3.8.4.1, the peak power for a dual-signature shall not exceed PClass_PD-2P for more than TCUT-2P min, as defined in Table 33–18 and 5% duty cycle. Peak operating power shall not exceed PPeak_PD-2P." appears twice. To delete lines 33-36

SuggestedRemedy

To delete lines 33-36

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **164** *L* **33** # 40

Chabot, Craig UNH-IOL

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

The paragraph from lines 33 through 36 appear to be a duplicate with paragraph directly above it.

SuggestedRemedy

Delete paragraph.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **164** *L* **39** # 385

Yseboodt, Lennart Philips

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

In the peak power section we have text from P164 line 29 through P165 line 23 which defines IPort_RMS and IPort_RMS_max.

Without this text, a PD would be allowed to consume PClass_PD and on top of that PPeak_PD with 5% duty cycle.
With this text, the maximum PD power consumption is bound to PClass_PD with any peaks included.

Given a PD that makes maximum use of peak power, this translates to a difference of 0.5% for 2-pair and 0.25% for the 4-pair classes.

On top of that I don`t see any text that allows a PSE to make use of this, a PSE is required to support Pclass_PD PLUS the 5% of PPeak.

This seems a requirement and full page of text which does very little.

SuggestedRemedy

Remove P164 line 29 through P165 line 23.
Remove P165 line 39 through P166 line 15. (= the same for the Peak power exception Class 6/8)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4** *P* **165** *L* **13** # 386

Yseboodt, Lennart Philips

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

Equation 33-26 defines "I_port_RMS_max".

Port should be capitalized.

SuggestedRemedy

Change to "I_Port_RMS_max"

Ditto for equations 33-27 and 33-28.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4.1** *P* **165** *L* **34** # 387

Yseboodt, Lennart Philips

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

In 33.3.8.4.1 there are two references to PPort_PD max (line 34 and 36). PPort_PD *is* a maximum, not a range.

SuggestedRemedy

Remove 'max' twice.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4.1** *P* **165** *L* **35** # 95

Darshan, Yair Mirosemi

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

In the text "For Class 6 and Class 8 single-signature PDs and for Class 5 dual-signature PDs, when additional information is available to the PD regarding actual channel DC resistance between the PSE PI and the PD PI, in any operating condition with any static voltage at the PI, the peak power shall not exceed PPort_PD max for single-signature PDs and PPort-2P max for dual-signature PDs..." It should be "PPort_PD-2P max for dual-signature PDs".

SuggestedRemedy

Change to:
"For Class 6 and Class 8 single-signature PDs and for Class 5 dual-signature PDs, when additional information is available to the PD regarding actual channel DC resistance between the PSE PI and the PD PI, in any operating condition with any static voltage at the PI, the peak power shall not exceed PPort_PD max for single-signature PDs and PPort_PD-2P max for dual-signature PDs....."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.4.1** *P* **165** *L* **35** # 453

Zimmerman, George CME Consulting, Aqua

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

PPort-2P should be PPort_PD-2P.

SuggestedRemedy

Change PPort-2P to PPort_PD-2P (if previous comment is accepted, this can be ignored)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8.4.1** *P* **165** *L* **36** # 451

Zimmerman, George CME Consulting, Aqua

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

"PPort_PD max" isn't actually a variable. Since the value isn't dependent on anything else, just put it in the equation (it is PClass_PD in Table 33-30) In fact, it looks like all instances of PPort_PD can just be replaced by PClass_PD, and the parameter PPort_PD eliminated, because they seem to reference "at or below".

SuggestedRemedy

Delete PPort_PD from Table 33-30, and replace PPort_PD max in the text with PClass_PD on line 34 and 36, page 259 line 43, and page 163 line 2

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.8.4.1** *P* **165** *L* **37** # 452

Zimmerman, George CME Consulting, Aqua

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

"PPort_PD-2P max" isn't actually a variable. Since the value isn't dependent on anything else, just put it in the equation (it is PClass_PD-2P in Table 33-30). In fact, it looks like all instances of PPort_PD-2P can just be replaced by PClass_PD-2P, , and the parameter PPort_PD-2P eliminated, because they seem to reference "at or below".

SuggestedRemedy

Delete PPort_PD-2P from Table 33-30, and replace PPort_PD-2P max in the text with PClass_PD-2P on line 37, and page 163 line 2, also, change PPort-2P on line 35 to PClass_PD-2P, as PPort-2P seems to be a typo missing the "_PD"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.6** *P* **166** *L* **43** # 388

Yseboodt, Lennart Philips

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

"A PD which is not described in the above list shall comply with the requirements set forth in the remainder of this section."

PDs described in the list meet the shalls that follow without further consideration. However, the shalls still apply.

SuggestedRemedy

This sentence is incorrect and not needed. Remove quoted sentence.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.6** *P* **166** *L* **46** # 389
Yseboodt, Lennart Philips

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

"Table 33-31 defines three PSE transient test conditions and PD Types to which the conditions apply."

We should not be defining tests, rather define PI behaviour under certain conditions.

SuggestedRemedy

Reworded:
"Table 33-31 defines three PSE transient conditions and PD Types to which these apply."

Merge this paragraph with the next paragraph.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.6** *P* **166** *L* **48** # 390
Yseboodt, Lennart Philips

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

"Figure 33-36 shows operating bounds for the transients in Table 33-31. The shaded regions begin with the application of the transient test and end at the times indicated in the figure."

Let`s avoid the word "test".

SuggestedRemedy

"Figure 33-36 shows operating bounds for the transients defined in Table 33-31. The shaded regions begin with the application of the transient and end at the time indicated in the figure."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.6** *P* **167** *L* **8** # 391
Yseboodt, Lennart Philips

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

Table 33-31, second row, RCh needs subscripting.

SuggestedRemedy

Fix.
Also check font size consistency in the last row.
At least we`ll get that right.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.6** *P* **167** *L* **14** # 142
Jones, Chad Cisco

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

orphaned text has a Table 33-31 splitting a sentence across pages.

SuggestedRemedy

format the text so that it stays with the previous text.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.6** *P* **167** *L* **33** # 392
Yseboodt, Lennart Philips

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

"Figure 33-36 shows transient test condition operating bounds where"

Avoid the word test.

SuggestedRemedy

"Figure 33-36 shows transient condition operating bounds where"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.6** *P* **167** *L* **42** # 393
Yseboodt, Lennart Philips

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

"shows the operating bounds of the transient test condition, where n is the number of the test condition."

Avoid the word test.

SuggestedRemedy

"shows the operating bounds of the transient test condition, where n is the number of the transient condition."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.6** *P* **167** *L* **45** # 96
Darshan, Yair Mirosemi

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

This comment is related to TLIM-2P.
If comment TLIM-2P will be accepted then we need to change the following text as well:
"TLIM-2P min is the minimum TLIM-2P min value for the PD Class, as defined in Table 33–18" so it will not be depend on the assigned class.

SuggestedRemedy

Change text to: "TLIM-2P min is the minimum TLIM-2P min value as defined in Table 33–18"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.6** *P* **167** *L* **49** # 394
Yseboodt, Lennart Philips

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

"When transient TR1 is applied, a Type 1 PD shall meet its normal average and peak operating power limits after T LIM-2P min as defined in Figure 33-36."

'shall meet its normal' => what is normal ?

SuggestedRemedy

Replace "shall meet its normal" by "shall meet the" at
p167, l49
p168, l3
p168, l6

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.8.6** *P* **168** *L* **14** # 97
Darshan, Yair Mirosemi

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

The title of the column "PD signature" should be "PD construction".

SuggestedRemedy

Change from "PD signature" to "PD construction".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.9** *P* **171** *L* **9** # 259
Schindler, Fred Seen Simply, Cisco, T

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

Existing text usage may confuse the new reader because incomplete information is provided.

“Total input current per the assigned Class to a single-signature PD”

The sentence assumes the reader is aware that each pairset provides current that is combined to give a total quantity being defined.

SuggestedRemedy

Replace the called out sentence with,
“The combined pairset input current per the assigned Class to a single-signature PD”

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.9** *P* **171** *L* **29** # 395
Yseboodt, Lennart Philips

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

The note below Table 33-33 is not aligned with the Table boundary.

SuggestedRemedy

Set note cell margin to zero.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **180** *L* **3** # 454
Zimmerman, George CME Consulting, Aqua

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

ANSI/TIA-568.0-D is not in the bibliography or normative references of IEEE 802.3-2015.

SuggestedRemedy

Add it to the normative references, section 1.3

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.3.5.3** *P* **186** *L* **15** # 98

Darshan, Yair Mirosemi

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

Missing text that was approved in darshan_11_1116Option2Rev006.pdf.

SuggestedRemedy

Replace 33.5.3 with:
"The power control state diagrams for PSEs and PDs specify the externally observable behavior of a PSE and PD Data Link Layer classification respectively.
When single-signature PDs are supported, PSE Data Link Layer classification shall provide the behavior of the state diagram as shown in Figure 33–46, Figure 33-47 and Figure 33-48. PD Data Link Layer classification shall provide the behavior of the state diagram as shown in Figure 33–49.

When dual-signature PDs are supported, PSE Data Link Layer classification shall provide the behavior of the state diagram as shown in Figure 33–50. PD Data Link Layer classification shall provide the
behavior of the state diagram as shown in Figure 33–51."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.2** *P* **186** *L* **30** # 396

Yseboodt, Lennart Philips

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

Sectiontitle "33.5.3.2 Single-signature system Constants"

SuggestedRemedy

Do not capitalize Constants.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.2.2** *P* **187** *L* **27** # 397

Yseboodt, Lennart Philips

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

Variable "pd_allocated_power" is misspelled. Should be "pd_allocated_pwr".

SuggestedRemedy

Change to "pd_allocated_pwr".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.3** *P* **187** *L* **40** # 398

Yseboodt, Lennart Philips

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

"33.5.3.3 Single-signature system Variables"

SuggestedRemedy

Do not capitalize Variables.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.3** *P* **188** *L* **5** # 399

Yseboodt, Lennart Philips

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

"The copy of the PD Requested Power Value filed in the..."

SuggestedRemedy

Should be "field".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.3** *P* **189** *L* **4** # 143

Jones, Chad Cisco

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

This is the solution to the TO DO 93 from D2.1.
Background: Page 140, line 41. This is the Type 1 and 2 State Diagram. The MDI_POWER2 state contains pd_max_power <= class_sig. "class_sig" is the requested Class of the PD. With DLL any PD can claim itself to be a Type 2 and that will cause it to move to MDI_POWER2. However the statement pd_max_power <= class_sig prevents such a PD to draw more power than its physical layer class. So... a PD can ask for more power (compliant), a PSE can grant it (compliant), but the PD cannot draw more power than physical layer. SD covers the behavior but in my opinion it is subtle. I have seen this done wrong, the answer is not to be subtle.

Page 153, line 46 states: "The Physical Layer classification of the PD is the maximum power that a Type 1 or Type 2 PD draws across all input voltages and operational modes. The Class requested by the PD during Physical Layer classification is the maximum power that a Type 3 or Type 4 PD shall draw." Makes the statement that L1 is the max a PD can draw.

page 162, line 31 states: "PDs that have successfully completed DLL classification, shall not exceed a power consumption of PDMaxPowerValue as defined in 33.5.3.3." OK, what does PDMaxPowerValue say?

PDMaxPowerValue is defined on page 189, line 1. "Integer that indicates the actual PD power value of the local system in units of 0.1 W (see Equation (79–1)), where PDMaxPowerValue is X). The actual PD power value for a PD is the maximum input average power (see 33.3.8.2) the PD ever draws under the current power allocation."

Add verbiage here reminding reader that 36 pages ago we told you that a the physical layer class is the max power a PD may draw.

SuggestedRemedy

on page 189, line 3 change sentence to: "The actual PD power value for a PD is the maximum input average power (see 33.3.8.2) the PD ever draws under the current power allocation and does not exceed the amount requested via the Physical Layer."

an alternate remedy is to add at page 154, line 22 in section 33.3.6:
"The maximum power a PD draws after a DLL negotiation does not exceed the requested Class of the PD".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.3** *P* **190** *L* **1** # 400

Yseboodt, Lennart Philips

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

Variable names are not in alphabetical order.

SuggestedRemedy

Place all variable names in alphabetical order.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.3** *P* **190** *L* **39** # 260

Schindler, Fred Seen Simply, Cisco, T

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

New variable,
“pd_dll_single_or_dual
A control variable output by PD power control state diagram, defined in Figure 33–49, that indicates if the PD is a single-signature PD or a dual-signature PD. Type 3 and Type 4 PD state diagrams do not use this variable.
Values:
single: A single-signature PD configuration is connected to the PI.
dual: A dual-signature PD configuration is connected to the PI.”

makes no sense as detailed. The variable is not provided by Figure 33-49 but is used by it. This description also probably incorrectly states Type 3 and Type 4 PD state diagrams do not use this variable. Only Type 3 and 4 PDs may be dual-signature PDs. I suspect that the default value should be single unless this value is overwritten.

This problem reoccurs on page 198 line 44.

SuggestedRemedy

Assign a TDL to Yair to move this fix this.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.3** *P* **190** *L* **40** # 401

Yseboodt, Lennart Philips

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

Under pd_dll_single_or_dual:
"A control variable output by PD power control state diagram, defined in Figure 33-49, that indicates if the PD is a single-signature PD or a dual-signature PD. Type 3 and Type 4 PD state diagrams do not use this variable."

This is not an output variable of the PD power control, but an input condition on this variable.

SuggestedRemedy

"A variable in the PD power control state diagram, defined in Figure 33-49, that indicates if the PD is a single-signature PD or a dual-signature PD. Type 3 and Type 4 PD state diagrams do not use this variable."

Possible OBE by yseboodt_02_0117_lldpupdate.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.3** *P* **190** *L* **47** # 402

Yseboodt, Lennart Philips

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

Under pse_dll_single_or_dual:
"A control variable output by PSE power control state diagram defined in Figure 33-46 (generated from the do_cxn_check function of the Type 3 and Type 4 PSE state diagram in Figure 33-15) which indicates if the PSE is connected to a single-signature PD or dual-signature PD."
This is not an output variable of the PSE power control, but an input condition on this variable.

SuggestedRemedy

"A variable in the PSE power control state diagram defined in Figure 33-46 (generated from the do_cxn_check function of the Type 3 and Type 4 PSE state diagram in Figure 33-15)
which indicates if the PSE is connected to a single-signature PD or dual-signature PD."

Possible OBE by yseboodt_02_0117_lldpupdate.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.4** *P* **191** *L* **13** # 403

Yseboodt, Lennart Philips

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

"tautoclass_timeout
A timer used to detect the timeout of a pending Autoclass request by the PD. The value of this timer may be set to any value greater than 10 seconds."

As discussed in November, this leaves no margin compared to the LLDP response requirement. This value needs to be higher.

SuggestedRemedy

Change 10 seconds to 30 seconds.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.5** *P* **191** *L* **20** # 99

Darshan, Yair Mirosemi

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

In the text "This function evaluates the power allocation or budget of the PSE based on local system changes.", it is "the total power allocation or budget" for single-signature PD. See approved remedy in darshan_11_1116Option2Rev006.pdf.

SuggestedRemedy

Change to: "This function evaluates the total power allocation or budget of the PSE based on local system changes."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.5** *P* **191** *L* **23** # 100

Darshan, Yair Mirosemi

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

In the text "The new maximum power value that the PSE expects the PD to draw.", it is "The new maximum total power.." for single-signature PD. See approved remedy in darshan_11_1116Option2Rev006.pdf.

SuggestedRemedy

Change to: "The new maximum total power value that the PSE expects the PD to draw."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.5** *P* **192** *L* **20** # 404

Yseboodt, Lennart Philips

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

Table 33-41 has inconsistent line width near the bottom.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.6** *P* **193** *L* **1** # 405

Yseboodt, Lennart Philips

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

DLL power control state diagrams have state names with spaces in them.
Potentially confusing in text and incompatible with automated checking.

SuggestedRemedy

For all states in Figure 33-46, Figure 33-49, Figure 33-50, and Figure 33-51 replace space with underscore in state names and propagate change in the text.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.6** *P* **194** *L* **1** # 263

Schindler, Fred Seen Simply, Cisco, T

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

Make it easier for specification readers to follow the material by placing PSE and PD power control state diagrams adjacent to one another and not separated by other state diagrams.

SuggestedRemedy

Make Figure 33-46 and Figure 33-49 state diagrams appear on adjacent pages.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.6** *P* **194** *L* **3** # 261

Schindler, Fred Seen Simply, Cisco, T

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

State diagrams on this page appear to originate from BEGIN, which is not standard.

SuggestedRemedy

Replace “BEGIN” on Figure 33-47 with, “pse_dll_ready”.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.6** *P* **194** *L* **21** # 102

Darshan, Yair Mirosemi

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

AUTOCLASS state appears twice. Group to consider the proposed remedy.

SuggestedRemedy

1. Delete the last AUTOCLASS state.
2. Change the exit from the 1st AUTOCLASS state from "do_autoclass_measurement_done" to "do_autoclass_measurement_done*!MirroredPDAutoclassRequest" and connect it to IDLE state.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.6** *P* **194** *L* **30** # 262

Schindler, Fred Seen Simply, Cisco, T

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

State diagrams on this page appear to originate from BEGIN, which is not standard. The title is not correct for the second diagram.

SuggestedRemedy

Replace “BEGIN” on Figure 33-48 with, “pd_dll_ready” and change the title from,
“Figure 33–48—PSE Autoclass control state diagram” to,
“Figure 33–48—PD Autoclass control state diagram”

Proposed Response *Response Status* **O**

Cl **00** *SC* **33.5.3.6** *P* **194** *L* **51** # 300

Yseboodt, Lennart Philips

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

Figure 33-48 is titled "PSE Autoclass control state diagram"

SuggestedRemedy

PSE should be PD.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.6** *P* **194** *L* **51** # 283

Stover, David Linear Technology

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

Figures 33-48 and 33-47 are captioned "PSE Autoclass control state diagram". In fact, Figure 33-48 appears to be the PD Autoclass control state diagram.

SuggestedRemedy

Modify caption for Figure 33-48: "PD Autoclass control state diagram"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.6** *P* **194** *L* **51** # 101

Darshan, Yair Mirosemi

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

Figure 33-48: "Figure 33–48—PSE Autoclass control state diagram" should be PD.

SuggestedRemedy

Change to: "Figure 33–48—PD Autoclass control state diagram"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.8** *P* **196** *L* **32** # 264

Schindler, Fred Seen Simply, Cisco, T

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

Make this standard easier to read for software developers that do not read most hardware details.

SuggestedRemedy

Replace the existing text,
"The PSE power control state diagram (Figure 33–46) and PD power control state diagram (Figure 33–49) use the following variables:" with,

"The PSE power control state diagram (Figure 33–46) and PD power control state diagram (Figure 33–49) use _mode(M), which is defined in 33.3.3, and the following variables:"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.8** *P* **199** *L* **1** # 265

Schindler, Fred Seen Simply, Cisco, T

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

New variable,
"pse_dll_single_or_dual
A control variable output by PSE power control state diagram defined in Figure 33–46 (generated from the do_cxn_check function of the Type 3 and Type 4 PSE state diagram in Figure 33–15) which indicates if the PSE is connected to a single-signature PD or dual-signature PD.
Values:
invalid: Neither a single-signature PD nor a dual-signature PD connection check signature has been found. This includes an open circuit condition.
single: A single-signature PD configuration is connected to the PI.
dual: A dual-signature PD configuration is connected to the PI."

The variable is not defined in Figure 33-46, it is used there. It is also not generated in Figure 33-15 or in do_cxn_check. This problem also exists on page 190 line 47 but a different definition is provided for the same variable. One definition should be used if possible.

SuggestedRemedy

Assign a TDL to Yair to move this fix this. The definition should be rewritten and the required assignment should be done in do_cxn_check.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.9** *P* **199** *L* **29** # 266
Schindler, Fred Seen Simply, Cisco, T

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

The table needs to be reformatted to prevent the title text from overflowing.

SuggestedRemedy

Have the editor rework his magic to fix Table 33-42's header.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.9** *P* **199** *L* **30** # 406
Yseboodt, Lennart Philips

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

Table 33-42 has the top row split very akward... "Entit-y"

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.9** *P* **199** *L* **48** # 407
Yseboodt, Lennart Philips

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

Table 33-42 is missing bottom line.

SuggestedRemedy

Add bottom line.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.9** *P* **200** *L* **5** # 103
Darshan, Yair Mirosemi

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

Missing _mode(M) in MirroredPSEAllocatedPowerValue

SuggestedRemedy

Change to: "MirroredPSEAllocatedPowerValue_mode(M)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.9** *P* **200** *L* **6** # 104
Darshan, Yair Mirosemi

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

Missing _mode(M) in MirroredPDRequestedPowerValueEcho

SuggestedRemedy

Change to: MirroredPDRequestedPowerValueEcho_mode(M)

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.10** *P* **201** *L* **5** # 408
Yseboodt, Lennart Philips

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

"pse_dll_singe_or_dual = single" condition is wrong, should be dual

SuggestedRemedy

Change to "pse_dll_singe_or_dual = dual"

Possible OBE by yseboodt_02_0117_lldpupdate.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.10** *P* **201** *L* **5** # 267
Schindler, Fred Seen Simply, Cisco, T

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

The dual-signature state diagram is entered only when the variable pd_dll_single_or_dual is single, which is incorrect.

SuggestedRemedy

Assign a TDL to Yair to move this fix this.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.10** *P* **201** *L* **5** # 268

Schindler, Fred — Seen Simply, Cisco, T

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

The INITIALIZE state no longer requires
“pd_dll_power_type parameter_type”.

SuggestedRemedy

See the solution for Note: This comment relates to TDL D2.1 #118, #122, #140 and #25.
Assign a TDL to Yair to move this fix this.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.10** *P* **201** *L* **5** # 105

Darshan, Yair — Mirosemi

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

Error in the condition (!pse_dll_enabled + !pse_dll_ready) *
(pse_dll_single_or_dual = single). It should be pse_dll_single_or_dual = dual

SuggestedRemedy

Change to: " (!pse_dll_enabled + !pse_dll_ready) *
(pse_dll_single_or_dual = dual)"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.10** *P* **202** *L* **4** # 106

Darshan, Yair — Mirosemi

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

Error in the condition (!pd_dll_enabled + !pd_dll_ready) *
(pd_dll_single_or_dual = single). It should be pd_dll_single_or_dual = dual

SuggestedRemedy

Change to: "(!pd_dll_enabled + !pd_dll_ready) *
(pd_dll_single_or_dual = dual)"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.10** *P* **202** *L* **4** # 409

Yseboodt, Lennart — Philips

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

"pse_dll_singe_or_dual = single" condition is wrong, should be dual

SuggestedRemedy

Change to "pse_dll_singe_or_dual = dual"

Possible OBE by yseboodt_02_0117_lldpupdate.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.3.10** *P* **202** *L* **5** # 269

Schindler, Fred — Seen Simply, Cisco, T

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

The INITIALIZE state no longer requires
“pse_dll_power_type parameter_type”.

SuggestedRemedy

See the solution for Note: This comment relates to TDL D2.1 #118, #122, #140 and #25.
Assign a TDL to Yair to move this fix this.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.5** *P* **204** *L* **4** # 410

Yseboodt, Lennart — Philips

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

"When the PD sends this request, it needs to be in a state where it consumes the amount of power that will from that moment onward be its maximum consumption."

Better phrasing.

SuggestedRemedy

"When the PD sends this request, it needs to be in a state where it consumes the amount of power that from that moment onward will be the maximum power drawn."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.5** *P* **204** *L* **6** # 411
Yseboodt, Lennart Philips

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

"When the PSE receives the request for Autoclass, it shall measure the power consumption per the requirements in 33.2.7.3."

Autoclass is optional, this is not reflected in this shall.

SuggestedRemedy

"When the PSE receives the request for Autoclass, and Autoclass is enabled, it shall measure the power consumption per the requirements in 33.2.7.3."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.4.4** *P* **204** *L* **25** # 412
Yseboodt, Lennart Philips

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

"33.5.4.4 PD state change procedure across a link (single-signature)"

SuggestedRemedy

Should be "(dual-signature)".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.5.5** *P* **204** *L* **48** # 413
Yseboodt, Lennart Philips

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

"A PSE can indicate it supports an Autoclass request by means of the... "

Better phrasing needed.

SuggestedRemedy

"A PSE can indicate it supports DLL Autoclass by means of the..."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.3** *P* **205** *L* **49** # 414
Yseboodt, Lennart Philips

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

"In particular, users are cautioned to be aware of the ampacity of cabling, as installed, and local codes and regulations, e.g., ANSI/NFPA 70 - National Electric Code(r) (NEC(r)), relevant to the maximum class supported."

SuggestedRemedy

The word "ampacity" is specific to the NEC. It isn`t actually a word found in most dictionaries.

Replace "ampacity" by "current rating".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.8** *P* **206** *L* **45** # 415
Yseboodt, Lennart Philips

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

Under the labeling recommendation, we should update item "e)"

"Type (e.g., "Type 1" or "Type 2")"

SuggestedRemedy

Change to: "Type (eg., "Type 1", "Type 2", "Type 3", "Type 4")".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.8** *P* **206** *L* **46** # 416
Yseboodt, Lennart Philips

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

We should add indication if the PD is single or dual signature to the labelling.

SuggestedRemedy

Add new item under 33.6.8 as follows before "e":
"If the device is a PD, indicate "single-signature PD" or "dual-signature PD" as appropriate"

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.1** P **210** L **15** # 41
Chabot, Craig UNH-IOL

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

"twisted pair" should read "twisted-pair"

SuggestedRemedy

Replace "twisted pair" with "twisted-pair"

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.2** P **210** L **36** # 42
Chabot, Craig UNH-IOL

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

This shall only applies to PSET3H

SuggestedRemedy

In Status, replace "PSET3:M" with "PSET3H:M"

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.2** P **212** L **3** # 43
Chabot, Craig UNH-IOL

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

The text associated with this shall has changed.

SuggestedRemedy

Remove text in Value/Comment cell and replace with "Determine if both pairsets are connected to a single-signature PD configuration, a dual-signature PD configuration, or if both pairsets are invalid"

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.2** P **212** L **19** # 44
Chabot, Craig UNH-IOL

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

The subclause noted is incorrect.

SuggestedRemedy

Replace "33.2.6" with "33.2.6.2"

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.2** P **213** L **6** # 45
Chabot, Craig UNH-IOL

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

The shall associated with this PIC entry has been removed.

SuggestedRemedy

Delete PSE38

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.2** P **214** L **31** # 46
Chabot, Craig UNH-IOL

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

The subclause noted is incorrect.

SuggestedRemedy

Replace "33.2.7.1" with "33.2.7.2"

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.2** P **216** L **31** # 47
Chabot, Craig UNH-IOL

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

The text associated with this shall has changed.

SuggestedRemedy

In the Feature cell, replace current text with "PSE reaches POWER_ON state and pd_autoclass is TRUE"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.2** *P* **217** *L* **42** # 48
Chabot, Craig UNH-IOL

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

The text associated with this shall has changed.

SuggestedRemedy

In the Feature cell, replace "Type 2 PSE that uses Single-Event Physical Layer classification" with "Type 2 PSE that uses Single-Event Physical Layer classification, and requires the 1 ms settling time"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.2** *P* **219** *L* **19** # 49
Chabot, Craig UNH-IOL

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

In the Value/Comment cell, "Iport" should read "Iport-2P"

SuggestedRemedy

Replace "Iport" with "Iport-2P"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.2** *P* **219** *L* **24** # 50
Chabot, Craig UNH-IOL

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

In the Value/Comment cell, "Iport" should read "Iport-2P"

SuggestedRemedy

Replace "Iport" with "Iport-2P"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.2** *P* **219** *L* **30** # 51
Chabot, Craig UNH-IOL

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

Typos in PSE119

SuggestedRemedy

In Feature cell, replace "poweing" with "powering"
In Value/Comment cell, add space between "MPS" and "has"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **221** *L* **27** # 52
Chabot, Craig UNH-IOL

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

More text associated with this shall has been added to 33.3.3.

SuggestedRemedy

In the Value/Comment cell, replace "According to state diagram shown in Figure 33-33" with "According to state diagram shown in Figure 33-33 over each pairset independently unless otheriwse specified"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **221** *L* **52** # 53
Chabot, Craig UNH-IOL

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

The text associated with this shall has been removed.

SuggestedRemedy

Delete PD15

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.3** P **222** L **10** # 54
Chabot, Craig UNH-IOL

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

The subclause noted is incorrect.

SuggestedRemedy

In the Subclause cell, replace "33.3.5" with "33.3.6"

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.3** P **222** L **12** # 55
Chabot, Craig UNH-IOL

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

The subclause noted is incorrect.

SuggestedRemedy

In the Subclause cell, replace "33.3.5" with "33.3.6"

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.3** P **222** L **15** # 56
Chabot, Craig UNH-IOL

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

This shall only applies to PDT3H

SuggestedRemedy

In the Status cell, replace "PDT3:M" with "PDT3H:M"

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.3** P **222** L **36** # 57
Chabot, Craig UNH-IOL

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

This shall does not apply only to Type 2 PDs.

SuggestedRemedy

In the Status cell, replace "PDT2:M" with "M"

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.3** P **223** L **3** # 58
Chabot, Craig UNH-IOL

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

This shall applies to PDs that support autoclass

SuggestedRemedy

In the Status cell, add "PDAC:M"

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.3** P **223** L **9** # 59
Chabot, Craig UNH-IOL

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

The text associated with this shall has been removed.

SuggestedRemedy

Delete PD30

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.3** P **223** L **20** # 60
Chabot, Craig UNH-IOL

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

The text associated with this shall has been removed.

SuggestedRemedy

Delete PD33

Proposed Response *Response Status* **O**

Cl **33** SC **33.7.3.3** P **223** L **32** # 61
Chabot, Craig UNH-IOL

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

The text associated with this shall (PD36a) is not in subclause 33.3.6.2.1, it is in 33.3.6.2.

SuggestedRemedy

Delete PD36a, as it is replaced by another comment from me.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **223** *L* **34** # 62
Chabot, Craig UNH-IOL

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

The text associated with this shall (PD36b) is not in subclause 33.3.6.2.1, it is in 33.3.6.2.

SuggestedRemedy

Delete PD36b, as it is replaced by another comment from me.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **18** # 63
Chabot, Craig UNH-IOL

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

The text associated with this shall (PD42) has changed.

SuggestedRemedy

Remove text in Value/Comment cell and replace with "At a voltage in the range of Von_PD"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **20** # 64
Chabot, Craig UNH-IOL

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

The text associated with this shall (PD43) has changed.

SuggestedRemedy

Remove text in Value/Comment cell and replace with "Over the entire Vport_PD-2P range"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **23** # 65
Chabot, Craig UNH-IOL

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

The text associated with this shall (PD44) has changed.

SuggestedRemedy

Remove text in Value/Comment cell and replace with "In the range of Voff_PD"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **29** # 66
Chabot, Craig UNH-IOL

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

More text associated with this shall (PD46) has been added.

SuggestedRemedy

Remove the text in the Value/Comment cell and replace with "Not to consume power greater than Pclass at the PSE PI and not to draw current in excess of Icable as degined in Table 33-1"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **39** # 67
Chabot, Craig UNH-IOL

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

PD49: Text in Value/Comments is incorrect

SuggestedRemedy

In the Value/Comments cell, replace "Tinrush-2P min" with "Tinrush-2P max"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **43** # 68
Chabot, Craig UNH-IOL

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

PD50: Text in Value/Comments is incorrect

SuggestedRemedy

In the Value/Comments cell, replace "Tinrush-2P min" with "Tinrush-2P max"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **46** # 69
Chabot, Craig UNH-IOL

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

PD51: Text in Value/Comments is incorrect

SuggestedRemedy

In the Value/Comments cell, replace "Tinrush-2P min" with "Tinrush-2P max"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **49** # 144
Jones, Chad Cisco

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

PD54 contains the term PClass_PD max, which we agreed was not a constant in this standard during commenting against D2.1, comment #95. we missed this one. I didn't find any others in the text.

SuggestedRemedy

change PClass_PD max to Pport_PD MAX

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **49** # 72
Chabot, Craig UNH-IOL

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

PD54 only applies to single-signature PDs

SuggestedRemedy

In the Feature cell, replace "Peak power for any PD operating condition, with the exception described in 33.3.8.4.1" with "Peak power for any PD operating condition with the exception described in 33.3.8.4.1 for single-signature PDs"
and in the Status cell, add "PDSS:M"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **49** # 71
Chabot, Craig UNH-IOL

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

PD54: Text in Value/Comments is incorrect

SuggestedRemedy

In the Value/Comment cell, replace "Pclass_PD max" with "Pclass_PD"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **49** # 70
Chabot, Craig UNH-IOL

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

Typo in PD54

SuggestedRemedy

Add a space in between "in" and "33.3.8.4.1"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **224** *L* **52** # 73
Chabot, Craig UNH-IOL

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

PD55 only applies to single-signature PDs

SuggestedRemedy

In the Feature cell, replace "Peak operating power" with "Peak operating power for single-signature PDs"
and in the Status cell add "PDSS:M"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **225** *L* **15** # 74
Chabot, Craig UNH-IOL

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

PD60 Feature should be written to the same convention used throughout the PICS (see PD61)

SuggestedRemedy

In the Feature cell, replace "Peak transient current" with "Peak transient current for single-signature PDs"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **225** *L* **24** # 75
Chabot, Craig UNH-IOL

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

The text associated with this shall (PD68) appears to have been removed

SuggestedRemedy

Delete PD68

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **226** *L* **32** # 77
Chabot, Craig UNH-IOL

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

The noted subclause is incorrect

SuggestedRemedy

In the Subclause cell, replace "33.3.8.10" with "33.3.9"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.7.3.3** *P* **226** *L* **32** # 76
Chabot, Craig UNH-IOL

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

The noted subclause is incorrect

SuggestedRemedy

In the Subclause cell, replace "33.3.8.10" with "33.3.9"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.1** *P* **234** *L* **10** # 195
Law, David HPE

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

Text in IEEE Std 802.1AB-2009/Cor1-2013 (see subclause 6.6.1) enables later versions of a TLV to define additional fields at the end of the information string, which IEEE P802.3bt is doing. Since the revision IEEE Std 802.1AB-2016 supersedes (and therefore incorporates) this corrigendum, suggest that the reference to IEEE Std 802.1AB-2009 be updated to IEEE Std 802.1AB-2016 throughout the draft with the exception of subclause 79.3.2 which is a historical reference (see separate comment).

SuggestedRemedy

Suggest that the text '... IEEE Std 802.1AB-2009 ...' be updated to read '... IEEE Std 802.1AB-2016 ...' in the following locations:

[1] Subclause 33.5.1 (page 185, line 38).
[2] Subclause 33.7.3.7 (page 231, line 20).
[3] Subclause 79.1 (page 234, line 10).
[4] Subclause 79.1 (page 234, line 23).
[5] Subclause 79.1.1.1 (page 235, line 4).
[6] Subclause 79.2 (page 235, line 35).
[7] Subclause 79.4 (page 247, line 14).

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.1** *P* **234** *L* **10** # 194
Law, David HPE

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

Text in IEEE Std 802.1AB-2009/Cor1-2013 (see subclause 6.6.1) enables later versions of a TLV to define additional fields at the end of the information string, which IEEE P802.3bt is doing. Since the revision IEEE Std 802.1AB-2016 supersedes (and therefore incorporates) these corrigendum, suggest that the reference to IEEE Std 802.1AB-2009 be updated to IEEE Std 802.1AB-2016.

SuggestedRemedy

Suggest that the text '... IEEE Std 802.1AB-2009 ...' be updated to read '... IEEE Std 802.1AB-2016 ...'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.1** *P* **234** *L* **23** # 196

Law, David HPE

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

Subclause 79.1 states that '... procedures for defining Organizationally Specific TLVs are provided in subclause 9.6 of IEEE Std 802.1AB-2009.'. There is no subclause 9.6 in IEEE Std 802.1AB-2009, instead there was a subclause 9.6 in IEEE Std 802.1AB-2005 titled 'Organizationally Specific TLVs' which became subclause 8.6 'Organizationally Specific TLVs' in IEEE Std 802.1AB-2009 and remains subclause 8.6 in in IEEE Std 802.1AB-2016.

SuggestedRemedy

Suggest that the text '... in subclause 79.1 change '... in subclause 9.6 of IEEE Std 802.1AB-2009.' to read '... in subclause 8.6 of IEEE Std 802.1AB-2016.'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.1.1.3** *P* **235** *L* **11** # 21

Anslow, Pete Ciena

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

There is no need for the text "(note: the “-” between 88 and CC need to be struck)"

SuggestedRemedy

Delete the note and change the text in 79.1.1.3 to be "the hexadecimal value: 88-CC " in strikethrough font followed by "0x88CC " in underline font

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2** *P* **236** *L* **25** # 197

Law, David HPE

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

Suggest that the term 'Power Via MDI' rather than 'MDI power support' be used.

SuggestedRemedy

Suggest the text '... MDI power support ...' be changed to read '... Power Via MDI TLV ...'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2** *P* **236** *L* **38** # 274

Skinner, John Sifos Technologies, In

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

Figure 79–3—Power Via MDI TLV format page 236 contains new fields "PD requested power value Mode A", "PD requested power value Mode B", "PSE allocated power value Alternative A", and "PSE allocated power value Alternative B".

There are no corresponding sections describing these fields.

SuggestedRemedy

Add the following on page 239:

In section 79.3.2.5 PD requested power value, additional statement:

For Type 3 and 4 devices, the value should be (PD requested power value Mode A + PD requested power value Mode B).

New section 79.3.2.5.1 PD requested power value Mode A

The PD requested power value is encoded according to Equation (79–1).

The value should be (PD requested power value - PD requested power value Mode B).

New section 79.3.2.5.2 PD requested power value Mode B

The PD requested power value is encoded according to Equation (79–1).

The value should be (PD requested power value - PD requested power value Mode A).

In section 79.3.2.6 PSE allocated power value, additional statement:

For Type 3 and 4 devices, the value should be (PSE allocated power value Alternative A + PSE allocated power value Alternative B).

New section 79.3.2.6.1 PSE allocated power value Alternative A

The PSE allocated power value is encoded according to Equation (79–2).

The value should be (PSE allocated power value - PSE allocated power value Alternative B).

New section 79.3.2.6.2 PSE allocated power value Alternative B

The PSE allocated power value is encoded according to Equation (79–2).

The value should be (PSE allocated power value - PSE allocated power value Alternative A).

Add PICS items immediately after PVT12 and PVT13 in the MDI TLV PICS table, page 253 for the new Alternative power fields and related new sections.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2** *P* **237** *L* **2** # 198

Law, David HPE

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

The text states that '... the legacy Power via MDI TLV originally defined in IEEE Std 802.1AB-2009 Annex F.3.' however the Power Via MDI TLV was first defined in IEEE Std 802.1AB-2005 Annex G.3. The text then goes on to describe 'newly' added fields in respect to the fields added by the amendment IEEE Std 802.3at-2009, now superseded by IEEE 802.3-2015, to support Data Link Layer (DLL) classification.

The text then states that the revised (read IEEE Std 802.3at-2009) TLV can be used by the PSE only when it is supplying power to a PI ... and by the PD only when it is drawing power from the PI.'. In the final paragraph it then states that the TLV has been further revised (read IEEE Std 802.3bt-201X) and that 'Type 3 and Type 4 PSEs and PDs may use these additional fields.'.

Since the IEEE Std 802.3bt-201X added fields come after the IEEE Std 802.3at-2009 added fields, and since the IEEE Std 802.3at-2009 fields can't be sent until power is being supplied/sourced, by definition IEEE Std 802.3bt-201X added fields can't be sent until power is being supplied/sourced either.

The text then states that 'If the power entity implements Data Link Layer classification, it shall use the Power via MDI TLV shown in Figure 79–3 after the PI has been powered.'. Since Figure 79–3 includes the Type 3 and Type 4 extension this text seems to mandate existing Type 2 implementation provide the Type 3 and Type 4 extension which I don't think is the intent.

Finally it is stated that 'The TLV in Figure 79–3 has been further revised to support additional capabilities offered by Type 3 and Type 4 PSEs and PDs as defined in Clause 33. Type 3 and Type 4 PSEs and PDs may use these additional fields.'. The use of the 'may' in the second sentence in respect to these additional fields implies an option, but isn't the option support of DLL classification by a Type 3 or Type 4 device, and if such a device supports DLL classification, support of these additional fields is mandatory.

SuggestedRemedy

Suggest that:

[1] In Figure 79–3 'Power Via MDI TLV format' the three 'legacy' fields 'MDI Power support', 'PSE Power pair', and ' Power Class' be annotated 'Basic fields' in the same way that the Type 3 and Type 4 related fields are annotated 'Type 3 and Type 4 extension'.

[1] In Figure 79–3 'Power Via MDI TLV format' the three DLL classification related fields 'Type/source/priority', 'PD Requested power value' and 'PSE Allocated power value' be annotated 'DLL classification extension' in the same way that the Type 3 and Type 4 related fields are annotated 'Type 3 and Type 4 extension'.

[2] Paragraph 2 of subclause 79.3.2 be replaced with the following:

The Power via MDI TLV shown in Figure 79-3 was originally defined in IEEE Std 802.1AB-

2005 Annex G.3. This original TLV only supported the first three fields of Figure 79-3, labelled basic fields, enabling discover and advertisement of Power via MDI capabilities. The Power via MDI TLV was revised by IEEE Std 802.3at-2009 to add a further three fields, labelled DLL classification extension, to provide Data Link Layer (DLL) classification capabilities. The Power via MDI TLV was revised again by IEEE Std 802.3bt-201X to add a further nine fields, labelled Type 3 and Type 4 extension to support additional capabilities offered by Type 3 and Type 4 PSEs and PDs.

Power entities may continue to use the Power Via MDI TLV basic fields shown in Figure 79–3 prior to supplying/drawing power to/from the PI. The DLL classification extension fields and Type 3 and Type 4 extension fields shown in Figure 79–3 can be used by the PSE only when it is supplying power to a PI encompassed within an MDI and by the PD only when it is drawing power from the PI.

If a Type 1 or Type 2 power entity implements Data Link Layer classification, it shall support the Power Via MDI TLV DLL classification extension fields shown in Figure 79–3 after the PI has been powered. If a Type 3 or Type 4 power entity implements Data Link Layer classification, it shall support both the DLL classification extension fields and Type 3 and Type 4 extension fields shown in Figure 79–3 after the PI has been powered.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.2** *P* **237** *L* **42** # 270

Schindler, Fred Seen Simply, Cisco, T

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

IEEE Clause 30 and 79 text references RFC 3621 for TLV and MIB variable definitions, which is no longer correct. IEEE Std 802.3.1-2013 states in Clause 1 'Overview' that 'This document supersedes and makes obsolete ... IETF RFC 3621 ...'. This comment should close TDL D2.1 #283.

SuggestedRemedy

Replace legacy text,
page 237 in 79.3.2.2 and 79.3.2.3

"… object in IETF RFC 3621." with,

"… object."

Make the same correct to text in PICs page 253 79.5.8, PVT2 and PVT4. David Law is also provide text in Clause 30 to fix these concerns.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.2** *P* **237** *L* **44** # 199

Law, David HPE

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

The reference to pethPsePortPowerPairs is somewhat indirect since pethPsePortPowerPairs in RFC 3621, which has now been deprecated by IEEE Std 802.3.1-2013, and in IEEE Std 802.3.1-2013 itself, both reference back to IEEE Std 802.3, subclause 30.9.1.1.4 aPSEPowerPairs. The one item that pethPsePortPowerPairs provides, that aPSEPowerPairs does not, is values assigned to each enumeration, which are the values used in the TLV. For this reasons, rather than reference an item in an external standard, that then references back in to a subclause of IEEE Std 802.3, suggest that a direct reference to the subclause in IEEE Std 802.3 be provided, along with a table providing the mapping between the pair in use and the value in the TLV with the mapping identical to that in pethPsePortPowerPairs.

In addition the pethPsePortPowerPairs object is part of the pethPsePortEntry object, a set of objects '... that display and control the power characteristics of a power Ethernet PSE port ...' (see IEEE Std 802.3.1-2013 subclause 8.5) and hence only exist for a PSEs. Based on this there is no behaviour defined for the PSE power pair bits for a Power Via MDI TLV sourced by a PD.

Further, the first three fields of the Power Via MDI TLV can be sent both before and after power is being supplied to the PD, see second paragraph of 79.3.2. Due to this the two new sentences 'Type 3 or Type 4 PSEs that are furnishing power ...' and 'Either pairset may be indicated when furnishing power ...' cover when power is being supplied, but not before power is being supplied. Suggest either paireset be used here as well. The Type 3 and Type 4 extension however, which includes the PSE power status field defined in 79.3.2.6a, is only sent after power is being supplied, see second paragraph of 79.3.2, hence can only be used to communicate that both pairsets are being used to supply power.

Finally suggest that '... supplying power ...' be used rather that '... furnishing power ...'.

SuggestedRemedy

Suggest that subclause 79.3.2.3 be changed to read:

The PSE power pair field transmitted by a PSE shall contain an integer value as defined in Table 79-X based on pethPsePortPowerPairs. A Type 3 or Type 4 PSEs that is supplying power on a single pairset shall use the value that defines that pairset (signal=Alternative A, spare=Alternative B). Either pairset may be indicated when a PSE is detecting or supplying power on both pairsets. The PSE power status value field defined in 79.3.2.6a can indicate when a PSE is supplying power on both pairsets. The value of the PSE power pair field transmitted by a PD is undefined.

Table 79-X - PSE power pair field

Value	Meaning
1	signal
2	spare

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.3** *P* **237** *L* **52** # 200

Law, David HPE

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

The reference to pethPsePortPowerClassifications is somewhat indirect since pethPsePortPowerClassifications in RFC 3621, which has now been deprecated by IEEE Std 802.3.1-2013, and in IEEE Std 802.3.1-2013 itself, both reference back to IEEE Std 802.3, subclause 30.9.1.1.6 aPSEPowerClassification. The one item that pethPsePortPowerClassifications provides, that aPSEPowerClassification does not, is values assigned to each enumeration, which are the values used in the TLV. The aPSEPowerClassification attribute however has had addition enumerations added for class 5 through class 8 in IEEE P802.3bt but values for those enumerations aren't provided in pethPsePortPowerClassifications, nor is there any descriptive text here in respect to these new enumerations.

For these reasons, rather than reference an item in an external standard, that then references back in to a subclause of IEEE Std 802.3, suggest that a direct reference to the subclause in IEEE Std 802.3 be provided, along with a table providing the mapping between the detected PD power class and the values in the TLV Power class field. This mapping should be identical to that found in pethPsePortPowerClassifications with additions for class 5 through class 8. Suggest that an approach similar to that used in subclause 79.3.2.2 'PSE power pair' above be used here, and that class 5 through 8 be mapped to class 4, noting that the additional classes will be communicated through the 'Power Class' bits specified in subclause 79.3.2.6a.

Finally the pethPsePortPowerClassifications object is part of the pethPsePortEntry object, a set of objects '... that display and control the power characteristics of a power Ethernet PSE port ...' (see IEEE Std 802.3.1-2013 subclause 8.5) and hence only exist for a PSEs. Based on this there is no behaviour defined for the Power class bits for a Power Via MDI TLV sourced by a PD.

SuggestedRemedy

Suggest that subclause 79.3.2.3 be changed to read:

The power class field transmitted by a PSE shall contain an integer value as defined in Table 79-X based on aPSEPowerClassification. Class 4 and above is indicated with the same value in this field as the Class 4 and above is communicated by the Power Class field defined in 79.3.2.6a. The power class field transmitted by a PD is undefined.

Table 79-X - Power class field

Value	Meaning
1	Class 0 PD
2	Class 1 PD
3	Class 2 PD
4	Class 3 PD
5	Class 4 and above

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.4** *P* **238** *L* **1** # 201

Law, David HPE

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

Since 'requested' does not appear in any of the description of the bits, and in the case of the 'power type' and 'power source' bits, these bits state what the devices is and where it is sourcing power, suggest that 'Requested' should be removed from the subclause title.

SuggestedRemedy

Suggest that subclause 79.3.2.4 'Requested power type/source/priority' be changed to read 'Power type/source/priority'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.4** *P* **238** *L* **27** # 202

Law, David HPE

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

According to Table 79-9 the attribute aLldpXdot3LocPowerPriority maps to the 'Power priority' bits which according to Table 79-10 maps to aLldpXdot3RemPowerPriority. Based on this suggest that the 'meaning' listed in Table 79-4 match the enumerations defined for aLldpXdot3LocPowerPriority and aLldpXdot3RemPowerPriority.

SuggestedRemedy

Suggest that:

'low' be changed to read 'low priority PD'
'high' be changed to read 'high priority PD'
'critical' be changed to read 'critical priority PD'
'unknown' be changed to read 'priority unknown'

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.4.2** *P* **238** *L* **46** # 203

Law, David HPE

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

A PSE is usually described as 'supplying' power through the PI.

SuggestedRemedy

Suggest that '... when the PSE is sourcing its power through the PI ...' be changed to read '... when the PSE is supplying power through the PI ...'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6** *P* **239** *L* **19** # 204

Law, David HPE

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

Delete equation 79-1 and 79-2 as they are no longer need due to the changes made to define the PD requested power value and PSE allocated power value bits as expressed in units of 0.1 W.

SuggestedRemedy

Delete equation 79-1 and 79-2. Remove references to these equations in subclause 30.12.2.1.17, 30.12.2.1.18, 30.12.2.1.18g, 30.12.3.1.18g, 33.5.3.3, 33.5.3.5, 33.5.3.8 and 33.5.3.9.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.5** *P* **239** *L* **25** # 273

Skinner, John Sifos Technologies, In

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

Statement on line 25 "X is the decimal value of the power value field, bits 15:0" is formed differently from the statement on line 50, from which the phrase "the decimal value of" has been stricken.

SuggestedRemedy

Modify the statement on line 25 to match the statement on line 50, or revert the statement on line 50 to its previous form, matching the statement on line 25.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6** *P* **240** *L* **1** # 272

Skinner, John Sifos Technologies, In

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

New sections labelled 79.3.2.6a, 79.3.2.6b, 79.3.2.6c, 79.3.2.6d and 79.3.2.6e located on pages 240..242 do not following the naming convention of the 802.3 specification.

SuggestedRemedy

To fit between the existing sections 79.3.2.6 and 79.3.2.7, these should be labelled 79.3.2.6.1..79.3.2.6.5. (NOTE: the exact section labels are potentially subject to change related to a separate comment regarding missing description sections for new TLV fields)

Any related section labels, such as 79.3.2.6a.1, will also need to be corrected to the correct location in the section heirarchy.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6a** *P* **240** *L* **5** # 205

Law, David HPE

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

According to Figure 79–3 'Power Via MDI TLV format' and the subclause 79.3.2.6a title this field if called the 'Power status' field, not the ' Power status value' field.

SuggestedRemedy

Suggest that:

[1] On page 240 line 5 the text 'The Power status value field ...' be changed to read 'The Power status field ...'.
[2] On page 240 line 9 the table title be changed from 'Table 79-6a-Power status value field' to read 'Table 79-6a-Power status field'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6a** *P* **240** *L* **21** # 206

Law, David HPE

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

The aLldpXdot3LocPowerClassx and aLldpXdot3RemPowerClassx attributes map to and from the 'Power classx' bits according to Table 79-9 and 79-10 respectively, and these bits need to be named 'Power classx' to differentiate them from the different 'Power class' bits defined in subclause 79.3.2.3.

SuggestedRemedy

Change 'Power Class' to read 'Power Classx' as follows on line 22 and in the subclause title on line 43.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6a** *P* **240** *L* **22** # 425

Yseboodt, Lennart Philips

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

The Power status value field has 4 bits allocated to report a "Power Class".
Dual-signature was not taken into account here.
The cleanest fix is to extend this field to 16 bit. I prefer this over giving a quadruple meaning to the existing bits.

SuggestedRemedy

- In Figure 79-3 rename "PSE power status" to "Power status".
- In the same Figure, extend this field by 1 octet.
- In Table 79-6a insert between bit 4 and 3 two new fields, each of 3 bits:
  * Power Class Mode A and Power Class Mode B
  * Fill out the table in similar fashion as "Power Class" for Class 1 through 5
  * Reserved values are "0 0 0", "1 1 0" and " 1 1 1" to make Class number match with numeric value
- Append to 79.3.2.6a.2 the following sentence:
  "PSEs connected to a dual-signature PD and dual-signature PDs set this field to value 15".
- Change Value/meaning of "1 1 1 1" of Power Class to "dual-signature".
- Add new subsection after 79.3.2.6a.2 for Mode A and Mode B with similar description as single-signature.
- Add appropriate managed objects in Clause 30

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6a.2** *P* **240** *L* **43** # 207

Law, David HPE

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

Since subclause 79.3.2.3 already defines 'Power class' suggest that these bits should be named 'Power classx' as they have been in Table 79–9.

SuggestedRemedy

Suggest that:

[1] The subclause 79.3.2.6a text that reads '... power class, ...' be changed to read '... power classx, ...'.
[2] Bits 3:0 in Table 79–6a be changed to read 'Power classx'.
[3] The title of subclause 79.3.2.6a.2 be changed to read 'Power classx'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6b** *P* **240** *L* **51** # 208

Law, David HPE

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

According to Figure 79–3 'Power Via MDI TLV format' and the subclause 79.3.2.6b title this field if called the 'System setup' field, not the 'System setup value' field.

SuggestedRemedy

Suggest that:

[1] On page 240 line 51 the text 'The System setup value field ...' be changed to read 'The System setup field ...'.
[2] On page 241 line 1 the table title be changed from 'Table 79-6b-System setup value field' to read 'Table 79-6b-System setup field'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6b** *P* **240** *L* **51** # 209

Law, David HPE

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

The 'PD PI' field does not exist in the Power Via MDI TLV.

SuggestedRemedy

Change the text '... the Power type, PD 4PID, PD PI and PD Load ...' to read '... the Power type, PD 4PID and PD Load ...'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6b** *P* **240** *L* **52** # 210

Law, David HPE

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

The values defined for the System setup field defined in Table 79–6b only relate to a PD, the values for this field when the TLV is transmitted by a PSE needs to be defined.

SuggestedRemedy

Suggest the text 'The value of the System setup field transmitted by a PSE is undefined.' be added to the end of subclause 79.3.2.6b.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6d** *P* **242** *L* **12** # 107

Darshan, Yair Mirosemi

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

(TDL #41 and #129 D2.1 Lennart Y, Fred.)
The text says:
"Using the Autoclass field to trigger a new Autoclass measurement allows a PD to change maximum power consumption."
In addition Table 79-5d tries to specify some "handshake" 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

If not completed for this meeting, keep it in the TDL.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.8** *P* **243** *L* **1** # 426

Yseboodt, Lennart Philips

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

We should have a power measurement field in the Measurement TLV.
Currently it`s Current, Voltage and Energy.

SuggestedRemedy

Do the following:
- Extend the PD and PSE measurements by 3 bytes (new total 15 bytes)
- Add an Power request bit
- Add a Power measurement field
- Add a power accuracy field
- Add power support field
- Adjust text in 79.3.8.1 and 79.3.8.2
- Add Clause 30 managed objects

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.8** *P* **243** *L* **6** # 211

Law, David HPE

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

Typo.

SuggestedRemedy

Suggest that '... over the sample generic cabling ...' should be changed to read '... over the same generic cabling ...'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.8** *P* **243** *L* **10** # 212

Law, David HPE

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

The new Power Via MDI Measurements TLV defines 12 octets for the PD measurements field and 12 octets for the PSE measurements.

According to Table 79-7b, when transmitted by a PSE, the PD measurements bits 0 to 87 and 91 to 95 will not be in use as they all relate to PD measurements, with just bits 88 to 90 in use indicating what measurements are being requested by the PSE. Then, according to Table 79-7c, the following PSE measurements field will have bits 0 to 87 and 91 to 95 in use as they relate to PSE measurements, with bits 88 to 90 in use as they indicate which measurements are valid and which are disabled.

Similarly when transmitted by a PD, the PD measurements bits will have bits 0 to 87 and 91 to 95 in use as they relate to PD measurements, with bits 88 to 90 in use as they indicate which measurements are valid and which are disabled. Then in the following PSE measurements field bits 0 to 87 and 91 to 95 will not be in use as they all relate to PSE measurements, with just bits 88 to 90 in use indicating what measurements are being requested by the PD.

Based on the above, as can be seen in the summary below, in each case only 99 bits are used out of the 192 bits of the PD and PSE measurement fields which doesn't seem very efficient. In addition this results in a set of PD and PSE attributes in the local and remote LLDP MIBs, half of which are not used in each device.

TLT transmitted by PSE:

PD measurements field
00 to 87: Not in use
88 to 90: In use
91 to 95: Not in use
PSE measurements field
00 to 87: In use
88 to 90: in use
91 to 95: In use

TLT transmitted by PD:

PD measurements field
00 to 87: In use
88 to 90: In use
91 to 95: In use
PSE measurements field
00 to 87: Not in use
88 to 90: In use
91 to 95: Not in use

In addition subclause 8.6 'Organizationally Specific TLVs' item b) of IEEE Std 802.1AB-

2016 states that 'Information transmitted in an Organizationally Specific TLV shall be independent from information in a TLV received from a remote port.' so it isn't if request bits 88 to 90 can be supported.

SuggestedRemedy

Suggest that, assuming request bits can be supported:

[1] Figure 79-9 the 'PD measurements' field be renamed the 'Measurements' field and be increased to 13 octets.

[2] Figure 79-9 the 'PSE measurements' field be deleted.

[3] Subclause 79.3.8.1 text be changed to read ' The measured voltage value field carries a measured voltage value at the PI defined in Table 79–7b, the measured current value field carries a measured current value at the PI defined in Table 79–7b and the measured energy value field carries the measured energy consumption value at the PI defined in Table 79–7b.'.

[4] Table 79–7b 'PD measurements' be renamed 'Measurements' and be expanded to define 104 bits as follows:

104 Voltage support
103 Current support
102 Energy support
101:100 Measurement source
94:99 Reserved
93 Voltage measurement valid
92 Voltage request
91 Current measurement valid
90 Current request
89 Energy measurement valid
88 Energy request
87:0 Unchanged.

For bits 104:102 (were bits 95:93) remove 'PD' from description so for example '1 = PD supports voltage measurement' would become 1 = Supports voltage measurement'.

For bit 93 description reads:
1 = Request for voltage measurement
0 = No request for voltage measurement

For bit 92 description reads:
1 = Voltage measurement contains valid data
0 = Voltage measurement disabled

For bit 91 description reads:
1 = Request for current measurement
0 = No request for current measurement

For bit 90 description reads:
1 = Current measurement contains valid data
0 = Current measurement disabled

For bit 89 description reads:
1 = Request for energy measurement
0 = No request for energy measurement

For bit 88 description reads:
1 = Energy measurement contains valid data
0 = Energy measurement disabled

For bits 87:0 no change to the description.

[5] Delete subclause 79.3.8.2 'PSE measurements' including Table 79–7c 'PSE measurements'.

[6] Remove 'PD' from the TLV variable name and attribute names for PD Voltage support, PD Current support, PD Energy support, PD Measurement source, PD Voltage measurement, PD Voltage measurement, PD Current measurement and PD Energy measurement Rows in Table 79–9 and Table 79–10.

[7] Delete the rows for PSE Voltage support, PSE Current support, PSE Energy support, PSE Measurement source, PSE Voltage measurement, PSE Voltage measurement, PSE Current measurement and PSE Energy measurement from Table 79–9 and Table 79–10.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.8.1** *P* **243** *L* **19** # 427

Yseboodt, Lennart Philips

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

The page split across 79.3.8.1 is quite unfortunate. Better to keep the whole section together.

SuggestedRemedy

Fight with Frame to keep 79.3.8.1 together.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.8.1** *P* **244** *L* **25** # 213

Law, David HPE

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

Bits 91 and 92 are defined as the 'Measurement source' bits which 'Determine where the measurement is to be taken.'. It however doesn't seem clear what the setting 'Port total' means in respect to the 'Voltage measurement' supplied in bits 48 to 63. If this is the voltage on each Alternative summed, which seems a bit odd to report, the result will likely be out of the range for these bits as the maximum they support is 65 V.

SuggestedRemedy

Clarify the meaning of 'Port total' for the voltage measurement in 48 to 63 of both Table 79–7b and Table 79–7c.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.8.2** *P* **246** *L* **31** # 145

Jones, Chad Cisco

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

"Valid values for these bits are 1 through 65000". This value is larger than the allowed output range, add a note alerting reader that yes we know it's larger and that it doesn't imply you can operate at that voltage.

SuggestedRemedy

add a superscript '1' after "Valid values for these bits are 1 through 65000".
Add Note 1 below table79-7c that says: "Maximum values of these bits are larger than the allowed operating range of Vport_PD-2P."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.8.3** *P* **246** *L* **44** # 428

Yseboodt, Lennart Philips

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

The power price index should get a reserved bit so that there is a handle to assign defined meaning to the field at a later date.
Checked with Bruce Nordman, he supports this.

SuggestedRemedy

Reserve one (MSB) bit in the Power price index field, to be set to zero. On reception the field is only valid if the bit is zero.
Adjust text and table to match.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.8.3** *P* **246** *L* **45** # 214

Law, David HPE

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

Typo.

SuggestedRemedy

Suggest that '... index to the current value ...' should be changed to read '... index of the current value ...'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4** *P* **247** *L* **11** # 215

Law, David HPE

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

Subclause 79.4 states that 'TLV selection management consists of providing the network manager with the means ...' and '... the LLDP local systems configuration MIB tables (see Clause 11 of IEEE Std 802.1AB-2009) to ...'. Clause 11 of IEEE Std 802.1AB-2009 is however titled 'LLDP MIB definitions', whereas Clause 10 is titled 'LLDP management' and contains subclause 10.2.2 is titled 'TLV selection management'. Further in IEEE Std 802.1AB-2005 Clause 11 was titled 'LLDP management'. It therefore appears that the change to the Clause number between IEEE Std 802.1AB-2005 and IEEE Std 802.1AB-2008 wasn't tracked.

SuggestedRemedy

Suggest that '... tables (see Clause 11 of IEEE Std 802.1AB-2009) to ...' be changed to read '... tables (see Clause 10 of IEEE Std 802.1AB-2016) to ...'.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4.2** *P* **248** *L* **26** # 216

Law, David HPE

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

Typo.

SuggestedRemedy

PSE power pair' should read 'PSE power pairx', see subclause 79.3.2.6a.1.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4.2** *P* **248** *L* **26** # 217

Law, David HPE

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

The 'aPSEPowerPairs' attribute isn't in the LLDP Local System Group managed object class which this Table is cross referencing, instead a new attribute aLldpXdot3LocPowerPairs should be added to the LLDP Local System Group managed object class.

SuggestedRemedy

Suggest that

[1] The entry 'aPSEPowerPairs' be changed to read ' aLldpXdot3LocPowerPairs'.
[2] A new attribute aLldpXdot3LocPowerPairs be added to subclause 30.12.2.1 LLDP Local System Group attributes and Table 30-7.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4.2** *P* **248** *L* **32** # 218

Law, David HPE

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

The 'PD PI' field does not exist in the Power Via MDI TLV.

SuggestedRemedy

Remove the row PD PI aLldpXdot3LocPDPI from Table 79–9 and the row PD PI aLldpXdot3RemPDPI from 79-10. In addition since the remainder of these table entries are the same as the bit order as the bit definitions suggest that the rows for PD Load aLldpXdot3LocPDLoad and PD Load aLldpXdot3RemPDLoad be moved to these locations.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.4.2** *P* **249** *L* **11** # 219

Law, David HPE

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

Table 79–9 and Table 79–10 as well as the associated MIBs are missing attributes for 'PD measurements' and 'PSE measurements' bits 88:90 which indicate if the power, current and voltage fields contain valid data.

SuggestedRemedy

Suggest that:

[1] In Table 79-9 add the following three rows after the 'PD Energy support' row:

PD Voltage measurement valid aLldpXdot3LocPDVoltageMeasValid
PD Current measurement valid aLldpXdot3LocPDCurrentMeasValid
PD Power measurement valid aLldpXdot3LocPDEnergyMeasValid

[2] In Table 79-9 add the following three rows after the 'PSE Energy support' row:

PSE Voltage measurement valid aLldpXdot3LocPSEVoltageMeasValid
PEE Current measurement valid aLldpXdot3LocPSECurrentMeasValid
PSE Power measurement valid aLldpXdot3LocPSEEnergyMeasValid

[3] In Table 79-10 add the following three rows after the 'PD Energy support' row:

PD Voltage measurement valid aLldpXdot3RemPDVoltageMeasValid
PD Current measurement valid aLldpXdot3RemPDCurrentMeasValid
PD Power measurement valid aLldpXdot3RemPDEnergyMeasValid

[4] In Table 79-10 add the following three rows after the 'PSE Energy support' row:

PSE Voltage measurement valid aLldpXdot3RemPSEVoltageMeasValid
PSE Current measurement valid aLldpXdot3RemPSECurrentMeasValid
PSE Power measurement valid aLldpXdot3RemPSEEnergyMeasValid

[5] In Table 30-7 in LLDP Power via MDI Measurement Local Package (conditional) and subclause 30.12.2.1 'LLDP Local System Group attributes' add the following new attributes after 30.12.2.1.18n aLldpXdot3LocPDMeasEnergySupport:

aLldpXdot3LocPDVoltageMeasValid
aLldpXdot3LocPDCurrentMeasValid
aLldpXdot3LocPDEnergyMeasValid

[6] In Table 30-7 in LLDP Power via MDI Measurement Local Package (conditional) and subclause 30.12.2.1 'LLDP Local System Group attributes' add the following new attributes after 30.12.2.1.18u aLldpXdot3LocPSEMeasEnergySupport:

aLldpXdot3LocPSEVoltageMeasValid
aLldpXdot3LocPSECurrentMeasValid

aLldpXdot3LocPSEEnergyMeasValid

[7] In Table 30-7 in LLDP Power via MDI Measurement Local Package (conditional) and subclause 30.12.3.1 'LLDP Remote System Group attributes' add the following new attributes after 30.12.3.1.18n aLldpXdot3RemPDMeasEnergySupport:

aLldpXdot3RemPDVoltageMeasValid
aLldpXdot3RemPDCurrentMeasValid
aLldpXdot3RemPDEnergyMeasValid

[8] In Table 30-7 in LLDP Power via MDI Measurement Local Package (conditional) and subclause 30.12.3.1 'LLDP Remote System Group attributes' add the following new attributes after 30.12.3.1.18u aLldpXdot3RemPSEMeasEnergySupport:

aLldpXdot3RemPSEVoltageMeasValid
aLldpXdot3RemPSECurrentMeasValid
aLldpXdot3RemPSEEnergyMeasValid

NOTE 1: If the comment to optimise the measurement TLV is accepted the above should be implemented with 'PD' removed from the odd numbered items and the even numbered items not implemented.

NOTE 2: This comment relates to TDL D2.1 #124

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.1** *P* **250** *L* **23** # 220

Law, David HPE

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

Typo.

SuggestedRemedy

PSE power pair' should read 'PSE power pairx', see subclause 79.3.2.6a.1.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.1** *P* **250** *L* **23** # 221

Law, David HPE

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

Typo.

SuggestedRemedy

aLldpXdot3RemPowerPairs should read aLldpXdot3RemPowerPairsx, see subclause 30.12.3.1.18a.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.1** *P* **250** *L* **40** # 222

Law, David HPE

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

The 'PD Mode selection' field does not exist in the Power Via MDI TLV.

SuggestedRemedy

Remove the PD Mode selection aLldpXdot3RemPDModeSelection row from Table 79-10. Also remove subclause 30.12.2.1.18c aLldpXdot3LocPDModeSelection and the aLldpXdot3LocPDModeSelection entry from Table 30-7.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.1** *P* **251** *L* **29** # 223

Law, David HPE

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

There are two entries for 'PSE Voltage measurement' aLldpXdot3RemPSEMeasurementVoltage in Table 79-10.

SuggestedRemedy

Delete the second entry for 'PSE Voltage measurement' aLldpXdot3RemPSEMeasurementVoltage in Table 79-10.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.1** *P* **251** *L* **34** # 158

Law, David HPE

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

The entry for 'PSE Power price index' aLldpXdot3RemPSEPowerPriceIndex is missing from Table 79-10.

SuggestedRemedy

Add the entry for PSE Power price index' aLldpXdot3RemPSEPowerPriceIndex to Table 79-10.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.8** *P* **254** *L* **53** # 22

Anslow, Pete Ciena

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

The structure of the PICS section of Clause 79 should follow the structure of the main clause.

SuggestedRemedy

Add a new item to the end of the table in 79.5.3:
Item: *PM
Feature: Power via MDI Measurements TLV
Subclause: 79.3.8
Value/Comment: Blank
Status: O
Support: Yes [ ] No [ ]

Move PVT34 through PVT36 to a new PICS subclause 79.5.12 after 79.5.11 as inserted by IEEE Std 802.3br-2016 and rename them to be PMT1 through PMT3. Change PV:M to PM:M in the Status cell for all three.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.1** *P* **257** *L* **12** # 108

Darshan, Yair Mirosemi

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

TDL #275 and #276 D2.1
Clarify 33A.1 and 33A.2 per the comments in D2.1.

SuggestedRemedy

See Darshan_04_0117.pdf for proposed remedy.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.1** *P* **257** *L* **31** # 420

Yseboodt, Lennart Philips

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

Text in 33A.1 uses no less than 3 variants of the SAME variable name.

SuggestedRemedy

Replace "Zser", "Zo_ser" by "Z_ser" in the text on page 257 and Figure 33A-1

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.1** *P* **259** *L* **24** # 421

Yseboodt, Lennart Philips

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

"See Figure 33A-2 for the test setup and Figure 33A-3 for the test requirements."

This is a resubmit of the D2.1 comment, here in case it doesn`t get addressed in January.

Where do I begin ?

These figures have a number of issues.
The biggest one is that they are not used, nor described.
There is no text at all that tells what to do with it.

33A-3, describes "test requirements". But is just a figure.
With an X axis in KHz... but no values anywhere.

SuggestedRemedy

- Remove quoted text and Figures 33A-2 and 33A-3.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.2** *P* **259** *L* **39** # 281

Stewart, Heath Linear Technology

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

Awkward wording

SuggestedRemedy

Change
The access to the PD input power supply
to
Access to the PD input power supply

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.3** *P* **260** *L* **3** # 282

Stewart, Heath Linear Technology

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

Needs more clarity

SuggestedRemedy

Change
Operation for all PSE and PD Types requires that the resistance unbalance be
to
Operation for all PSE and PD Types requires that the intra pair resistance unbalance be
Change all occurrences of resistance unbalance to intra pair resistance unbalance in this section.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.5** *P* **260** *L* **14** # 109

Darshan, Yair Mirosemi

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

The text: "Common mode resistance is the resistance of the two wires in a pair (including connectors), connected in parallel." Doesn't belong here. Delete it.

SuggestedRemedy

Delete: "Common mode resistance is the resistance of the two wires in a pair (including connectors), connected in parallel."

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.5** *P* **260** *L* **38** # 110

Darshan, Yair Mirosemi

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

The text: "Common mode resistance is the resistance of the two wires in a pair (including connectors), connected in parallel." need to be on separate line without ident as it applies for both Rch_max and Rch_min.

SuggestedRemedy

Move the text "Common mode resistance is the resistance of the two wires in a pair (including connectors), connected in parallel." to a separate line below the text "Tch_min is the sum.." without ident.
See darshan_01_0117.pdf for editing markups in 33A.5 part.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.5** *P* **260** *L* **50** # 111

Darshan, Yair Mirosemi

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

In order that any PSE connected to any PD will meet end to end pair to pair resistance unbalance both PSE and PD needs to meet the following equation:
(1) (U*Rpse_min - Rpse_max) +(U*Rch_min - Rch_max) +(U*Rpair_pd_min - Rpair_pd_max)=0
Where U=(1+E2EP2PRunb)/(1-E2EP2PRunb)
We can see that PSE PI output common mode effective resistance, need to meet the following:
(2) Rpse_max = U*Rpse_min + (U*Rch_min - Rch_max) + (U*Rpair_pd_min - Rpair_pd_max)
Which is actually identical to Equation 33-15 in the spec.
It is clear that PSE must meet this equations in addition to meet Icon-2P_unb due to the following reasons:
a) This is the only solution for the system equation above.
b) PSE has to be designed for the worst case which is defined by equation 33-15 (It need to support all PDs).
c) And when connected to Rload_min and Rload_max (also derived from Equation 1) that represent channel + worst case PD, it needs to meet Icon-2P_unb.
So far, all is good; the above is covered by D2.2.
The question is if the same concept should apply to the PD.
Discussion:
We said already that both PSE and PD must comply with Equation 1 above:
(1) (U*Rpse_min - Rpse_max) +(U*Rch_min - Rch_max) +(U*Rpair_pd_min - Rpair_pd_max)=0
As a result, PD PI input common mode effective resistance need to meet the following:
(3) Rpair_pd_max = U*Rpair_pd_min +(U*Rpse_min - Rpse_max) +(U*Rch_min - Rch_max)
Which is actually identical to Equation 33A-4 in the spec in Annex 33A.5.
Now; we know for sure that if PD meets Equation 33A-4 than system equation is solved and PD meets unbalance requirements including Icon-2P_unb.
Currently it is not clear that measuring only Icon-2P_unb in the PD is sufficient as currently in the spec while meeting Equation 33A-4 is just guidelines and not a must.
In other words, we need to be sure (by mathematical proof) that PD that meets Icon-2P_unb by definition meets Equation 33A-4 (Rpair_PD_min and Rpair_PD_max) when connected to Rsource_min and Rsource_max which is also derived from Equation 1 above. Otherwise, we need to move Equation 33A-4 to 33.3.8.10 that addresses PD pair to pair current unbalance.

SuggestedRemedy

Adopt darshan_05_0117.pdf if ready for the meeting. If not add it to TDL.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.5** *P* **261** *L* **1** # 112

Darshan, Yair — Mirosemi

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

TDL #44 D2.2
"Smaller constants α and β in the equation RPair_PD_max = α × RPair_PD_min + β ensure that ICon-2P-unb is not exceeded for PD power consumption above the values in Table 33–26."

It will help to the designer to have the equations and constants for class 6 and 8 for extended power as well.

To add to the spec the equations for extended power for class 6 and 8 and modify the above text accordingly.

SuggestedRemedy

Adopt darshan_03_0117.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33A.5** *P* **261** *L* **7** # 417

Yseboodt, Lennart — Philips

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

"...other components connected in parallel including the effect of PD pair-to-pair voltage difference of pairs with the same polarity (e.g. Vf1-Vf3).The common mode effective resistance R n is the measured voltage V ef-..."

Missing space between the two sentences.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.5** *P* **261** *L* **7** # 422

Yseboodt, Lennart — Philips

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

Vef-f_pd_n is split at the end of the line.

SuggestedRemedy

- Tell Frame not to hyphenate.
- Vf1 - Vf3 should have spaces and use proper minus symbol.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.5** *P* **261** *L* **44** # 423

Yseboodt, Lennart — Philips

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

Equations do not have proper spacing around operators.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B.1** *P* **264** *L* **8** # 237

Picard, Jean — Texas Instruments

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

Same RPSE_min and RPSE_max terminology is used for both the positive and negative rails, which is misleading since they will in fact be very different from each other.

SuggestedRemedy

Clarify this:
either by a statement saying "note that RPSE_min and RPSE_max for positive rail are not necessarily the same as for negative rail"
Or by using a different identifier for each (positive or negative) rail. For example, RPSEP_min and RPSEM_min.

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B.5** *P* **268** *L* **4** # 23

Anslow, Pete — Ciena

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

The headings under 33B.5 are missing the "33"

SuggestedRemedy

Fix the headings

Proposed Response *Response Status* **O**

Cl **33B** *SC* **33B.5.3** *P* **269** *L* **6** # 24

Anslow, Pete Ciena

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

In the subclause column for A33B1, "33B" should be "33B.1" and all of the entries in the subclause column should be cross-references.
Also, in the value column, each cell has an entry that should be a cross-reference.

SuggestedRemedy

In the subclause column for A33B1, change "33B" to "33B.1" and make all of the entries in the subclause column cross-references.
Also, in the value column, fix the four entries that should be cross-references.

Proposed Response *Response Status* **O**

Cl **33C** *SC* **33C** *P* **271** *L* **6** # 25

Anslow, Pete Ciena

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

The editing instruction on page 263, line 1 says "Insert Annex 33B and Annex 33C after Annex 33A as follows:" so there is no need for an editing instruction here.

SuggestedRemedy

Delete "Insert Annex 33C after Annex 33B as follows:"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33C.1.1** *P* **271** *L* **20** # 418

Yseboodt, Lennart Philips

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

"When the result of the connection check is dual the alternatives are controlled by the semi-independent dual-signature state machine."
Need comma after "dual".

SuggestedRemedy

Add comma.

Proposed Response *Response Status* **O**

Cl **33C** *SC* **33C.1.1** *P* **272** *L* **5** # 424

Yseboodt, Lennart Philips

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

Figures:
- 33C-2
- 33C-5
- 33C-8

make use of non-existing time parameters like Tpon_pri, Tdet_pri etc...
Probably to make clear that these timings can be different between the Primary and Secondary Alternative. That is already clear from the Figures. If not, text should explain this. Avoid use of non-existing parameters.

SuggestedRemedy

Remove "_pri" and "_sec" from timing parameters in those Figures.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33C.1.1** *P* **272** *L* **11** # 227

Lukacs, Miklos Silicon Labs

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

The "Tpon_sec" label is missing from the arrow in Figure 33C-2.

SuggestedRemedy

Add "Tpon_sec" label.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33C.2** *P* **272** *L* **20** # 229

Lukacs, Miklos Silicon Labs

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

Calling T_CLE1 here is wrong

SuggestedRemedy

Replace T_CLE1 with T_PDC.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33C.1.1** *P* **272** *L* **25** # 228

Lukacs, Miklos — Silicon Labs

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

The "_pri" and "_sec" subscripts are missing from Tdet and Tpon arrow labels in Figure 33C-3, Figure 33C-6, Figure 33C-9 and Figure 33C-11

SuggestedRemedy

Add "_pri" and "_sec" subscripts to the Tdet and Tpon labels in Figure 33C-3, Figure 33C-6, Figure 33C-9 and Figure 33C-11

Proposed Response *Response Status* **O**

Cl **33C** *SC* **33C.1.2** *P* **272** *L* **38** # 236

Picard, Jean — Texas Instruments

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

The diagram is incorrect, it should show that both channels do not necessarily turn ON at same time. In fact, if class 0-4, the second channel does not have to turn ON until the end of inrush period.

SuggestedRemedy

Use the diagram of Picard_01_0316.pdf, slide 4

Proposed Response *Response Status* **O**

Cl **33** *SC* **33C.3** *P* **277** *L* **42** # 419

Yseboodt, Lennart — Philips

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

"PD to maintain class signature '0' if it requests Autoclass fur the duration of the class event"
fur is misspelled, should be for.

SuggestedRemedy

"PD to maintain class signature '0' if it requests Autoclass for the duration of the class event"

Proposed Response *Response Status* **O**

Cl **A** *SC* **A** *P* **279** *L* **9** # 435

Zimmerman, George — CME Consulting, Aqua

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

Add the 2017 version of the national electrical code to the Bibliography of IEEE Std 802.3

SuggestedRemedy

See comment - follow pattern of bibliography entry [B13] in IEEE Std 802.3-2015: [Bxx] ANSI/NFPA 70-2017, National Electrical Code® (NEC®).

Proposed Response *Response Status* **O**