Cl **30** *SC* **30** *P* *L* # 122

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan3*

D2.3 DONE Comment #78 from D2.2 was meant to add all new parameters related to all new TLVs (Autoclass, Measurements and dual-signature). Not all single-signature and dual-signature parameters.

SuggestedRemedy

1. See darshan_03_0317.pdf
2. Add to Mr. Law TODO list verify that all DLL variables in clause 30, 79 and 145.5 are in sync and complete.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145A** *SC* **145A.5** *P* *L* # 131

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **D** *Pres: Darshan1*

Annex 145A.5 is missing (used to be Annex 33A.5). Lennart comment for #111 D2.3 that it is not clear what to delete so he delete it all... We need to Implement darshan_05_0117Rev005.pdf as approved by using the clean version of it in darshan_01_0317.pdf.

SuggestedRemedy

Implement darshan_01_0317.pdf.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **00** *SC* **0** *P* **0** *L* **0** # 269

Thompson, Geoff GraCaSI S.A.

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

There are 59 occurances of the term “channel” in the draft. Most of them would more properly be described by the term “link section”.

SuggestedRemedy

Change the term “channel” to the proper term for the pluggable portion of the media, i.e. “link section”.

Proposed Response *Response Status* **W**

TFTD

Cl **FM** *SC* **FM** *P* **1** *L* **1** # 408

Yseboodt, Lennart Philips

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

As you may have noticed I have titled our new Clause 145 "Power over Ethernet".
Note: I have intentionally labelled this comment "FM" to keep it together with the next comment, even though it really is a page 87.

SuggestedRemedy

TF to confirm they are happy with the title by accepting this comment.

Proposed Response *Response Status* **W**

TFTD

Cl **FM** *SC* **FM** *P* **1** *L* **1** # 409

Yseboodt, Lennart Philips

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

The title for our P802.3bt amendment is:
"Draft Standard for Ethernet Amendment: Physical Layer and Management Parameters for DTE Power via MDI over 4-Pair"

SuggestedRemedy

Depending on the outcome of the previous comment, propose to change this to:
"Draft Standard for Ethernet Amendment: Power over Ethernet over 4-pair".

Proposed Response *Response Status* **W**

TFTD

Ugghhh, how did we let "over 4-Pair" go through. Its either "over 4 pairs" or "4-Pair Power over Ethernet"

See 81

Cl **1** *SC* **1.4.254** *P* **22** *L* **32** # 271

Thompson, Geoff GraCaSI S.A.

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

There are issues here if there is going to be more than one link section in a system, e.g. one mid-span and one end span.

SuggestedRemedy

Discuss in TF

Proposed Response *Response Status* **W**

TFTD as requested

Cl **1** *SC* **1.4.418ad** *P* **23** *L* **22** # 145

Darshan, Yair Mirosemi

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

In the text: "Type 4 PSE: A PSE that supports up to Class 8 power levels, short MPS, and 4-pair power. (See
IEEE 802.3, Clause 33)". The clause is 145 and not 33.

SuggestedRemedy

Change from clause 33 to clause 145

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD HS
Don't assign variable from multiple SMs, assign to false in INITIALIZE state in PSE power control state diagram

Cl **1** *SC* **1.4** *P* **23** *L* **25** # 311

Wendt, Matthias Philips Lighting

Comment Type **ER** *Comment Status* **D** *Maintenance*

"Remove the definitions for I Port (1.4.234), V PD (1.4.425), and V PSE (1.4.426)."

These definitions are needed to not break Clause 33.
Clause 145 has a local definition.

SuggestedRemedy

Remove the "remove" editing instruction.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

TFTD. We did this as a result of Geoff Thompson's comments to remove those definitions and move them into clause 33. These were maintenance requests, we need to reimplement the maintenance requests in clause 33.

Cl **30** *SC* **30** *P* **27** *L* **1** # 126

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan3*

Clause 30 need to be updated with dual-signature related parameters

SuggestedRemedy

See darshan_03_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **30** *SC* **30.2.5** *P* **27** *L* **48** # 67

Anslow, Pete Ciena

Comment Type **E** *Comment Status* **D** *Management*

The editing instruction "Delete the “oPD managed object class” from Table 30–4." does not say what to do with the "PD Basic Package (mandatory)" column, which is now empty.

SuggestedRemedy

Change the editing instruction to "Delete the “oPD managed object class” and "aPDID" rows as well as the "PD Basic Package (mandatory)" column from Table 30–4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD, someone please confirm this is correct.

Cl **30** *SC* **30.2.5** *P* **28** *L* **30** # 70

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **D** *Pres: Darshan3*

The rows for "aLldpXdot3LocPDRequestedPowerValueModeA" and "aLldpXdot3LocPDRequestedPowerValueModeB" are repeated.

SuggestedRemedy

Replace the second instance with "aLldpXdot3LocPSEAllocatedPowerValueAlternativeA" and "aLldpXdot3LocPSEAllocatedPowerValueAlternativeB"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD, see 399

Suggested remedy is correct, but rows to be replaced say "…PSEAllocatedPowerValueModeX"

TFTD YD
"1. This is incorrect. These variable may be used both in PSE and PD and as a result the extension ""Alternative"" and ""mode"" has been removed and only the suffix A or B is needed.2. We are using ModeX etc. in state machine where we have duplication of the process however when we have actual variable definitions they have to be named with their full name.See darshan_03_0317.pdf for proposed remedy."

Cl **30** *SC* **30.2.5** *P* **29** *L* **36** # 71

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **D** *Pres: Darshan3*

The table is missing rows for:
aLldpXdot3RemPDRequestedPowerValueModeA
aLldpXdot3RemPDRequestedPowerValueModeB
aLldpXdot3RemPSEAllocatedPowerValueAlternativeA
aLldpXdot3RemPSEAllocatedPowerValueAlternativeB

SuggestedRemedy

Add the rows

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy is OK however the names where updated. See darshan_03_0317.pdf.

Cl **30** *SC* **30.9.1.1.9** *P* **33** *L* **36** # 398

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **D** *Management*

aPSEOverLoadCounter: This counter is incremented when the PSE state diagram (Figure 33-13) enters the state ERROR_DELAY_OVER.

We`re still fixing problems inherited from 802.3at. This state doesn`t exist in 802.3at PSE state diagram, but did exist in 802.3af. The .at project forgot to update Clause 30 for this one.

SuggestedRemedy

Since the distinction between SHORT and OVERLOAD cannot be made by the current state diagrams, propose to:
- Change text of 30.9.1.1.9 aPSEOverLoadCounter to read:
"This counter is incremented when the PSE state diagram (Figure 33-13, Figure 145-13, Figure 145-15, and 145-16) enters the state ERROR_DELAY, ERROR_DELAY_PRI, or ERROR_DELAY_SEC."
- Delete 30.9.1.1.10 aPSEShortCounter

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD. Is this maintenance?

Cl **30** *SC* **30.12.2.1.14** *P* **39** *L* **16** # 109

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **D** *Management*

The text for aLldpXdot3LocPowerType definition "A GET attribute that returns a bit string indicating whether the local system is a PSE or a PD and whether it is Type 1 or Type 2. The first bit 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. The second bit indicates PSE or PD. A PSE shall set this bit to indicate a PSE. A PD shall set this bit to indicate a PD.;"
-contain explanations for aLldpXdot3LocPowerTypex which is not belong here. It is already defined in aLldpXdot3LocPowerTypex.
-It is not clear if the rest of the text after "The attribute aLldpXdot3LocPowerTypex, if supported, provides an indication of Type 1 through Type 4." relates to aLldpXdot3LocPowerType or to aLldpXdot3LocPowerTypex

SuggestedRemedy

Remove the text "The attribute aLldpXdot3LocPowerTypex, if supported, provides an indication of Type 1 through Type 4."

Proposed Response *Response Status* **W**

PROPOSED REJECT.

We are pointing out to the reader that this field does not support the new types, and if they are interested in those, to go look at the new field.

TFTD

Cl **30** *SC* **30.12.2.1** *P* **40** *L* **32** # 399

Yseboodt, Lennart — Philips

Comment Type **ER** *Comment Status* **X** *Pres: Darshan3*

COMMENTLABEL: mode_Alt_shared

For dual-signature power allocation Clause 30 objects we used the names aLldpXdot3LocPDRequestedPowerValueModeA, aLldpXdot3LocPSEAllocatedPowerValueAlternativeA, ... an so forth.

For PDRequested... we used ModeA/ModeB at the end which seems logical.
Problem is that these variables are defined both for the PSE and the PD.
When used in a PSE context, "Mode" makes no sense and vica versa for the PD.

SuggestedRemedy

This comment not to be OBE to darshan_03, they are to be implemented together.
Remove "Mode" and "Alternative" from Clause 30 object names from 30.12.2.1.18a through .18d and the same in the remote section.
Also update naming to reflect this throughout the draft.

Proposed Response *Response Status* **W**

TFTD, see 70

TFTD YD
See proposed remedy in darshan_03_0317.pdf

Cl **30** *SC* **30.12.2.1.18a** *P* **40** *L* **39** # 55

Anslow, Pete — Ciena

Comment Type **E** *Comment Status* **D** *Pres: Darshan3*

The text ", as defined in Equation (79–1), where aLldpXdot3LocPDRequestedPowerValueModeA is X)" makes reference to Equation 79-1, but this equation is deleted by this draft, so referencing it does not make sense.
Same issue in 30.12.2.1.18b.
Same issue (with Equation (79-2)) in 30.12.2.1.18c and 30.12.2.1.18d.

SuggestedRemedy

Delete ", as defined in Equation (79–1), where aLldpXdot3LocPDRequestedPowerValueModeA is X)".
Delete the equivalent text in 30.12.2.1.18b.
Delete the equivalent text (with Equation (79-2)) in 30.12.2.1.18c and 30.12.2.1.18d.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy is OK but I am addressing it in darshan_03_0317.pdf so to prevent different remedies I took this out.

Cl **30** *SC* **30.12.2.1.18g** *P* **41** *L* **54** # 56
Anslow, Pete Ciena

Comment Type **T** *Comment Status* **X** *Pres: Darshan3*

The three subclauses 30.12.2.1.18g, 30.12.2.1.18h, and 30.12.2.1.18i have identical text for APPROPRIATE SYNTAX with no explanation of what is different between the three.

SuggestedRemedy

Expand the text of the three subclauses to clarify how they differ from one another.

Proposed Response *Response Status* **W**

TFTD

TFTD YD
See darshan_03_0317.pdf

Cl **30** *SC* **30.12.2.1.18l** *P* **43** *L* **5** # 57
Anslow, Pete Ciena

Comment Type **E** *Comment Status* **D** *Pres: Darshan3*

The other subclauses in this section make it clear whether the attribute refers to the local or remote device. However, 30.12.2.1.18l and 30.12.3.1.18l have identical text.

SuggestedRemedy

Change "PSE" to "local PSE" here and change "PSE" to "remote PSE" in 30.12.3.1.18l

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
See darshan_03_0317.pdf

Cl **30** *SC* **30.12.3.1.18g** *P* **52** *L* **46** # 63
Anslow, Pete Ciena

Comment Type **E** *Comment Status* **X** *Pres: Darshan3*

The three subclauses 30.12.3.1.18g, 30.12.3.1.18h, and 30.12.3.1.18i have identical text for APPROPRIATE SYNTAX (except for incorrect reference to local) with no explanation of what is different between the three.

SuggestedRemedy

Expand the text of the three subclauses to clarify how they differ from one another.

Proposed Response *Response Status* **W**

TFTD

TFTD YD
See darshan_03_0317.pdf

Cl **33** *SC* **33** *P* **59** *L* **4** # 424
Zimmerman, George CME Consulting/Aqua

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

the move to clause 145 inadvertantly removed clause 33 support for 2.5G/5G/10GBASE-T PHYs added by 802.3bt. It is not clear this was intended. Task force to discuss.

SuggestedRemedy

Reinstate clause 33 changes specifically related to 2.5G/5G/10GBASE-T support.

Proposed Response *Response Status* **W**

TFTD

Does this now have to be a maintenance request?

Cl **33** *SC* **33.1** *P* **59** *L* **13** # 244
Stover, David Linear Tech Corp

Comment Type **E** *Comment Status* **D** *Pres: Beia1*

"This Clause specifies Type 1 and Type 2 devices. … See Clause 145 for the specification of Type 3 and Type 4 devices. This Clause does not contain definitions of Type 3 or Type 4 devices." The last sentence is redundant.

SuggestedRemedy

Strike sentence beginning with "This Clause does not contain…"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
Most likely OBE by beia_01.

Cl **79** *SC* **79** *P* **61** *L* **1** # 128
Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan3*

Clause 79 need to be updated.

SuggestedRemedy

See darshan_03_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **79** *SC* **79.3.2.2** *P* **65** *L* **12** # 189

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **ER** *Comment Status* **D** *LLDP*

Existing text,
“PSE pairs control ability”
should use new terminology to make the text easier to understand for 2P and 4P system readers.

SuggestedRemedy

Replace “pairs” in item 3 with pairset in 3 places. Note that the MIB name remains the same. On page 77 line-11 replace "PSE pairs" with PSE pairset" and repeat on page 79 line-11.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Clause 33 has no concept of pairsets.

TFTD

Cl **79** *SC* **79.3.2.5** *P* **67** *L* **16** # 403

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **D** *Pres: Yseboodt1*

"For Type 3 and Type 4 devices, the value should be (PD requested power value Mode A + PD requested power value Mode B)."

This construct, which is repeated in the Mode A and Mode B fields, as well as in the PSE allocated power fields, is problematic.

SuggestedRemedy

Adopt yseboodt_01_0317_lldp1fix.pdf

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

WFP

TFTD

TFTD YD
See also darshan_08_0317.pdf for proposed remedy

TFTD LY
Please withdraw this comment. Yair addresses these concerns in one of his presentations.

Cl **79** *SC* **79.3.2.5** *P* **67** *L* **17** # 191

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **ER** *Comment Status* **X** *Pres: Yseboodt1*

Existing text,
"For Type 3 and Type 4 devices, the value should be (PD requested power value Mode A + PD requested power
value Mode B)." Can be improved by removing the parenthesis and improving the sentence structure.

SuggestedRemedy

Replace the called out text with,
" Type 3 and Type 4 devices, shall provide the total PD requested power value for both Modes."

Proposed Response *Response Status* **W**

WFP

TFTD

TFTD YD
See darshan_08_0317.pdf . This remedy is integrated in 79.3.2.5 by different wording.

Cl **79** *SC* **79.3.2.6a** *P* **68** *L* **19** # 192

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **TR** *Comment Status* **X** *Pres: Schindler1*

In this section,
1. Sections related to DS devices only do not indicate this. Therefore the text incorrectly applies to all devices.
2. Some DS cross references are incorrect.
3. Values for Type 1,2 and SS devices are not provided.

SuggestedRemedy

The solution is provided in schindler_01_0317.pdf.

Proposed Response *Response Status* **W**

WFP

TFTD

TFTD YD
See darshan_08_0317.pdf. I saw also that Fred made a baseline for it as well schindler_01_0317.pdf.

Cl **79** *SC* **79.3.2.6a** *P* **68** *L* **19** # 161

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan8*

In 79.3.2.6a, 79.3.2.6b, 79.3.2.6c.2, 79.3.2.6c.3, 79.3.2.6d and Table 79-6a: The text is related to dual-signature devices but doesn't specify it explicitly in the title of the subclaus and in its content.
Example: In the text "79.3.2.6a PD requested power value Mode A and Mode B" it should be "79.3.2.6a Dual-signature PD requested power value Mode A and Mode B". Also the content of some of the items above is wrong and involves single-signature values and dual-signature values.

SuggestedRemedy

See darshan_08_0317.pdf. If not ready for the meeting, ADD it to the TODO list.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **79** *SC* **79.3.2.6a** *P* **68** *L* **23** # 404

Wendt, Matthias — Philips Lighting

Comment Type **E** *Comment Status* **X** *Pres: Yseboodt1*

original text: "... the PD requested power field defined in Table 79.3.2.5 is the sum"
The table reference is wrong, should be Table 79-5.

SuggestedRemedy

Replace Table 79.3.2.5 by Table 79-5.
Probably OBE by yseboodt_01_0317_lldp1fix.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

TFTD YD
See also darshan_08_0317.pdf for proposed remedy

Cl **79** *SC* **79.3.2.6a** *P* **68** *L* **25** # 193

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **ER** *Comment Status* **X** *Pres: Yseboodt1*

Table 79-6a exists on pages 68 and 70. Table 79-6b exists on pages 69, and 71.

SuggestedRemedy

Correct Table numbering and related cross references.

Proposed Response *Response Status* **W**

WFP

TFTD

TFTD YD
See darshan_080317.pdf with additional related changes.

Cl **79** *SC* **79.3.2.6b** *P* **68** *L* **46** # 405

Wendt, Matthias — Philips Lighting

Comment Type **E** *Comment Status* **X** *Pres: Yseboodt1*

original text: "... the PSE allocated power value field defined in Table 79.3.2.5 is the sum of ... "
The table reference is wrong, should be Table 79-6.

SuggestedRemedy

Replace Table 79.3.2.5 by Table 79-6.
Probably OBE by yseboodt_01_0317_lldp1fix.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

TFTD YD
See also darshan_08_0317.pdf for proposed remedy

Cl **79** *SC* **79.3.2.6c.1** *P* **69** *L* **20** # 194

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **ER** *Comment Status* **D** *LLDP*

Existing text,
"The PSE power pairsx field shall contain an integer value for PSE power pairs defined by …"
should use new terminology to make the text easier to understand 4P system readers.

SuggestedRemedy

Replace the called out text with,
"The PSE power pairsx field shall contain an integer value for PSE pairsets defined by …"

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Clause 33 has no concept of pairsets.

TFTD

Cl **79** *SC* **79.3.2.6c.2** *P* **69** *L* **27** # 138

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **D** *LLDP*

"The text PSEs connected to a single-signature PD and single-signature PDs set this field to value 0." The intent is not clear.

SuggestedRemedy

Group to discuss and clarify the text to make the intent clear.

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

TFTD

This sentence says for single-signature PDs or PSEs connected to SS PDs to set this field to 0 since it only makes sense for Dual-signature PDs.

Cl **79** *SC* **79.3.2.6c.3** *P* **69** *L* **34** # 139

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **D** *LLDP*

"The text PSEs connected to a single-signature PD and single-signature PDs set this field to value 0." The intent is not clear.

SuggestedRemedy

Group to discuss and clarify the text to make the intent clear.

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

TFTD

This sentence says for single-signature PDs or PSEs connected to SS PDs to set this field to 0 since it only makes sense for Dual-signature PDs.

Cl **79** *SC* **79.3.2.6d.1** *P* **70** *L* **44** # 406

Yseboodt, Lennart — Philips

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

The Power Classx field in Table 79-6a allows a Type 3/4 PD to identify itself as a Class 0 device. This class is not allowed.
Freeing this value up, also allows us to use it to indicate that the PD is a dual-signature PD, more consistent with the other fields.

SuggestedRemedy

Change field Power Classx as follow:
Bit combo "0000" becomes "Dual-signature PD"
Bit combo "1111" becomes Reserved/Ignore

Proposed Response *Response Status* **W**

TFTD

Do we really want '0000' to be DS? People who don't implement stuff (properly) will probably return '0000'.

It probably makes more sense for '0000' to be reserved/ignore.

Cl **79** *SC* **79.3.2.6d.2** *P* **70** *L* **49** # 422

Zimmerman, George — CME Consulting/Aqua

Comment Type **T** *Comment Status* **D** *LLDP*

(PD 4PID field description) “This field shall be set according to Table 79-6b when the power type is PD.” – the text is where explanation is supposed to be. The table additionally is vague, “PD supports (does not support) powering in both Modes” can be interpreted either as the intended “both modes simultaneously” or that either mode may (or may not – which would be noncompliant) is allowed.

SuggestedRemedy

P70 L49 Insert after “… 79-6b when the power type is PD”:
“indicating support or lack of support for 4 pair powering". (continuing sentence, with existing period).
Change P71 L20 entries in table 79-6b bit 3 to read “both Modes simultaneously.”.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD FS
The Task Force needs to be consistent when covering 2-pair and 4-pair operations.

Do we say 4-pair powering or powering using both pairsets or something else? Whatever choice is made, use this comment to provide the Editor the ability to make this expression consistent.

P71 L21
To be consistent with the proposed solution also amend the other case,
WAS: “0 = PD does not support powering of both Modes”
TO: “0 = PD does not support powering of both Modes simultaneously”

Cl **79** *SC* **79.3.8** *P* **73** *L* **6** # 195

Schindler, Fred — Seen Simply, Cisco, T

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

The “Power via MDI Measurements TLV” wastes 12 octets per transfer because PD and PSE measurements do not use the same field. The TLV construction reduces the transfer efficiency by 12/32 = 40%. This waste occurs for every TLV transfer. The existing text permits the TLV to be modified without the need to redo the field descriptions.

SuggestedRemedy

Modify Figure 79-9,
Deleted the “PSE measurements” field. Replace the “PD measurements” field name with “Measurements”. Reduce the string length from 30 to 18.

Proposed Response *Response Status* **W**

TFTD, see 216

Cl **79** *SC* **79.3.8** *P* **73** *L* **17** # 216

Skinner, John — Sifos Technologies, In

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

Figure 79-9 has not been modified to account for the additional octets added to the Measurements fields, which as currently defined in Table 79-7b is 16 octets (128 bits) long. The TLV contains two copies of Measurements, which should not be necessary, as the measurements are communicated from a PD to a PSE, or from a PSE to a PD.

SuggestedRemedy

Modify the layout of the TLV, removing the "PSE measurements" field, and renaming the "PD measurements" field to "Measurements". Correct the length of the Measurements field to 16 octets. Correct the TLV information string length to be 22 octets.

Proposed Response *Response Status* **W**

TFTD, see 195

Cl **79** *SC* **79.3.8.1** *P* **74** *L* **1** # 196

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **ER** *Comment Status* **D** *LLDP*

The existing text,
"Measurement values (voltage, current, power, or energy) shall be set to 0 in case the corresponding request
bit is 0. If a device does not support a particular measurement, the corresponding measurement value shall
be set to 0.", repeats the information.

SuggestedRemedy

Let the Editor decide which sentence to strike in the called out text.

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Those sound like two different things to me (whether it was requested vs. whether it is supported).

TFTD

Cl **145** *SC* **145** *P* **87** *L* **4** # 81

Beia, Christian STMicroelectronics

Comment Type **ER** *Comment Status* **X** *Pres: Beia1*

The wording Power Over Ethernet, even if commonly used, seems not appropriate as a title for Clause 145 since it does not show any relationship with Clause 33, and conveys the idea that Clause 145 is completely redefining PoE.
The scope of this project, defined in our PAR, is to augment the capabilities of the IEEE Std 802.3 standard with 4-pair power and associated power management information. This should be reflected in the title.
The preferable choice is to use a name which includes 4-pairs, as the name of the IEEE802.3bt Task Force.

SuggestedRemedy

Change the title of clause 145 from
Power over Ethernet
to
DTE Power via MDI over 4-pairs

Proposed Response *Response Status* **W**

TFTD

See 409

TFTD CJ
WFP. Christian is working on a preso for this. I have reviewed and we are trying to find common ground. I see now he references it in 83.

Cl **145** *SC* **145.1** *P* **87** *L* **8** # 82

Beia, Christian STMicroelectronics

Comment Type **TR** *Comment Status* **X** *Pres: Beia1*

Some introductory text is needed to explain the relationship with Clause 33. Clause 145 is principally an extention of Clause 33 for 4-pairs operation

SuggestedRemedy

Change the text:
This clause defines the functional and electrical characteristics for providing a Power over Ethernet (PoE) system for deployment over balanced twisted-pair cabling.
With:
This clause defines the functional and electrical characteristics for providing a 4-pairs extension of the Power over Ethernet (PoE) system defined in Clause 33 for deployment over balanced twisted-pair cabling.

Proposed Response *Response Status* **W**

TFTD

TFTD CJ
WFP. Christian is working on a preso for this. I have reviewed and we are trying to find common ground. I see now he references it in 83.

Cl **145** *SC* **145.1** *P* **87** *L* **15** # 83

Beia, Christian STMicroelectronics

Comment Type **TR** *Comment Status* **X** *Pres: Beia1*

Some text is required to harmonize Clause 145 with Clause 33 after the split.

SuggestedRemedy

See beia_01_0317.pdf for baseline proposal

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.1** *P* **87** *L* **21** # 22

Abramson, David — Texas Instruments

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

The term DTE (and DTI Power via MDI on page 88 in multiple locations) is used here even though this clause is now titled Power over Ethernet and has no mention of DTI Power via MDI anywhere before this. This seems confusing.

SuggestedRemedy

Add to section 145.1 (page 87, line 17) in a new paragraph:
This clause uses the terms "DTE Power via MDI" and "Power over Ethernet" interchangeably.

Proposed Response *Response Status* **W**

TFTD, see 81, 409

TFTD CJ
WFP beia1. Though we could use this to give editorial license to replace all instances 'DTE Power via MDI' with Power over Ethernet.

Cl **145** *SC* **145.1.3** *P* **89** *L* **18** # 277

Tuenge, Jason — Pacific Northwest Nati

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

To align with first sentence in subclause.

SuggestedRemedy

Change "System" to "Power system".

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This section relates to the section in Clause 33 titled "Type 1 and Type 2 System Parameters"

TFTD

Cl **145** *SC* **145.1.3** *P* **89** *L* **26** # 278

Tuenge, Jason — Pacific Northwest Nati

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

To align with first sentence in subclause.

SuggestedRemedy

Change "System" to "Power system".

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This section relates to the section in Clause 33 titled "Type 1 and Type 2 System Parameters"

TFTD

Cl **145** *SC* **145.1.3** *P* **89** *L* **37** # 170

Jones, Chad — Cisco

Comment Type **E** *Comment Status* **D** *PSE Types*

Type 4 - 2 or 4 pairs? Type 4 systems only run in 2P mode under fault.

SuggestedRemedy

change row 2 column 3 from '2 or 4' to '4'

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Not true. Type 4 systems have to be 4-pair capable, but are not restricted from operating over 2-pairs when sourcing class 4 or below.

TFTD

TFTD YD
Agree with the response to REJECT this comment. Type 4 can support PD Type 1 and 2 operating over 2-pairs

Cl **145** *SC* **145.1.3** *P* **90** *L* **1** # 274

Tuenge, Jason — Pacific Northwest Nati

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

There are a total of 8 conductors in a cable, and a minimum of 2 (wired in series) are required to form a loop. I believe my proposed change would make the text more accurate.

SuggestedRemedy

Change "a single conductor" to "two conductors in series", and change "a pair of conductors" to "two such loops".

Proposed Response *Response Status* **W**

TFTD

We have tried many times to make this section more understandable. How does everyone feel about this suggestion?

TFTD LY
<< "The cable references use “DC loop resistance,” which refers to a single conductor."
>> "The cable references use “DC loop resistance,” which refers to two single conductors in series.
<< "This clause uses “pairset DC loop resistance,” which refers to a pair of conductors in parallel."
>> "This clause uses “pairset DC loop resistance,” which refers to two pairs in series."

Cl **145** *SC* **145.1.3.1** *P* **90** *L* **31** # 79

Anslow, Pete — Ciena

Comment Type **T** *Comment Status* **D** *Cabling*

"a 10 C reduction in the maximum ambient temperature when all cable pairs are energized at Icable" has no meaning unless it is clear what the reduction is with respect to.

SuggestedRemedy

Clarify what the 10 C and 5 C reduction is with respect to.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

It is a reduction in the maixmum ambient temperature that the cable is rated to. Is this not clear enough?

TFTD

TFTD CJ
How much more clear can it be? The reply will be, the text is clear to the TF. The comment lacks a suggested remedy to demonstrate what needs to be clarified and is therefore rejected.

Cl **145** *SC* **145.1.3.2** *P* **90** *L* **41** # 270

Thompson, Geoff — GraCaSI S.A.

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

This definition for “channel” is NOT the same as the definition in cabling docs, therefore using the term channel as defined here will cause great confusion and accompanying technical inaccuracy.

SuggestedRemedy

Use the term “link section” for the PI to PI cabling.

Proposed Response *Response Status* **W**

TFTD

Cl **145** *SC* **145.1.3** *P* **90** *L* **90** # 198

Schindler, Fred — Seen Simply, Cisco, T

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

The term pair typical references a pair within a pairset. A pairset is both pairs of a PSE Alternative or PD Mode.

Existing text,
“VPD is voltage at the PD PI measured between any positive conductor of a pair and any negative conductor of the corresponding pair.

VPSE is voltage at the PSE PI measured between any positive conductor of a pair and any negative conductor of the corresponding pair.” Can be improved by using pairset.

SuggestedRemedy

Replace the called out text with,

“VPD is voltage at the PD PI measured between any positive conductor of a pairset and any negative conductor of the same pairset.

VPSE is voltage at the PSE PI measured between any positive conductor of a pairset and any negative conductor of the same pairset.”

Proposed Response *Response Status* **W**

TFTD

We need to decide if we want to leave terms that are defined in clause 33 the same in clause 145 or if we are ok having two different defintions for the same term.

Cl **145** *SC* **145.2.1** *P* **91** *L* **20** # 35

Abramson, David Texas Instruments

Comment Type **E** *Comment Status* **D** *Pres: Beia1*

PSE Types should mention Types 1 and 2 and point to clause 33 (just like the PD section does).

SuggestedRemedy

Change: "PSEs can be categorized as either Type 3 or Type 4 PSEs."
to: "PSEs can be categorized as either Type 1, Type 2, Type 3, or Type 4. See 33.2 for the specification of Type 1and Type 2 PSEs."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD CJ
WFP beia1

Cl **145** *SC* **145.2.1** *P* **91** *L* **24** # 219

Stewart, Heath Linear Tech Corp

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

Although the change to a split clause has been smooth, I rather prefer the informative Type comparison table to keep Type 1 and Type 2 data in them.

SuggestedRemedy

Restore Table 145-2 from Draft 2.2

Proposed Response *Response Status* **W**

TFTD

Cl **145** *SC* **145.2.1** *P* **91** *L* **30** # 171

Jones, Chad Cisco

Comment Type **E** *Comment Status* **X** *PSE Types*

Table 145-2, row 2, column 3. Why is this not Class 1 to 4?

SuggestedRemedy

change to 'Class 3 to 4' to 'Class 1 to 4'

Proposed Response *Response Status* **W**

That is a big question. Our previous drafts have all said this and Type 1 also said "3".

TFTD

Cl **145** *SC* **145.2.3** *P* **93** *L* **2** # 273

Thompson, Geoff GraCaSI S.A.

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

Same as above for subsequent figures.

SuggestedRemedy

Replace labels with something more suitable. Powering DTE and “Powered DTE” would be a candidate.

Proposed Response *Response Status* **W**

See 272

TFTD

Cl **145** *SC* **145.2.3** *P* **93** *L* **2** # 272

Thompson, Geoff GraCaSI S.A.

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

The use of the terms “Switch/Hub” and “Powered End Station” are prejudicial and technically inaccurate. PoE can be used between any two DTEs as long as there is a PSE and a PD. For example, there are a number of applications where an upstream power feed might be very useful.

SuggestedRemedy

Replace labels with something more suitable. Powering DTE and “Powered DTE” would be a candidate.

Proposed Response *Response Status* **W**

TFTD

Need to decide on terminology for clause 145 (PoE, DTE, etc.)

Cl **145** *SC* **145.2.4** *P* **99** *L* **38** # 220

Stewart, Heath — Linear Tech Corp

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

A sentence was deleted during the split clause without clear logic.
"For the purposes of data transfer, the type of PSE data port is relevant to the far-end PD, and in some cases,to the cabling system between them. Therefore, Alternative A matches the positive voltage to the transmit pair of the PSE in legacy systems, such as 10BASE-T and 100BASE-TX"
Type 3 PSEs may have Alt A only implementations.

SuggestedRemedy

Put back in "For the purposes of data transfer, the type of PSE data port is relevant to the far-end PD, and in some cases,to the cabling system between them. Therefore, Alternative A matches the positive voltage to the transmit pair of the PSE in legacy systems, such as 10BASE-T and 100BASE-TX"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
That sentence has always been utterly unclear. What does the common mode voltage polarity have to do the data polarity. In any case only 10BASE-T had a defined polarity for the data.
Finally, given that Type 3 may use ANY polarity configuration on Mode A, this statement isn't even correct anymore.
Propose to leave it out.

Cl **145** *SC* **145.2.4** *P* **99** *L* **44** # 23

Abramson, David — Texas Instruments

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

Table 33-4 is no longer needed, it can be replaced with two simple sentences.

SuggestedRemedy

Replace sentence (page 99, line 39) "PSEs shall use only the permitted polarity configurations associated with Alternative A or Alternative B
listed in Table 145–4 corresponding with their Type."
with: "Type 3 PSEs may use any of the valid Alternatives shown in Table 145-3. Type 4 PSEs shall use Alternative A(MDI-X) and Alternative B(S)."

Proposed Response *Response Status* **W**

TFTD, see 221

TFTD LY
Proposed remedy has no shall for Type 3.
"Type 3 PSEs shall use any of the valid Alternatives shown in Table 145-3. ..."

Cl **145** *SC* **145.2.4** *P* **99** *L* **44** # 221

Stewart, Heath — Linear Tech Corp

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

Although the change to a split clause has been smooth, I rather prefer the informative Type comparison table to keep Type 1 and Type 2 data in them.

SuggestedRemedy

Restore Table 145-4 from Draft 2.2

Proposed Response *Response Status* **W**

TFTD, see 23

Cl **145** *SC* **145.2.5** *P* **100** *L* **7** # 245

Stover, David — Linear Tech Corp

Comment Type **TR** *Comment Status* **D** *Editorial*

"PSEs shall provide the behavior of the state diagrams shown in Figure 145-13 to Figure 145-19". Figures within this range include optional features, e.g. 4-pair power, autoclass, option variables.

SuggestedRemedy

Replace with "PSEs shall implement the behavior of the state diagrams shown in Figure 145-13 to Figure 145-19 for all mandatory features and for any supported optional features."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
The state diagram conveys what is optional or a configurable choice by means of option_ variables and other variables.
There is no need to qualify this shall. I agree we need to be precise, but this strikes me as over doing it.

Cl **145** *SC* **145.2.5.1.1** *P* **100** *L* **38** # 247

Stover, David — Linear Tech Corp

Comment Type **TR** *Comment Status* **X** *PSE SD*

Resubmitting request to accept resolution to Comment #289 against D2.2 (stover_02_0117_rev04.pdf, "alt_pri"). To recap, variables "alt_pri" and "pingpong_en" in PSE SD are set but never sampled. The behavior for setting and toggling the definition of Primary and Secondary alternatives is clearly defined in 145.2.5.1.1 and does not conflict with the PSE SD when the aforementioned variables are removed. As announced in Huntington Beach, this solution or another technically complete solution must be accepted against D2.3.

SuggestedRemedy

Accept stover_02_0117_rev04.pdf, Slide 4.

Proposed Response *Response Status* **W**

TFTD

Cl **145** *SC* **145.2.5.4** *P* **105** *L* **16** # 141

Darshan, Yair — Mirosemi

Comment Type **T** *Comment Status* **D** *Editorial*

The variable "option_classprob" doesn't exists in the state machine it needs to be option_class_prob

SuggestedRemedy

Change option_classprob to option_class_prob

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
How about we change it to 'option_class_probe'

TFTD HS
typo OBE 336 (changes it to 'option_class_probe')

Cl **145** *SC* **145.2.5.4** *P* **107** *L* **6** # 148

Darshan, Yair — Mirosemi

Comment Type **T** *Comment Status* **D** *Editorial*

In the text "If pse_avail_pwr is less than 4, this variable may not contain the actual requested Class by the PSE; see pq_req_pwr_probe." two Typos: (1) in "by the PSE" it should be "by the PD" (2) IN "pq_req_pwr_probe" it should be "pd_req_pwr_probe".

SuggestedRemedy

Change from: "If pse_avail_pwr is less than 4, this variable may not contain the actual requested Class by the PSE; see pq_req_pwr_probe." To: "If pse_avail_pwr is less than 4, this variable may not contain the actual requested Class by the PD; see pd_req_pwr_probe."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
Change to:
"If pse_avail_pwr is less than 4 and option_class_probe is FALSE, this variable may not contain the actual requested Class by the PSE; see do_class_probe."

Cl **145** *SC* **145.2.5.6** *P* **113** *L* **38** # 147

Darshan, Yair — Mirosemi

Comment Type **T** *Comment Status* **D** *Pres: Yseboodt6*

In the text: "pd req pwr probe: This variable contains the requested Class of the PD." it has to be pd_req_pwr_probe.

SuggestedRemedy

Change from "pd req pwr probe" To: "pd_req_pwr_probe"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
This variable is going away. OBE by yseboodt_06_0315_classification.pdf

Cl **145** *SC* **145.2.5.7** *P* **117** *L* **8** # 429

Zimmerman, George CME Consulting/Aqua

Comment Type **T** *Comment Status* **D** *PSE SD*

valid_sig_pri<= FALSE, valid_sig_sec<=FALSE - these don't appear to be used anywhere. It looks like everywhere in the state diag this has been replaced by checking sig_pri and sig_sec. Is the intent was to reset sig_pri and sig_sec so they don't read valid?

SuggestedRemedy

Change to sig_pri<=invalid, sig_sec <=invalid and delete variables valid_sig_pri and valid_seg_sec on P115, L31 and L45

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

ALSO remove valid_sig_pri and valid_sig_sec from do_detect function descriptions on page 115.

TFTD DW
I'm pulling just to add a little more color to what happened here and suggest we discuss it in the room. Variables "valid_sig_pri" and "valid_sig_sec" were not intended to be "sig_pri" and "sig_sec" in IDLE. Rather, they are remnants of management register entries that formerly had the "mr_" prefix. These variables were kept to maintain continuity with the legacy PSE SD, but now that the management subclause within 145 has been removed, I think the question becomes whether they should be deleted outright or correspond to an entity in Clause 30. TFTD, please.

Cl **145** *SC* **145.2.5.7** *P* **119** *L* **10** # 341

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **D** *PSE SD*

PSE SD, from DETECT_EVAL to BACKOFF: "(pse_alternative = b) * (sig_pri = invalid) * (sig_pri != open_circuit)".

The last statement is redundant to the second one.

SuggestedRemedy

Replace by: "(pse_alternative = b) * (sig_pri = invalid)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
I need to verify it with other comments addressing backoff

TFTD FS
An invalid detection signature is outside the range of valid detection signatures. Open_circuit is above the valid range so these tests are not the same. The second one is used by midspans to determine if tdbo is required. Midspans only skip tdbo for open_circuit and not an impedance below the valid detection range.

I believe we can use:
Replace by: "(pse_alternative = b) * (sig_pri != open_circuit)

Cl **145** *SC* **145.2.5.7** *P* **119** *L* **27** # 430

Zimmerman, George CME Consulting/Aqua

Comment Type **TR** *Comment Status* **D** *Pres: Stover2*

"(sig_type = invalid) +(sig_type = single) *((sig_pri = invalid) +(sig_sec = invalid)) +(sig_type = dual) *(sig_pri = invalid) *(sig_sec = invalid)" This branch should also be taken when open_circuits are detected. Otherwise there is no way out of CXN_CHK_DETECT_EVAL for single-sig with one open circuit, or dual-sig with both open circuits.

SuggestedRemedy

Change "sig_pri = invalid" to "sig_pri != valid" and likewise for sig_sec = invalid.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD HS
WFP stover_02

Cl **145** *SC* **145.2.5.7** *P* **119** *L* **34** # 250

Stover, David — Linear Tech Corp

Comment Type **TR** *Comment Status* **X** *PSE SD*

Possible multi-true condition in logic from DETECT_EVAL->IDLE.

SuggestedRemedy

Modify transition logic…
From: "… + (pse_alternative != both) * (sig_pri = open_circuit)"
To: "… + (pse_alternative = a) * (sig_pri != valid) + (pse_alternative = b) * (sig_pri = open_circuit)"

Proposed Response *Response Status* **W**

TFTD

Where is the multi-true part? That information would make the comment much easier to analyze.

-1 for stover.

Cl **145** *SC* **145.2.5.7** *P* **120** *L* # 115

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *PSE SD*

On January 2017 meeting we agree that in yseboodt_0117.pdf page 3 we will use optional variables to allow 2 fingers and 3 fingers (Option 1 and 2) and update the state machine accordingly to add to PSE flexibility.

SuggestedRemedy

If not resolved, add to TODO list.

Proposed Response *Response Status* **W**

TFTD

Cl **145** *SC* **145.2.5.7** *P* **120** *L* **1** # 251

Stover, David — Linear Tech Corp

Comment Type **T** *Comment Status* **X** *PSE SD*

TDL/2.2: "Figure out how to properly allow transition back to idle at end of class or when class_lim event occurs." This can be interpreted many ways. The solution in place today allows the PSE to return to IDLE any time between the beginning of the class event measurement period and the end of the t_cle or t_lce timers. If the intention of this TDL is to allow a PSE to issue some arbitrary number of class and mark events before returning to IDLE, there is insufficient guidance to accommodate the request. For example, would such a PSE transition through CLASS_EV1_AUTO? Could the PSE issue any number of events, 1 to 5? What value would be assigned to pse_allocated_pwr?
The PSE Class SDs are designed to transition between states as a function of the previous do_classification results; it is unclear, the utility of overriding a fundamental construct of classification and introducing additional complexity for PSEs that will not apply power anyway.
Also note that, regardless of the outcome of this TDL, the behavior only applies to Type 3 and Type 4 PSEs.

SuggestedRemedy

TFTD, please.

Proposed Response *Response Status* **W**

TFTD

Cl **145** *SC* **145.2.5.7** *P* **120** *L* **21** # 165

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan11*

PSE State machine needs some updates.

SuggestedRemedy

See darshan_11_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.2.5.7** *P* **120** *L* **43** # 342

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X** *Pres: Yseboodt6*

Fix mistakes in PSE classification found during simulation (if any).

SuggestedRemedy

Adopt yseboodt_06_0315_classification.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.2.5.7** *P* **120** *L* **45** # 252

Stover, David Linear Tech Corp

Comment Type **TR** *Comment Status* **D** *Pres: Yseboodt6*

Recent changes to PSE Class SD have broken demotion to Class 6.

SuggestedRemedy

Replace transition logic from CLASS_EV3->MARK_EV3 as follows: "tcle3_timer_done * (pd_class_sig != 4) * (pse_avail_pwr > 4) * ((pd_class_sig = 0) + (pse_avail_pwr > 5))

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
Confirmed broken, but OBE to yseboodt_06_0315_classification.pdf

Cl **145** *SC* **145.2.5.7** *P* **122** *L* **21** # 95

Bullock, Chris Cisco Systems

Comment Type **TR** *Comment Status* **D** *PSE SD*

the variable "pse_power_update" is never assigned a value of false.

SuggestedRemedy

In the POWER_UPDATE state, add "pse_power_update <= FALSE"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD HS
Don't assign variable from multiple SMs, assign to false in INITIALIZE state in PSE power control state diagram

Cl **145** *SC* **145.2.5.7** *P* **122** *L* **22** # 163

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **D** *Pres: Darshan9*

pse_power_update is set in the DLL state diagram Figure 145-43 to trigger an action in the main state diagram, where, after the update is done, the variable should be set to False. The issue is that this part is missing from the main PSE state diagram. We need to add "pse_power_update <= FALSE" to POWER_ON state in Figure 145-13 state POWER_ON.

SuggestedRemedy

add "pse_power_update <= FALSE" to POWER_ON state in Figure 145-13 state POWER_ON before the first IF statement.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
This is TFTD however to your question, see comment #167 D2.2. It was removed also from the single-signature PSE DLL state machine.

TFTD HS
Don't assign variable from multiple SMs, assign to false in INITIALIZE state in PSE power control state diagram

Cl **145** *SC* **145.2.5.7** *P* **122** *L* **25** # 347

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **D** *PSE SD*

Arc from POWER_ON to POWER_ON, has hanging "!".

SuggestedRemedy

Move the ! to the next line and have !tmpdo_timer_done.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
Checking this comment if the ARC is needed at all.

Cl **145** *SC* **145.2.5.7** *P* **122** *L* **33** # 199

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **TR** *Comment Status* **D** *PSE SD*

Variable pse_power_update is never made FALSE and is tested in the PSE state diagram.

SuggestedRemedy

To state POWER_ON, added,
"pse_power_update <= FALSE"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
"1. comment #199 and #163 are similar and both accepted (to implement on POWER_ON state) (error #1)

2. comment #199, #163 are with different remedy than comment #95 (to implement on POWER_UPDATE state) (error #2).

3. I believe that it is better to implementation ""pse_power_update <= FALSE"" in POWER_UPDATE state and not in POWER_ON state although technically it is correct.

4. So I am proposing to ACCECEPT #95 as done so far and ACCEPT IN PRINCIPLE #199 AND #163 AND OBE IT TO #95.

2. What ever what will be decided, to sync it with darshan_04_0317.pdf that currently do it for dual-signature PD in the POWER_UPDATE_PRI state."

TFTD HS
Don't assign variable from multiple SMs, assign to false in INITIALIZE state in PSE power control state diagram

Cl **145** *SC* **145.2.5.7** *P* **123** *L* **39** # 349

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **D** *PSE SD*

The statement "pd_autoclass = False" inside the IDLE_ACS state overwrites results from Physical Layer classification.

SuggestedRemedy

Remove the statement "pd_autoclass = False" in the IDLE_ACS state.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD DS
"pd_autoclass" was implemented as a flag, set by the PD during MEPLY and cleared by PSE after MEPLY Autoclass completed.

There is an inferred priority for PSE to service Autoclass requests; MEPLY wins. As intended, in D2.3, DLL-based Autoclass measurements may never be performed when "pd_autoclass" is set.

Please clarify:
1) Is it important pd_autoclass is a constant, reflecting initial PD request?
2) A general question about DLL behavior: Are we assured DLL-based Autoclass requests will not appear prior to completion of MEPLY-based Autoclass request (i.e., after ~4 seconds)? Because that would simplify some of the transition logic and guide answers to these comments

Cl **145** *SC* **145.2.5.7** *P* **125** *L* **1** # 253

Stover, David — Linear Tech Corp

Comment Type **T** *Comment Status* **X** *PSE SD*

PSE Class SD for dual-signature PDs is inconsistent with recent developments in single-signature Class SD. Particularly, state CLASS_4PID4 is inconsistent with the notion that pd_req_pwr and therefore pd_cls_4pid are known after 3 (not 4) class events. Also, the "pse_allocated_pwr" paradigm is not implemented for PSE dual-signature Class SD.

SuggestedRemedy

If not addressed against D2.3, add to TDL: "Implement pse_allocated_pwr scheme from single-signature PSE Class SD into dual-signature PSE Class SD. Modify pd_cls_4pid logic such that pd_cls_4pid_* are determined out of CLASS_EV3_* states."

Proposed Response *Response Status* **W**

TFTD

Cl **145** *SC* **145.2.5.7** *P* **127** *L* **17** # 351

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **D** *Pres: Darshan4*

DLL_ENABLE for dual-signature currently causes multi-true errors with the other exits from POWER_ON_PRI.
Also, we folded this into POWER_ON with an IF statement in the single-sig POWER_ON state.
(Hidden agenda: this makes room for the power update state Yair will add in darshan_04).

SuggestedRemedy

Do:
- delete DLL_ENABLE state
- append to POWER_ON_PRI:
"IF pse_dll_capable THEN pse_dll_enabled <= TRUE END"

For the _SEC as well.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy looks OK in the state machine. See darshan_04_0317.pdf for complete remedy including variable updates.

Cl **145** *SC* **145.2.6** *P* **133** *L* **22** # 24

Abramson, David Texas Instruments

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

Why did "the POWER_ON state" show back up?

SuggestedRemedy

Replace with "POWER_ON"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The problem in the comment is not clear. (Why did "the POWER_ON state" show back up?)

Response DNA: states should be refered to as their name not "the XXXX state". This was corrected in a previous draft and somehow reverted back to incorrect.

Cl **145** *SC* **145.2.6.1** *P* **133** *L* **36** # 255

Stover, David Linear Tech Corp

Comment Type **TR** *Comment Status* **X** *Connection Check*

Connection check does not address the scenario where one pairset presents a valid signature and the other pairset presents a valid signature (that is, the PD is neither a dual-signature PD, a single-signature PD, nor "invalid on both pairsets"). The aforementioned scenario must be assigned an "invalid" connection check result. Note that this remedy still allows the PSE to fall back to a 2-pair mode and power any valid pairsets at Clause 33 power levels.

SuggestedRemedy

Modify 145.2.6.1: "…to determine if both pairsets are connected to a single-signature PD configuration, a dual-signature PD configuration, or either pairset is invalid."
Modify values to in do_cxn_chk function:
"single: Both pairsets are connected to a single-signature PD configuration.
dual: Both pairsets are connected to a dual-signature PD configuration.
invalid: Either pairset is invalid. This includes an open circuit condition on either pairset."

Proposed Response *Response Status* **W**

TFTD

Connection check is not actually checking for valid or invalid detection signatures. People folded open-circuit checking into it (against my advice). A valid signature on one pairset and an invalid signature on the other pairset should get set to DS.

See 308

Cl **145** *SC* **145.2.6.1** *P* **133** *L* **37** # 308

Walker, Dylan Cisco

Comment Type **T** *Comment Status* **X** *Connection Check*

The possible outcomes of Connection Check need to be clarified to allow the function to return when one pairset has a valid signature and the other doesn't.

Credit to Mr. Stover for identifying this issue.

SuggestedRemedy

Change

"PSEs that will deliver power on both pairsets shall complete a connection check prior to the classification of a PD as specified in 145.2.7 to determine if both pairsets are connected to a single-signature PD configuration, a dual-signature PD configuration, or both pairsets are invalid."

to

"PSEs that will deliver power on both pairsets shall complete a connection check prior to the classification of a PD as specified in 145.2.7 to determine if the PSE is connected to a single-signature PD configuration, a dual-signature PD configuration, or neither."

Proposed Response *Response Status* **W**

TFTD, see 255

Cl **145** *SC* **145.2.6.6** *P* **136** *L* **52** # 200

Schindler, Fred Seen Simply, Cisco, T

Comment Type **TR** *Comment Status* **X** *Pres: Darshan7*

This comment closes a TODO D2.2 #245. The changes made by this comment broke what was previously accepted and fixed by D2.1 #112 and D2.2 #245 and #247. The existing text,
“If a PSE that is performing detection using Alternative B (see 33.2.4, 145.2.6.6) 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 text is not consistent with the state diagram which always skips the timer. This compromises the detection process for end-point PSEs by causing midspan PSEs to continue detection when both PSEs interfere with each other’s detection steps.

Here is the scenario:
Assume a midspan and a PSE both connect to a PD. They both do detection.
- If the Midspan Vdet > PSE Vdet, then the midspan sees a valid detection (ok) and the PSE is isolated by the reverse biased bridge diode (HZ).
- If the Midspan Vdet < PSE Vdet, then the midspan sees an open circuit (HZ) and the end-point PSE sees a valid detection (ok).
- So the combinations possible are:

ok = valid detection point, HZ = high impedance detection point (Ropen)
This review assumes a two point detection required by the specification. Most PSE vendors use more than two points so more combinations are possible. Either way the only way to get a valid detection is to have all points produce a valid value for Rdet. If any one point is HZ then the detection is invalid. If all points are HZ then the detection is HZ (high impedance).

Point-1 MID PSE	Point-2 MID PSE	
ok	HZ	ok => Midspan does class next, PSE does detect next
HZ	ok	=> Midspan should backoff
HZ	ok	=> Midspan should backoff
HZ	ok	=> PSE does class next, midspan may do detection or tdbo

If tdbo delay is performed when the Midspan should backoff then the end-point PSE completes a valid detection.

If the midspan sees HZ for both points then the midspan can continue detection.

Skipping the delay lets the midspan always do an early detection so the MIDSPAN detection blocks a PSE from completing detection in the second and third cases. The detection voltages and timing choices may prevent both PSEs from completing detection which results in an interoperability problem.

SuggestedRemedy

Back out the changes made by D2.2 #291, and implement the recommended corrections

provided in D2.2 #247. If this comment is not complete enough for reviewers I will create a supporting presentation, schindler_02_0317.pdf. Please contact the commenter directly if you want the details on the problem or solution expanded upon.

Proposed Response *Response Status* **W**

WFP

TFTD

TFTD FS
My concern was poorly expressed in this comment. The text and state diagram disagree because the state diagram changes made by D2.2 #245, previously fixed by D2.1 #112 and D2.2 #245, #247.
page 136
"If a PSE that is performing detection using Alternative B (see 33.2.4, 145.2.6.6) 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 diagram requires the time to be omitted.

SOLUTION
Replace the called out text with,
"If a PSE that is performing detection using Alternative B (see 145.2.4) determines that the impedance at the PI is greater than Ropen as defined in Table 145–10, it shall consider the link to be open circuit and omit the tdbo_timer interval."

Additionally have the Editor implement an undo function for his work.

Cl **145** *SC* **145.2.6.6** *P* **136** *L* **54** # 162

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan7*

I have reviewed David Stover file page 12 and 13 in http://www.ieee802.org/3/bt/public/jan17/stover_02_0117_rev04.pdf and it looks that comment #245 D2.2 was not addressed fully.
The text in in "145.2.6.6 Open circuit criteria: If a PSE that is performing detection using Alternative B (see 145.2.4) determines that the impedance at the PI is greater than Ropen as defined in Table 145–10, it may optionally consider the link to be open circuit and omit the tdbo_timer interval." allows the user when the impedance is OPEN to implement backoff or not while the state machine has one choice; the state machine says if it is OPEN don't do backoff and if it is invalid do backoff which means we don't have the option to have OPEN and do backoff.

SuggestedRemedy

-See updated comment and remedy in darshan_07_0317.pdf if ready for the meeting, if not add to TODO list. OR,
-Restore option_tdbo_omit variable and it related text in the state machine as was in D2.2 or add to TODO list.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.2.7** *P* **137** *L* **46** # 355

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **D** *PSE Class*

"The PSE shall provide V Class with a current limitation of I Class_LIM , as defined in Table 145-14 only for a pairset with a valid detection signature. Polarity shall be the same as defined for V Port_PSE-2P in 145.2.4 and timing specifications shall be as defined in Table 145-14."

First sentence: it tries to say to only go into the classification voltage range after detection resulted in a valid signature on a pairset. This sentence has many issues. Is it OK to put on 13V without valid detection ? (answer: no, this sentence says yes).
Is it OK to apply VClass without a current limit without a valid detection ? (no, this sentence says yes).
The IClass_LIM is covered on page 142, line 11.

Second sentence: covered on p 142, line 13 (polarity) and timing is covered in the various paragraphs that deal with that.

SuggestedRemedy

Replace quoted text by:
"The PSE shall not exceed a voltage of V_valid max on a pairset unless the PSE has detected a valid signature on that pairset."

Proposed Response *Response Status* **W**

PROPOSED REJECT.

I am not sure how this text replaces all of the requirements in the sentence you are referencing. 2nd, your new sentence changes the open-circuit detection requirement from 30V to 10V. I don't think you meant that.

TFTD

Cl **145** *SC* **145.2.7** *P* **138** *L* **5** # 356

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **D** *PSE Class*

"The Class assigned to a single-signature PD determines P Class , the minimum power level the PSE supports at the PI, as defined in Equation (145-2). For a dual-signature PD, this minimum power level is P Class-2P , defined per pairset in Equation (145-3)."

All true, but all of this information is stated in the next paragraph and the one on line 26.

SuggestedRemedy

Delete quoted text.
Change on line 9:
"The minimum power output a PSE supports for a particular PD Class, ..."
by:
"The minimum power output a PSE supports for the PD's assigned Class, ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD HS
I preferred the original text as it was the opening paragraph for a longer more involved set of following paragraphs

Cl **145** *SC* **145.2.7** *P* **138** *L* **10** # 357

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **D** *PSE Class*

"The minimum power output a PSE supports for a particular PD Class, when powering a single-signature PD, or supplying power in 2-pair mode, is defined by Equation (145-2)."

The bit about 2-pair mode is no longer needed => this was only there to weave legacy behaviour in.

SuggestedRemedy

"The minimum power output a PSE supports for a particular PD Class, when powering a single-signature PD, is defined by Equation (145-2)."

Proposed Response *Response Status* **W**

PROPOSED REJECT.

TFTD

why is it no longer needed? Type 3 and 4 can still operate in 2-pair mode. In that case, they don't understand single or dual signature at all. We need to define behavior for them in this case.

Cl **145** *SC* **145.2.7** *P* **138** *L* **20** # 256

Stover, David — Linear Tech Corp

Comment Type **TR** *Comment Status* **D** *PSE Class*

"V_PSE is the voltage at the PSE PI as defined in 145.1.3." As addressed in the paragraph above this equation, PSEs may supply 2-pair power, in which case V_PSE refers to the voltage at the PSE PI on Mode A or Mode B, whichever is greater.

SuggestedRemedy

Change "V_PSE is the voltage at the PSE PI as defined in 145.1.3." to "V_PSE is the voltage at Mode A or Mode B of the PSE PI, whichever is greater, as defined in 145.1.3."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
This redefines V_PSE for a specific state diagram...
TFTD.

TFTD FS
The solution provided is not correct. When a PSE powers on a pairset, that is the pairset where VPSE matters, the other pairset should have no voltage on it, but is floating so the voltage is not well defined. The proposed text is not precise enough.

SOLUTION
"V_PSE is the voltage on the powered pairset at the PSE PI as defined in 145.1.3."

Cl **145** *SC* **145.2.7** *P* **139** *L* **12** # 258

Stover, David — Linear Tech Corp

Comment Type **TR** *Comment Status* **X** *PSE Class*

Table 145-11 includes an entry for "PD Requested Class = 0, 3 to 8". Class 0 is not defined for single-signature PDs. Also, pedantically, 0 is not a requested class.

SuggestedRemedy

Modify "0, 3 to 8" as "3 to 8"

Proposed Response *Response Status* **W**

TFTD

This table needs to include existing PDs. So class 0 has to go somewhere…

Cl **145** *SC* **145.2.7** *P* **140** *L* **4** # 358

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **D** *Pres: Darshan4*

Table 145-12 which links DLL and assigned Class in the PSE section refers to PSEAllocatedPowerValue_mode(M).
This should be Alternative, not Mode. One of the darshan_xx will fix this in the DLL section, propagate fix here.

SuggestedRemedy

Replace:
"PSEAllocatedPowerValue_mode(M)" => "PSEAllocatedPowerValue_Alt(X)"
"Assigned Class for Mode M" => "Assigned Class for Alt(X)"

License to harmonize remedy with darshan_xx.

Proposed Response *Response Status* **W**

WFP

TFTD

TFTD YD
Resolved in darshan_04_0317.pdf

Cl **145** *SC* **145.2.7** *P* **140** *L* **30** # 27

Abramson, David — Texas Instruments

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

Use of "4-pairs" is wrong through draft. The hyphen should only be used when "4-pair" is used as an adjective (ex: 4-pair power). If "pair" or "pairs" is used as a noun, there should be no hyphen.

SuggestedRemedy

Replace "4-pairs" with "4 pairs". Editor to implement rules in comment through entire draft.

Proposed Response *Response Status* **W**

TFTD

Can we all please fix this for good?

Cl **145** *SC* **145.2.7.1** *P* **140** *L* **44** # 262

Stover, David — Linear Tech Corp

Comment Type **TR** *Comment Status* **D** *PSE Class*

"Type 3 PSEs shall provide a maximum of four class events and four mark events for single-signature PDs unless a class reset event clears the class and mark event counts." This whole section suggests Type 3 and 4 PSEs can issue an unlimited amount of class and mark events, which is inconsistent with the implementation in PSE SD. class_probe and the class reset function allow any PSE to issue up to 3 class and mark events, regardless of available power, provided the PSE issues a class reset event when allocated power exceeds available power. I believe there is no need to mention class reset events here.

SuggestedRemedy

Strike "unless a class reset event clears the class and mark event counts." in 4 places: Type 3/Single, Type 3/Dual, Type 4/Single, Type 4/Dual.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

How about "Type 3 PSEs shall provide a maximum of four class events and four mark events for… between resetting the PD and entering a powered state."

I know terrible text, but I just wanted to get the idea out there…

TFTD

Cl **145** *SC* **145.2.7.1** *P* **141** *L* **28** # 360

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **D** *PSE Class*

"The timing specification for PSEs in the state CLASS_EV1_LCE, CLASS_EV1_AUTO, CLASS_EV1_- LCE_PRI, CLASS_EV1_LCE_SEC, CLASS_EV1_LCE_4PID_PRI, or CLASS_EV1_LCE_4PID_SEC shall be T LCE ."

Unlike similar paragraphs for T_CLE2 and TCLE3, this one doesn`t specify we need to apply VClass.

SuggestedRemedy

Change to:
"When the PSE is in the state CLASS_EV1_LCE, CLASS_EV1_AUTO, CLASS_EV1_- LCE_PRI, CLASS_EV1_LCE_SEC, CLASS_EV1_LCE_4PID_PRI, or CLASS_EV1_LCE_4PID_SEC, it shall provide to the PI or pairset VClass, subject to T_CLE timing specification."

Change "the PSE shall" to "it shall" on line 43, 50, and 53 (and once more on the next page, line 2) as well.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD FS
Closing the comment is also an opportunity to determine if the common phrase “to the PI or pairset” should be replaced with “to the PI”.

1.4.337 Power Interface (PI): The mechanical and electrical interface between the Power Sourcing Equipment (PSE) or Powered Device (PD) and the transmission medium. In an Endpoint PSE and in a PD the Power Interface is the MDI.

When a voltage is applied it goes on one or more pairsets, which is part of the PI. We have other text that covers which pins are energized. I believe we can consider PI as a general location that the other requirements apply to.

Cl **145** *SC* **145.2.7.2** *P* **143** *L* **29** # 166

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan11*

The text "that "Average power is calculated using any sliding window with a width in the range of TAUTO_Win-dow as defined in Table 145–15." is not clear

SuggestedRemedy

See darshan_11_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.2.8** *P* **144** *L* **36** # 362

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X** *Pres: Darshan10*

Table 145-16, unbalance work now seems to have stabilized.
The values of ICon-2P-unb are the result of simulation and curve fitting.
We should round them to more convenient values.
This also yields a bit more unbalance margin.

SuggestedRemedy

Change item 5 values (Icon-2P-unb) as follows:
Class 5 from 0.55 to 0.55
Class 6 from 0.682 to 0.7
Class 7 from 0.781 to 0.8
Class 8 from 0.932 to 0.95

Proposed Response *Response Status* **W**

TFTD

WFP

TFTD YD
TO CONSIDER IF IT WORTH THE WORK. It will change all the unbalance spec (equations, numbers and to verify existing transformers design for Type 3 and 4). See darshan_10_0317.pdf if Ready.

Cl **145** *SC* **145.2.8** *P* **144** *L* **36** # 363

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X** *Pres: Darshan10*

Table 145-16, unbalance work now seems to have stabilized.
The values of ILIM-2P are the result of simulation and curve fitting.
We should round them to more convenient values.

SuggestedRemedy

Change item 5 values (ILIM-2P) as follows:
Class 5 from 0.562 to 0.6
Class 6 from 0.702 to 0.72
Class 7 from 0.829 to 0.83
Class 8 from 0.99 to 0.99

Proposed Response *Response Status* **W**

TFTD

WFP

TFTD YD
TO CONSIDER IF IT WORTH THE WORK. It will change all the unbalance spec (equations, numbers and to verify existing transformers design for Type 3 and 4). See darshan_10_0317.pdf if Ready.

Cl **145** *SC* **145.2.8** *P* **144** *L* **38** # 146

Darshan, Yair Mirosemi

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

Editor to explain what was the change in item 5, Class 5 in Table 33-16

SuggestedRemedy

Editor?

Proposed Response *Response Status* **W**

TFTD, Editor?

TFTD LY
Trailing zero was removed.

Cl **145** *SC* **145.2.8** *P* **144** *L* **39** # 168

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan10*

Increasing Icon-2P_unb, Ipeak_2P_unb, ILIM-2P for the next highest possible integer

SuggestedRemedy

darshan_10_0117.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.2.8** *P* **145** *L* **9** # 264

Stover, David — Linear Tech Corp

Comment Type **TR** *Comment Status* **D** *PSE Power*

Per Table 145-24, Class 0 is an undefined "requested Class" for single-signature PDs

SuggestedRemedy

Modify "Single-signature PD, Class 0 to 4" to "Single-signature PD, Class 1 to 4" in all instances.

Proposed Response *Response Status* **W**

TFTD

Where do you suggest we put class 0 PDs? They need to go somewhere…

Cl **145** *SC* **145.2.8** *P* **145** *L* **15** # 265

Stover, David — Linear Tech Corp

Comment Type **TR** *Comment Status* **D** *PSE Power*

Parameter labels are inconsistent between single-signature and dual-signature PDs, e.g. "Single-signature PD, Class 0 to 4" vs "Type 3 dual-signature PD". Note these parameters are under headers described as "…per the assigned Class"

SuggestedRemedy

Modify instances of "Type 3 dual-signature PD" to "Dual-signature PD, Class 1 to 4"; "Type 4 dual-signature PD" to "Dual-signature PD, Class 5"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
Both David's missed the nuance here. Using Type here has a very specific effect, namely it ties in BOTH pairsets to the requirement.

Cl **145** *SC* **145.2.8** *P* **145** *L* **45** # 364

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **D** *PSE Power*

ILIM-2P values in Table 145-16 are listed per Class (from 0 to 8).
Unlike Class 1-4, Class 5 is a different thing for single and dual-signature.

SuggestedRemedy

In item 11, Table 145-16, change "Class 5" to "Single-signature PD, Class 5" and add a row at the bottom for "Dual-signature PD, Class 5" with value 0.99.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
Not sure that I understand the problem. This is for single or dual since it is ILIM-2P. Technically it will not be cost effective to have two different values for single or dual ILIM-2P, so do not split the rows and don not change the current spec.

Cl **145** *SC* **145.2.8** *P* **146** *L* **7** # 173

Jones, Chad — Cisco

Comment Type **E** *Comment Status* **D** *PSE Power*

Table 145-16, item 13. why don't we list 60W as the max number for Ptype for Type 3? I'm sure there's some reason I'm forgetting. If there is reject me and leave the reason in the remedy.

SuggestedRemedy

add '60' for item 13, max for type 3.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Since Type 3 is replacing Types 1 and 2 (for lack of a better way to describe it), You can build Type 3 PSEs with a max power output as low as 15.4W (Type 1 equivalent).

TFTD YD
I prefer to ACCEPT and not reject. This is Ptype. It says Ptype_min=15.4W and the maximum can be 60W. It doesn't prevent you to build Type 3 with 15.4W max power. This is the Type range.

Cl **145** *SC* **145.2.8** *P* **146** *L* **51** # 110

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **D** *PSE Power*

The text in note (a) "Unbalance at Class 4 is not restricted. The ICon-2P-unb value is higher than the value for Class 5." is not complete. Missing text that explains that this is correct for class 5 when operating over 4-pairs.

SuggestedRemedy

Change from "aUnbalance at Class 4 is not restricted. The ICon-2P-unb value is higher than the value for Class 5."
To "aUnbalance at Class 4 is not restricted. The ICon-2P-unb value is higher than the value for Class 5 PSEs operating in 4-pair mode."

Proposed Response *Response Status* **W**

PROPOSED REJECT.

All PSEs powering a class 5 PD need to operate in 4-pair mode. Plus, "Class 5 PSEs" is not proper use of the terms. It is a PSE powering a class 5 PD.

TFTD YD
"The point was missed. The reason for Note A is to explain why the value Icon-2P_unb for

class 4 is higher than Icon-2P_unb for class 5 while the power of class 5 > class 4. The reason is that class 4 is defined for 2-pairs when there is no unbalance and where all the power may go through it and class 5 is designed for 4-pair operation when there is unbalance. The current note doesn't explain this clearly. So I suggest the following wording: ""aUnbalance at Class 4 is not restricted which results with higher ICon-2P-unb value for Class 5."". Your response David is addressing note B which you may correct using this comment for Note B as well."

Cl **145** *SC* **145.2.8.2** *P* **147** *L* **21** # 366

Yseboodt, Lennart Philips

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

"power on state" should be "POWER_ON state".

SuggestedRemedy

Per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

"the power on state" should be "POWER_ON".

TFTD HS
Did we decide POWER_ON implied * eg _PRI, _SEC?

Cl **145** *SC* **145.2.8.5** *P* **147** *L* **49** # 150

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **D** *Pres: Darshan2*

clause 145.2.8.5 Continuous output current capability in the POWER_ON state needs some clarifications due to the changes made in D2.2.

SuggestedRemedy

Implement darshan_02_0317.pdf

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

WFP

TFTD

Cl **00** *SC* **145.2.8.5** *P* **149** *L* **36** # 309

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X** *Pres: Yseboodt2*

The calculation and definition of IPeak-2P-unb is complex and the unbalance amount can be tuned based on Rchan.
The purpose of this is unclear and seems redundant.

SuggestedRemedy

Adopt yseboodt_02_0315_ipeak2punb.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.2.8.5.1** *P* **150** *L* **23** # 368

Yseboodt, Lennart Philips

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

Subclause 145.2.8.5.1 does not belong under 145.2.8.5, it should be a subclause under 145.2.8.

SuggestedRemedy

Bump 145.2.8.5.1 one level up (H4).

Proposed Response *Response Status* **W**

TFTD

Really? 2.8.5.1 is all about unbalance and its effects on Icon-2p-unb. This seems directly related to 2.5.8 where Icon-2p-unb is defined.

Cl **145** *SC* **145.2.8.5.1** *P* **150** *L* **32** # 202

Schindler, Fred Seen Simply, Cisco, T

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

The existing text,
"The PSE PI pair-to-pair effective resistance unbalance determined by RPSE_max and RPSE_min ensures that along with any other parts of the system, i.e. channel (cables and connectors) and the PD, the pairset with the highest current including unbalance does not exceed ICon-2P-unb as defined in Table 145–16 during normal operating conditions."

The word ensure should not be used in an IEEE specification.

SuggestedRemedy

Replace the called out text with,
"The pairset with the highest current including unbalance does not exceed ICon-2P-unb, as defined in Table 145–16, during normal operating conditions if the PSE PI pair-to-pair effective resistance unbalance is determined by RPSE_max , RPSE_min, and other parts of the system (i.e. channel and the PD)."

Proposed Response *Response Status* **W**

TFTD

I understand you don't want ensure to be in the draft, but your sentence doesn't make sense. The PSE resistances can't limit the current to Icon-2p-unb if the cables or PD is completely broken. Yair's original sentence may or may not imply the same thing.

TFTD FS
WFP YairXXX

Cl **145** *SC* **145.2.8.5.1** *P* **151** *L* **29** # 369

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **D** *Pres: Darshan1*

Table 145-17 defines Rload(min/max), RPair_PD(min/max) and RCh_unb(min/max).
Rload is then redefined one page later in Eq 145-16 and 145-17.

Rload = RCH_unb + RPair_PD.

This results in Table 145-17 to be very cramped horizontally.

SuggestedRemedy

- Remove the Rload_min/max columns from Table 145-17
- Change reference from Table 145-17 to Equation 145-16 and 145-17 on:
  * p151, l24
  * p151, l49
    - Delete the first sentence on p152, l5
    - Move the definitions of RPair_PD and RCh_unb to a proper "where" clause below Equations 145-16 and 145-17.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
Remedy is OK. See darshan_01_0317.pdf for complete remedy.

Cl **145** *SC* **145.2.8.5.1** *P* **151** *L* **30** # 111

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan1*

Table 145-17 and other related text. We need to keep the following concept for the unbalance variable names to keep consistency:
Rpse_min/max is PSE PI effective resistance.
RPD_min/max is the PD PI effective resistance (Currently it is Rpair_pd_min/max).
Nominal PI resistances will be: Rpair_PSE_min/max and Rpair_PD_min/max.
(Rpd is not used anywhere. We have only Rpd_d in detection section.)

SuggestedRemedy

See darshan_01_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.2.8.5.1** *P* **151** *L* **33** # 129

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan10*

Table 145-17 contain resistance values of actual test verification model. This values need to be rounded to 1% in order that Icon-2P_unb will be kept with accuracy of +/-5mA/TBD.

SuggestedRemedy

See darshan_10_0317.pdf. If not ready for the meeting add to Yair TODO.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.2.8.5.1** *P* **151** *L* **33** # 152

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan10*

The significant digits of the resistance numbers in Table 145-17 need to be update to meet 1%/TBD resistance range in order meet Icon-2P_unb requirements within +/-5mA range

SuggestedRemedy

Add to Yair TODO list if not ready for the meeting.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.2.8.5.1** *P* **152** *L* **41** # 370

Yseboodt, Lennart Philips

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

Figure 145-22 is titled "PSE PI unbalance specification and E2EP2PRunb"

This impossible abbreviation...

SuggestedRemedy

Replace by "PSE PI unbalance specification and system resistance unbalance"
Also remove the two occurences of this abbreviation in Annex 145A and replace by remedy text.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
"I suggest different remedy: Replace by ""PSE PI unbalance specification and end to end system resistance unbalance"" Also remove the two occurrences of this abbreviation in Annex 145A and replace by remedy text"

Cl **145** *SC* **145.2.8.6** *P* **153** *L* **3** # 30

Abramson, David Texas Instruments

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

Sentence has issues after removal of Type 1 and 2 text.

SuggestedRemedy

Replace "POWER_UP occurs on each pairset between the PSE's transition to the POWER_UP state on that pairset and either the expiration of Tinrush-2P."
with: POWER_UP occurs on each pairset between the PSE's transition to the POWER_UP state on that pairset and the expiration of Tinrush-2P.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD FS
Resolution to the question gives human characteristic to things, which is normally not allowed in a specification. Replace the proposed solution with,

"POWER_UP occurs on each pairset between the PSE transition to the POWER_UP state on that pairset and the expiration of Tinrush-2P."

Replaced "PSE's" with "PSE". The Editor could be given license to make similar changes throughout the specification.

Cl **145** *SC* **145.2.8.8** *P* **155** *L* **12** # 113

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan6*

Figure 145-24. Short circuit conditions can not start below the lowerbound template and below ILIM-2P_min up to TLIM-2P. Currently the area between Ipeak-2P to ILIM-2P is marked short circuit. This is incorrect. Short circuit region starts at the lowerbound template. Up to TLIM-2P_min, it starts at ILIM-2P_min and above it. It is legacy error. See page 154 line 37: "A PSE may remove power from the PI if the PI current meets or exceeds the "PSE lowerbound template" in Figure 145-24 and Figure 33–25. Power shall be removed from a pairset of a PSE before the pairset current exceeds the "PSE upperbound template" in Figure 145-24 and 145-25." This is clear definition for where is the short circuit region.

SuggestedRemedy

Remove the marking "short circuit" and the brown color from the current position. See darshan_06_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.2.8.8** *P* **155** *L* **36** # 114

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan6*

Figure 145-25. Short circuit conditions can not start below the lowerbound template and below ILIM-2P_min up to TLIM-2P. Currently the area between Ipeak-2P to ILIM-2P is marked short circuit. This is incorrect. Short circuit region starts at the lowerbound template. Up to TLIM-2P_min, it starts at ILIM-2P_min and above it. It is legacy error. See page 154 line 37: "A PSE may remove power from the PI if the PI current meets or exceeds the “PSE lowerbound template” in Figure 145-24 and Figure 33–25. Power shall be removed from a pairset of a PSE before the pairset current exceeds the “PSE upperbound template” in Figure 145-24 and 145-25." This is clear definition for where is the short circuit region.

SuggestedRemedy

Remove the marking "short circuit" and the brown color from the current position. See darshan_06_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.2.8.11** *P* **157** *L* **21** # 372

Yseboodt, Lennart — Philips

Comment Type **ER** *Comment Status* **D** *Pres: Darshan1*

See 145.2.8.11

This is in a section on "Continuous output power in the POWER_ON state".
It used to belong with P_Con, a parameter we killed off many cycles ago.

Paragraph 1: redefines PClass, already covered on page 138
Paragraph 2: redefines PClass-2P, see page 138
Paragraph 3: we need to keep this
Paragraph 4: already covered in 145.2.8.8

SuggestedRemedy

- Move paragraph 3 to 145.2.8.1
- Delete 145.2.8.11

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See 31

TFTD YD
Remedy is OK. See darshan_01_0317.pdf for complete remedy.

TFTD HS
WFP stewart_01; Also I am not clear that paragraph 4 was redundant

Cl **145** *SC* **145.3.1** *P* **160** *L* **23** # 205

Schindler, Fred — Seen Simply, Cisco, T

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

IEEE specifications normally refer to conductors rather than wires for channel connections.

SuggestedRemedy

Have the Editor replace all occurrences of wire, and wires, with conductor, or conductors, respectively. Provide the Editor with the discretion to make appropriate choices.

Proposed Response *Response Status* **W**

TFTD

Cl **145** *SC* **145.3.1** *P* **160** *L* **27** # 374

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **D** *PD Types*

"Single-signature PDs with a power demand lower or equal to Class 4 power shall be able to operate per the PD Mode A column and the PD Mode B column in Table 145-18."

What we`re really trying to say is that a Class 4 or less PD must be capable to operate in 2-pair mode.

SuggestedRemedy

"Single-signature PDs that request Class 4 or less shall be able to operate in 2-pair mode as well as 4-pair mode, per the PD Mode A column and per the PD Mode B column in Table 145-18."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

I don't think your new sentenece clears anything up. What is 4-pair mode per the Mode A column? I know that's not what you meant, but it is how it reads.

Since this clause is all about 4-pair capability and it is mentioned numerous times, how about:

"Single-signature PDs that request Class 4 or less shall be able to operate if power is applied to either PD Mode A, PD Mode B, or both modes simultaneously."

Cl **145** *SC* **145.3.1** *P* **160** *L* **35** # 375

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **D** *PD Types*

"The PD shall withstand any voltage from 0 V to 57 V at the PI indefinitely without permanent damage."

OK. Let`s all take a deep breath and focus on positive energy in the room.

Why am I bringing this up *again* ?
Since it is in a new Clause now, it only applies to Type 3 and Type 4, which gives us a bit more freedom to fix it.
The proposed change should not imply anything about surviving invalid/weird input voltage combinations, so I won`t touch that.
It no longer can be used to manipulate/interpret 4PID stuff, we`re passed that.
What we can fix is not requiring the PD to survive 57V across a pair (over a transformer), which no PD can ever survive.
Having that issue in, invalidates the entire requirement.

SuggestedRemedy

Replace by:
"The PD shall withstand any voltage from 0V to 57V applied to Mode A, Mode B, and both simultaneously indefinitely without permanent damage."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
Both comments (204, 375) deal with "57V" stuff - one should be OBE to the other in case we make changes.

Response DNA: They have the same resolution, and NO ONE WILL CHANGE IT…

Cl **145** *SC* **145.3.1** *P* **160** *L* **35** # 204

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **TR** *Comment Status* **D** *PD Types*

The existing text,
"The PD shall withstand any voltage from 0 V to 57 V at the PI indefinitely without permanent damage." Can be corrected. This requries 2P, 4P, and 3P (2P unswitched) connections that will likely exist in real systems, to be acceptable.

SuggestedRemedy

Replace the first called out text with,
"The PD PI Mode connections shall withstand any voltage from 0 V to 57 V at the PI indefinitely without permanent damage."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace by:
"The PD shall withstand any voltage from 0V to 57V applied to Mode A, Mode B, and both simultaneously indefinitely without permanent damage."

TFTD LY
Both comments (204, 375) deal with "57V" stuff - one should be OBE to the other in case we make changes.

Response DNA: They have the same resolution, and NO ONE WILL CHANGE IT…

TFTD FS
The proposed solution does not provide the same coverage as the one recommended by the commenter.

PD PI Mode connections are any or all of the Mode pins.
A
B
AB
A+ B+ A- [not covered by proposed solution]
A+ B+ B- [not covered by proposed solution]

The connections not covered by the proposed solution are real-world connections. That is, both Modes are connected to the unswitched positive rail and one of the switched rails which is on.

Cl **145** *SC* **145.3.2** *P* **161** *L* **11** # 376

Yseboodt, Lennart — Philips

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

Table 145-19 shows the permissible PD Types.
Due to Clause-split, several columns have lost their significance.

Note: work is planned to introduce either an Annex, or a subclause in the beginning of the document that shows an overview of ALL PSEs and PDs.
This allows the reader to have an overview.

This table however should only focus on Type 3 & 4.

SuggestedRemedy

Remove columns for "4-pair", "MPS" and Physical Layer Classification

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

ALSO, Add TDL (Lennart): introduce either an Annex, or a subclause in the beginning of the document that shows an overview of ALL PSEs and PDs.

TFTD YD
I like that these important data is in one table for clarity. This is FAQ i.e. what PD has to support with out trying to find it in the text…let's write the introductory section first and then we address this issue..

Cl **145** *SC* **145.3.2** *P* **161** *L* **18** # 160

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *PD Types*

Table 145-19 There is no need to mandate DLL for dual-signature class 1-3 due to the same arguments used for single-signature PDs. We need to make dual-signature class 1-3 DLL optional and class 4 and 5 mandatory as in single-signature.

SuggestedRemedy

1) In Table 145-19 split Type 3 dual-signature PD row to two rows:
-Dual 1st row: PD Class column; 1-3, Data Link Layer Classification column; Optional. No changes in the content of the other columns.
-Dual 2nd row: PD Class column; 4, Data Link Layer Classification column; Mandatory. No changes in the content of the other columns.
2) Add a note to Optional: "Data Link Layer Classification is optional if the requested class on both modes are less or equal to 3."

Proposed Response *Response Status* **W**

TFTD

Cl **145** *SC* **145.3.2** *P* **161** *L* **27** # 97

Bullock, Chris — Cisco Systems

Comment Type **E** *Comment Status* **D** *Pres: Yseboodt3*

for consistency with other paragraghs in this section, change wording in sentece....
"Type 3 single-signature PDs operating up to a maximum power draw corresponding to Class 3 or less
implement a minimum of Multiple-Event Physical Layer Classification and request Class 1, 2, or 3."

SuggestedRemedy

Replace:
"Type 3 single-signature PDs"

With:
"Single-signature Type 3 PDs"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
OBE by yseboodt_03_0317_pdclassification.pdf

Cl **145** *SC* **145.3.2** *P* **161** *L* **27** # 224

Stewart, Heath — Linear Tech Corp

Comment Type **E** *Comment Status* **D** *Pres: Yseboodt3*

The phrase "a minimum of Multiple-Event Physical Layer Classification" makes no sense.

SuggestedRemedy

Delete "a minimum of".

Add a following sentence to restore desired clarity. "Implementation of Data Link Layer Classification is optional."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
OBE by yseboodt_03_0317_pdclassification.pdf

TFTD FS
The proposed change can be interpreted as being overly broad—applying to all PDs. There is no need to state both “Class 3 or less” and “request Class 1, 2, or 3.”

Use the following solution to replace the proposed solution,
“Type 3 single-signature PDs operating up to a maximum power draw corresponding to Class 3 or less implement Multiple-Event Physical Layer Classification and optionally implement Data Link Layer Classification.”

Cl **145** *SC* **145.3.3** *P* **161** *L* **40** # 225

Stewart, Heath — Linear Tech Corp

Comment Type **TR** *Comment Status* **D** *Pres: Darshan4*

The word show should be shown and two Figure references are missing.

SuggestedRemedy

Change
show in Figure 145-26
to
shown in Figure 145-26, Figure 145-27 and Figure 145-28

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy is OK but not complete. The single and dual signature state machine two parts figure need to be with single figure number and not two. See darshan_04_0317.pdf.

Cl **145** *SC* **145.3.3** *P* **161** *L* **44** # 226

Stewart, Heath — Linear Tech Corp

Comment Type **TR** *Comment Status* **D** *Pres: Darshan4*

A Figure reference is missing.

SuggestedRemedy

Change
shown in Figure 145-29
to
shown in Figure 145-29 and Figure 145-30

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy is OK but not complete. The single and dual signature state machine two parts figure need to be with single figure number and not two. See darshan_04_0317.pdf.

Cl **145** *SC* **145.3.3.4** *P* **163** *L* **51** # 379

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X** *Pres: Yseboodt7*

All (default) variables need to be adjusted to not rely on (default) as the rules on (default) in 802.3 do not work for our state machines.

There are 14 occurances of (default) in the draft.

SuggestedRemedy

Adopt yseboodt_07_0315_killdefault.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.3.4** *P* **163** *L* **54** # 282

Walker, Dylan Cisco

Comment Type **E** *Comment Status* **D** *PD SD*

Second sentence can be made more compact and is missing a serial comma.

"...may or may not show a valid or invalid detection signature..." seems redundant.

Also, "...may or may not show MPS..." seems superfluous since pd_undefined is made TRUE in the NOPOWER state, where present_mps is made FALSE.

SuggestedRemedy

Change

"The PD may or may not show a valid or invalid detection signature, may or may not draw mark current, may or may not draw any class current, may or may not show MPS and may change the pse_power_level variable."

to

"The PD may or may not show a valid detection signature, may or may not draw mark current, may or may not draw any class current, and may change the pse_power_level variable."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

+1 for Dylan in the serial comma competition.

TFTD LY

"The PD may or may not show a valid or invalid detection signature, draw mark current, draw any class current, show MPS, and may change the pse_power_level variable.

Note - we may need to update this pending on another comment that deals with this topic.

Cl **145** *SC* **145.3.3.4** *P* **164** *L* **12** # 380

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **D** *PD SD*

The variables present_class_sig_[0,A,B] are poorly and generically described in the TRUE/FALSE definitions.

SuggestedRemedy

Change as follows:
present_class_sig_0:
...
FALSE: Class signature 0 is not to be applied to the PI.
TRUE: Class signature 0 is to be applied to the PI

present_class_sig_A:
...
FALSE: The class signature corresponding with class_sig_A is not to be applied to the PI
TRUE: The class signature corresponding with class_sig_A is to be applied to the PI

present_class_sig_B:
...
FALSE: The class signature corresponding with class_sig_B is not to be applied to the PI
TRUE: The class signature corresponding with class_sig_B is to be applied to the PI

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy OK. To add: To apply it to dual-sig part.

Cl **145** *SC* **145.3.3.4** *P* **165** *L* **19** # 228

Stewart, Heath Linear Tech Corp

Comment Type **TR** *Comment Status* **D** *PD SD*

This does not address the fact that one Alternative can have a non-zero voltage while the other has a zero voltage.

"V_PD: Voltage at the PD PI as defined in 145.1.3."

SuggestedRemedy

Change
V_PD: Voltage at the PD PI as defined in 145.1.3.
to
V_PD: Larger of the Mode A or Mode B voltages at the PD PI as defined in 145.1.3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change
V_PD: Voltage at the PD PI as defined in 145.1.3.
to
V_PD: Greater of the Mode A or Mode B voltages at the PD PI as defined in 145.1.3.

TFTD YD
The remedy is not clear. The comment doesn't clear too. What I am missing here?

TFTD LY
This redefines V_PD for a specific state diagram...
TFTD.

TFTD FS
We are asking for trouble if we expect a floating system Mode to always be less than a powered Mode.
This solution may clarify my concern,
OPTION 1:
VPD Voltage at the PD PI Mode sinking most of the PD power demand as defined in 145.1.3.
OPTION 2:
VPD Voltage at the PD PI Mode sinking up to PClass_PD as defined in 145.1.3.

Cl **145** *SC* **145.3.3.7** *P* **167** *L* **4** # 381

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **D** *PD SD*

There is a TDL to get rid of BEGIN, since its meaning is ambiguous. For the PD this statement was there to provide correct behaviour when "starting under voltage".

SuggestedRemedy

Any solution I can think of is way worse that not handling this particular case. One can also reason that a voltage is never instantaneously at a certain value.

Remove BEGIN arc into OFFLINE, do the same for dual-sig.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 381

TFTD YD
It cant be OBE to itself.

Response DNA: Not sure what happened there, it must be done in another comment somewhere?

TFTD FS
TFTD the circular humor in this response.

TFTD CJ
says OBE by 381??? Can't be AIP with that remedy.

Cl **145** *SC* **145.3.3.7** *P* **167** *L* **4** # 137

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *PD SD*

To address comment #170 from D2.2. (Remove the global transition in to the 'OFFLINE' state labelled 'BEGIN' in both Figure145-26 and Figure 145-29)

SuggestedRemedy

If not resolved, add to Lennart's TODO list.

Proposed Response *Response Status* **W**

TFTD

Cl **145** *SC* **145.3.3.7** *P* **168** *L* **47** # 386

Yseboodt, Lennart — Philips

Comment Type **T** *Comment Status* **D** *PD SD*

Arc from POWERED to POWER_UPDATE: "pd_power_update * pd_dll_enabled * V PD > V Off_PD".

SuggestedRemedy

Comparison should include VoffPD.
Replace by: "pd_power_update * pd_dll_enabled * V PD >= V Off_PD"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD FS
page 162
Voff_PD PD power supply turn off voltage (see Table 145–28)

If the PD turns off at this voltage or less then the comparison was correct in D2.3. Reject the comment.

TFTD HS
Needs parentheses around equality.

Cl **145** *SC* **145.3.3.9** *P* **170** *L* **11** # 101

Bullock, Chris — Cisco Systems

Comment Type **TR** *Comment Status* **D** *Pres: Darshan4*

In the Dual-signature Pd state diagram, the variable "pd_current_limit" should be "pd_current_limit_mode(M)"

SuggestedRemedy

Replace:
pd_current_limit

With:
pd_current_limit_mode(M)

Occurs in three places:
1. variable definition section on page 170.
2. Inside the INRUSH state on page 174.
3. Inside the MDI_POWER1 state on page 174.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy is OK but this change is a part of other changes that need to be done. See darshan_04_0317.pdf.

Cl **145** *SC* **145.3.3.9** *P* **170** *L* **11** # 136

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan4*

pd_current_limit variable should be pd_current_limit_mode(M). See approved remedy in darshan_02_0117.pdf

SuggestedRemedy

See darshan_04_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.3.12** *P* **173** *L* **1** # 127

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan4*

dual-signature and single-signature PD state diagram need to be updated.

SuggestedRemedy

See darshan_04_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.3.12** *P* **173** *L* **2** # 100

Bullock, Chris Cisco Systems

Comment Type **TR** *Comment Status* **D** *Pres: Darshan4*

Vreset is used in three places in PD state-machines. Where the correct constant to use is Vreset_PD. This comment address the two occurences in the Dual-Signature PD State Diagram.

SuggestedRemedy

Open-ended entry arc into IDLE state:
Replace:
"(VPD_mode(M) < VReset) * mdi_power_required_mode(M) * !pd_reset_mode(M)"
With:
"(VPD_mode(M) < VReset_PD) * mdi_power_required_mode(M) * !pd_reset_mode(M)"

Exit condition from IDLE to DO_DETECTION state:
Replace:
VPD_mode(M) > VReset
With:
VPD_mode(M) > VReset_PD

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy is OK but this change is a part of other changes that need to be done. See darshan_04_0317.pdf.

Cl **145** *SC* **145.3.3.13** *P* **173** *L* **8** # 133

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan4*

In OFFLINE state pd_dll_enable should be pd_dll_enabled. See approved remedy in darshan_02_0117.pdf

SuggestedRemedy

See darshan_04_0317.pdf for additional related changes.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.3.13** *P* **173** *L* **8** # 134

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan4*

In IDLE state pd_dll_enable should be pd_dll_enabled. See approved remedy in darshan_02_0117.pdf

SuggestedRemedy

See darshan_04_0317.pdf for additional related changes.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.3.12** *P* **173** *L* **8** # 389

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **D** *Pres: Darshan4*

Variable "pd_dll_enable" does not exist, "pd_dll_enabled" does.

SuggestedRemedy

Change variable name "pd_dll_enable" to "pd_dll_enabled", two occurances on this line.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
See more changes regarding this variable in darshan_04_0317.pdf

Cl **145** *SC* **145.3.3** *P* **174** *L* **15** # 85

Beia, Christian STMicroelectronics

Comment Type **E** *Comment Status* **D** *Pres: Darshan4*

The name of MDI_POWER1 has been changed to POWER_DELAY in the SS state diagram, so it should be done for DS as well

SuggestedRemedy

change the name of state MDI_POWER1 to POWER_DELAY

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
"See darshan_04_0317.pdf The remedy is OK but this change is a part of other changes that need to be done"

TFTD LY
OBE by darshan_04

Cl **145** *SC* **145.3.3.12** *P* **174** *L* **18** # 132

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan4*

In MDI_POWER1 state pd_current_limit need to be TRUE and not FALSE. See approved remedy in darshan_02_0117.pdf

SuggestedRemedy

In MDI_POWER1 state:
Change from pd_current_limit <==FALSE
To: pd_current_limit <==TRUE.
See darshan_04_0317.pdf for additional related changes.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.3** *P* **174** *L* **25** # 86

Beia, Christian STMicroelectronics

Comment Type **E** *Comment Status* **D** *Pres: Darshan4*

The name of MDI_POWER2 has been changed to POWERED in the SS state diagram, so it should be done for DS as well

SuggestedRemedy

change the name of state MDI_POWER2 to POWERED

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
See darshan_04_0317.pdf

TFTD LY
OBE by darshan_04

Cl **145** *SC* **145.3.3.12** *P* **174** *L* **26** # 125

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan4*

D2.3. My response to my TDL comment #185 from D2.2 (My response to David Law comment):
The issue caused by mixed use of pd_dll_enabled and pd_dll_enabled_mode(M) which was and error.

SuggestedRemedy

See proposed remedy in darshan_04_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.3.12** *P* **174** *L* **30** # 390

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X** *PD SD*

Figure 145-30, dual-sig PD SD. DLL is mandatory for dual-sig PDs.
Hence the DLL_ENABLE state can be removed.

SuggestedRemedy

- Add "dll_enabled <= TRUE" to either to MDI_POWER1 state or to the POWERED state (depending on accepting a comment from Yair to harmonize single/dual SDs).
- Remove DLL_ENABLE with all in and outgoing arcs.

Proposed Response *Response Status* **W**

TFTD

Yair has a proposal to remove DLL as mandatory for DS PDs < Class 4.

Cl **145** *SC* **145.3.4** *P* **174** *L* **44** # 284

Walker, Dylan Cisco

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

We can refer to the detection state by its proper name for clarity.

SuggestedRemedy

Change

"A PD presents a valid detection signature when it is in a detection state..."

to

"A PD presents a valid detection signature when it is in the DO_DETECTION state..."

Proposed Response *Response Status* **W**

PROPOSED REJECT.

There are multiple detection states now, so I think "a detection state" actually captures it better. I believe it is clear enough.

TFTD

Cl **145** *SC* **145.3.4** *P* **175** *L* **5** # 285

Walker, Dylan Cisco

Comment Type **E** *Comment Status* **X** *4PID*

Unnecessary comma.

SuggestedRemedy

Change

"A PD may indicate the ability to accept power on both pairsets using TLV variable PD 4PID in Table 79–6b or by presenting a valid detection signature on the unpowered pairset, when it is powered over only one pairset."

to

"A PD may indicate the ability to accept power on both pairsets using TLV variable PD 4PID in Table 79–6b or by presenting a valid detection signature on the unpowered pairset when it is powered over only one pairset."

Proposed Response *Response Status* **W**

TFTD.

Wair for outcome of 420/391.

Cl **145** *SC* **145.3.4** *P* **175** *L* **5** # 420

Zimmerman, George CME Consulting/Aqua

Comment Type **TR** *Comment Status* **D** *4PID*

" A PD may indicate the ability to accept power on both pairsets using TLV variable PD 4PID in Table 79–6b" is inappropriate for Type 3 PDs, and is unrelated to the detection signatures in this section, and is already defined in Clause 79. All type 3 PDs have the ability to accept power on 4 pairs, and this sentence suggests otherwise. Clause 33 PDs wishing to indicate 4PID can use the new clause 79.3.2.6d.2 values without it.

SuggestedRemedy

Delete this sentence. Append "A PD may indicate the ability to accept power on both pairsets from a Clause 145 PSE using TLV variable PD 4PID, see 79.3.2.6d.2." to the NOTE in 33.3.1 stating: "NOTE—PDs that implement only Mode A or Mode B are specifically not allowed by this standard. PDs that simultaneously require power from both Mode A and Mode B are specifically not allowed by this standard."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD. I don't believe this needs to be a maintenace request because we are just adding a note referencing the new material.

Chair?

See 391

TFTD CJ
you ask the chair for a ruling. I agree with you.

Cl **145** *SC* **145.3.4** *P* **175** *L* **5** # 391

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **D** *4PID*

"A PD may indicate the ability to accept power on both pairsets using TLV variable PD 4PID in Table 79-6b or by presenting a valid detection signature on the unpowered pairset, when it is powered over only one pairset."

All Type 3/4 PDs have the ability to accept power on both pairsets. Dual-sigs are required to show a valid detection signature on the unpowered pairset.
This statement is redundant for Type 3/4 and seems to belong in Clause 33.

SuggestedRemedy

Option 1: remove it
Option 2: move to 33.3.4

TFTD.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

See 420

Cl **145** *SC* **145.3.4** *P* **175** *L* **6** # 421

Zimmerman, George CME Consulting/Aqua

Comment Type **TR** *Comment Status* **X** *4PID*

"or by presenting a valid detection signature on the unpowered pairset, when it is powered over only one pairset." – this restates the requirements for single and dual signature PDs above, in a way that seems to make it optionally controllable, is confusing, unnecessary, and contradictory to the single-sig requirement above. All Clause 145 PDs have the ability to accept power on both pairsets. This is inappropriate for putting in clause 33 because it directly contradicts an existing requirement.

SuggestedRemedy

Delete "or by presenting..." through end of sentence ("only one pairset.").

Proposed Response *Response Status* **W**

TFTD

See 420, 391

Cl **145** *SC* **145.3.4** *P* **175** *L* **52** # 305

Walker, Dylan Cisco

Comment Type **T** *Comment Status* **D** *PD Detection*

Table 145-21, "Conditions" column, both entries should use "less than or equal to" operator to be consistent with the conditions in Table 145-20.

SuggestedRemedy

Change "less than" sign in both entries to "less than or equal to" sign.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Does requiring at 10.099999 vs. requiring at 10.1 make a difference? I am wary of changing things that repeat in clause 33 for little/no reason.

TFTD.

Cl **145** *SC* **145.3.5** *P* **176** *L* **34** # 392

Yseboodt, Lennart Philips

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

Why do we have such a weird way to explain the signature requirement of a dual-sig PD ?
"A dual-signature PD shall present a valid detection signature, as defined in Table 145-20, on:
-- Mode A, regardless of any voltage applied to Mode B between 0V and 57V, and
-- Mode B, regardless of any voltage applied to Mode A between 0V and 57V."

SuggestedRemedy

- Replace by:
"A dual-signature PD shall present a valid detection signature, as defined in Table 145-20, on a given Mode, regardless of any voltage between 0 V and 57 V applied to the other Mode. This requirement applies to both Mode A and Mode B."

- Also add the "as defined in Table 145-20" to the single-signature para above.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD HS
There is no change made and the text is not better. Propose reject unless a compelling argument exists in favor of the change

Cl **145** *SC* **145.3.6** *P* **176** *L* **41** # 207

Schindler, Fred Seen Simply, Cisco, T

Comment Type **ER** *Comment Status* **X** *Pres: Yseboodt3*

Text changes made when going from D2.2 to D2.3 make the document flow more confusing. New text,
“The requested Class of the PD:
— is the Class a PD advertises during Physical Layer classification when connected to a Type 4, Class
8 PSE;
— is the maximum power that a PD draws across all input voltages and operational modes;
— does not limit the maximum amount of power the PD may request from the PSE during Data Link
Layer classification (see 33.5) but continues to limit the maximum power that the PD draws;
— is the maximum power that a Type 3 or Type 4 PD shall draw.”

In the new text, bullets replace sentences, which seems worse that the D2.2 sentence construction.

The first bullet is not necessary. The texting in the paragraph following the called out paragraph clarifies the relationship between requested and assigned more generally,
“Depending on the number of class events produced by the PSE, the assigned Class is equal to or lower than the requested Class.”

The second bullet appears to have been based on the preferred sentence,
“The Class requested by the PD during Physical Layer classification is the maximum power that a Type 3 or Type 4 PD shall draw.”

The third bullet likely confuses the reader more than it helps them.

The forth bullet places a shall in a bullet (not a sentence). Our Editor should determine if this is allowed. The original sentence is preferred,

“The Class requested by the PD during Physical Layer classification is the maximum power that a Type 3 or Type 4 PD shall draw.”

The bulleting continues on lines 19 to 23 of page 177. Each bullet is a requirement (has a shall) that was a sentence but is now a bullet, which is likely not allowed. The structure also gives things human characteristics, which is generally not allowed in technical specifications.

SuggestedRemedy

These changes are from D2.2 #278, which provided two potential solutions. The other proposal (option-1) is a subset of the accepted proposal. The option-1 proposal preserves most of the sentence structure replaced by bullets in the adopted option.

Replace the changes made, for this section, going from D2.2 to D2.3 with hstewart_01_0117_33_3_6_PD_Class_opt1_markup.pdf with the following additional corrections.

Then replace the corrected text,
“PDs shall return class_sig_A or class_sig_B in accordance with the PD requested Class, as specified in Table 33–26 and Table 33–27 and the responses specified in Table 33–26 and Table 33–27.”

with,
“PDs shall return class_sig_A or class_sig_B in accordance with the PD requested Class, as specified in
Table 145–24 and Table 145–25, with the corresponding classification signatures specified in
Table 145–24 and Table 145–25.

which matches the new text used in D2.3 but replaces “PD’s” with “PD”.

Strike the sentence,
“Type 2 and single-signature Type 3 and Type 4 PDs shall advertise class signatures according to the PD requested Class as defined in Table 33-26.”

which does not appear in D2.3.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.6** *P* **176** *L* **41** # 393

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X** *Pres: Yseboodt3*

The combination of the large changes in hstewart_01_0117_33_3_6_PD_Class_opt2_markup_rev2.pdf combined with changes introduced to the Clause split requires some cleanup in this section.

SuggestedRemedy

Adopt yseboodt_03_0317_pdclassification.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.6** *P* **177** *L* **2** # 177

Jones, Chad Cisco

Comment Type **TR** *Comment Status* **D** *Pres: Yseboodt3*

"does not limit the maximum amount of power the PD may request from the PSE during Data Link Layer classification (see 33.5) but continues to limit the maximum power that the PD draws;" this may be true (to my displeasure) but there is no reason to highlight it. I'd prefer no mention of a PD asking for more power via LLDP than advertised by physical layer.

SuggestedRemedy

delete this text: "does not limit the maximum amount of power the PD may request from the PSE during Data Link 2 Layer classification (see 33.5) but continues to limit the maximum power that the PD draws;"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
OBE by yseboodt_03_0317_pdclassification.pdf

Cl **145** *SC* **145.3.6** *P* **177** *L* **3** # 178

Jones, Chad Cisco

Comment Type **E** *Comment Status* **D** *Pres: Yseboodt3*

if comment to delete third bullet under 'the requested class of the PD' is accepted the section now reads like this:
The requested Class of the PD:
— is the Class a PD advertises during Physical Layer classification when connected to a Type 4, Class 8 PSE;
— is the maximum power that a PD draws across all input voltages and operational modes;
— is the maximum power that a Type 3 or Type 4 PD shall draw.

it now reads awkward and the last bullet is simply restating the second bullet to make a compliance statement. How about rewriting it like this (see suggested remedy)

SuggestedRemedy

The requested Class of the PD is the Class a PD advertises during Physical Layer classification when connected to a Type 4, Class 8 PSE and is the maximum power that a PD draws across all input voltages and operational modes. The requested Class of the PD is the maximum power that a Type 3 or Type 4 PD shall draw.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD (email traffic)

TFTD YD
The proposed response is OBE by 178 which is an error.

TFTD LY
Also, OBE by yseboodt_03_0317_pdclassification.pdf

TFTD FS
The continuous reshuffling of text in the section has made understanding less clear and has resulted in confusion based on the number of comments covering this section.
The proposed solution repeats the information contained in the first sentence within the second sentence. The first sentence does not make the intent clear. Just because a PSE is designed for higher power does not mean it can provide this power.
Use this solution,
“The requested Class of the PD is the highest Class a PD advertises during Physical Layer classification when connected to a PSE capable of providing Class-8 power. The requested Class of the PD is the maximum power that a Type 3 or Type 4 PD shall draw across all input voltages and operational modes.”

Give the Editor license to remove “Type 3 or Type 4” in this and other sentences in this Clause 145.

This is another circular OBE? I believe this input OBEs other comments #37, 180. Text requirements shall be provided using complete sentences and not provided using bullets.

TFTD CJ
says OBE by 178 with an AIP

Cl **145** *SC* **145.3.6** *P* **177** *L* **4** # 37

Abramson, David Texas Instruments

Comment Type **ER** *Comment Status* **D** *Pres: Yseboodt3*

Redundant requirement. 4th bullet is the same as 2nd.

SuggestedRemedy

Remove last bullet "is the maximum power that a Type3 or Type 4 PD shall draw."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Remove last bullet "is the maximum power that a Type3 or Type 4 PD shall draw."

and

Change 2nd bullet to: is the maximum power that a PD shall draw across all input voltages and operational modes;

TFTD LY
OBE by yseboodt_03_0317_pdclassification.pdf

Cl **145** *SC* **145.3.6** *P* **177** *L* **11** # 41

Abramson, David Texas Instruments

Comment Type **E** *Comment Status* **D** *PD Class*

No reason for "Type 3 and Type 4" and we can combine sentences.

SuggestedRemedy

Replace: "PDs shall provide Physical Layer classification. Type 3 and Type 4 PDs shall implement Multiple-Eventclassification as defined in 145.3.6.1 and Table 145–23."
with: "PDs shall provide Physical Layer classification and shall implement Multiple-Event classification as defined in 145.3.6.1 and Table 145–23.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
Even shorter: "PDs shall provide Multi-Event classification as defined in 145.3.6.1 and Table 145-23."

Cl **145** *SC* **145.3.6** *P* **177** *L* **14** # 156

Darshan, Yair Mirosemi

Comment Type **E** *Comment Status* **D** *Pres: Yseboodt3*

In the text "Single-signature PDs that request Class 1 to 3 PDs optionally provide Data Link Layer classification (see 145.5)." . Delete "PDs".

SuggestedRemedy

Change to: "Single-signature PDs that request Class 1 to 3 optionally provide Data Link Layer classification (see 145.5)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
OBE by yseboodt_03_0317_pdclassification.pdf

Cl **145** *SC* **145.3.6** *P* **177** *L* **14** # 103

Bullock, Chris Cisco Systems

Comment Type **ER** *Comment Status* **D** *Pres: Yseboodt3*

Single-signature PDs that request Class 1 to 3 PDs optionally provide Data Link Layer classification (see 145.5).

should say:

Single-signature PDs that request Class 1 to 3 may optionally provide Data Link Layer classification (see 145.5).

SuggestedRemedy

Replace:
Single-signature PDs that request Class 1 to 3 PDs optionally provide Data Link Layer classification (see 145.5).

With:
Single-signature PDs that request Class 1 to 3 may optionally provide Data Link Layer classification (see 145.5).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace With:
Single-signature PDs that request Class 1 to 3 optionally provide Data Link Layer classification (see 145.5).

TFTD LY
OBE by yseboodt_03_0317_pdclassification.pdf

Cl **145** *SC* **145.3.6** *P* **177** *L* **14** # 84

Beia, Christian STMicroelectronics

Comment Type **E** *Comment Status* **D** *Pres: Yseboodt3*

Typo

SuggestedRemedy

Replace:
Single-signature PDs that request Class 1 to 3 PDs optionally provide Data Link Layer classification
with:
Single-signature PDs that request Class 1 to 3 optionally provide Data Link Layer classification

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
OBE by yseboodt_03_0317_pdclassification.pdf

Cl **145** *SC* **145.3.6** *P* **177** *L* **15** # 157

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *PD Class*

In the text "Single-signature PDs that request Class 4 or higher and dual-signature PDs shall provide DLL
classification.". Dual signature PDs with lower than class 4 on both pairsets doesn't need DLL. They have to be treated as single-signature class 1-3.

SuggestedRemedy

Change from: "Single-signature PDs that request Class 4 or higher and dual-signature PDs shall provide DLL
classification."
To: "Single-signature PDs that request Class 4 or higher and dual-signature PDs that request Class 4 or higher on at least one of its modes shall provide DLL classification.

Proposed Response *Response Status* **W**

TFTD

Cl **145** *SC* **145.3.6** *P* **177** *L* **21** # 116

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *PD Class*

in the text "— shall return class_sig_A or class_sig_B in accordance with the PD's requested Class, as specified in Table 145–24 and Table 145–25, with the corresponding classification signatures specified in Table 145–24 and Table 145–25." is the first time that class_sig_A or class_sig_B are introduced. It is not clear that class_sig_A or class_sig_B are two parts of the same classification code and are not separate codes e.g. of modeA and modeB. We need to add intro text before Table 145–24.

SuggestedRemedy

Add the following text at page 178 after line 43: "The PD requested Class is consist of two parts code, class_sig_A and class_sig_B as described by Table 145-24 and Table 145-25."

Proposed Response *Response Status* **W**

TFTD

Was anyone else confused by this?

This information is described on page 178, line 16.

TFTD YD
David you wrote: "This information is described on page 178, line 16.". This information is not there as I meant so I suggest to change Page 178 line 16 from: "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....." To: "The PD requested Class is consist of two parts code, class_sig_A and class_sig_B as described by Table 145-24 and Table 145-25. 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....."

Cl **145** *SC* **145.3.6** *P* **177** *L* **22** # 38

Abramson, David Texas Instruments

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

"shall return class_sig_A or class_sig_B in accordance with the PD's requested Class, as specified in Table 145–24 and Table 145–25, with the corresponding classification signatures specified in Table 145–24 and Table 145–25."

SuggestedRemedy

Remove : ", with the corresponding classification signatures specified in Table 145–24 and Table 145–25"

Proposed Response *Response Status* **W**

TFTD

My comment, want to make sure this sentence doesn't make sense (like I think it doesn't)

Cl **145** *SC* **145.3.6** *P* **177** *L* **32** # 169

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **D** *Pres: Darshan4*

In Table 145-22 Replace "PDMaxPowerValue_mode(M)" with "PDMaxPowerValue_mode(X)" and "Assigned Class for Mode M" with "Assigned Class for Mode X"

SuggestedRemedy

See above.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

All other references seem to be to mode(M) not mode(X)

TFTD YD
All other references where changed to mode(X). See darshan_04_0317.pdf. ACCEPT this comment.

Cl **145** *SC* **145.3.6.1** *P* **178** *L* **34** # 289

Walker, Dylan Cisco

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

In the last sentence, "PDs" should be possessive.

SuggestedRemedy

Change

"Based on the value of pse_power_level and the PDs requested Class, pd_req_class, the assigned Class is derived in the variable pse_assigned_class."

to

"Based on the value of pse_power_level and the PD's requested Class, pd_req_class, the assigned Class is derived in the variable pse_assigned_class."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD FS
Resolution to the question gives human characteristic to things, which is normally not allowed in a specification. Replace the proposed solution with,

"Based on the value of pse_power_level and the PD requested Class, pd_req_class, the assigned Class is derived in the variable pse_assigned_class."

Cl **145** *SC* **145.3.6.1** *P* **178** *L* **40** # 307

Walker, Dylan Cisco

Comment Type **T** *Comment Status* **D** *PD Class*

Last sentence should refer to "pse_assigned_class(M)" rather than "pd_max_power_mode(M)".

Also, "PDs" should be possessive in this case.

SuggestedRemedy

Change

"Based on the value of pse_power_level_mode(M) and the PDs requested Class, pd_req_class_mode(M), the assigned Class is derived in the variable pd_max_power_mode(M)."

to

"Based on the value of pse_power_level_mode(M) and the PD's requested Class, pd_req_class_mode(M), the assigned Class is derived in the variable pd_max_power_mode(M)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
"1. Dylan comment is correct but it need to be change to pse_assigned_class_mode(X) in the remedy part i.e. change to ""Based on the value of pse_power_level_mode(M) and the PD's requested Class, pd_req_class_mode(M), the assigned Class is derived in the variable pse_assigned_class_mode(X)."""

2. _mode(X) was changed to _mode(X) per darshan_04_0317.pdf. As a result, change All _mode(M) to mode(X) in 145.3.6.1 last paragraph lines 37-41 in page 178."

TFTD LY
I think part of the remedy was forgotten ?

TFTD FS
Resolution to the question gives human characteristic to things, which is normally not allowed in a specification. Replace the proposed solution with,

"Based on the value of pse_power_level_mode(M) and the PD requested Class, pd_req_class_mode(M), the assigned Class is derived in the variable pd_max_power_mode(M)."

Cl **145** *SC* **145.3.7** *P* **181** *L* **20** # 395

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **D** *PD Class*

"PDs may determine the Type of the PSE they are connected to by measuring the duration of the first class event. Such a PD may set long_class_event to TRUE if the first class event is longer than T LCE_PD min and shall set long_class_event to TRUE if the first class event is longer than T LCE_PD max. The default value for long_class_event is FALSE, which indicates the PSE is a Type 1 or Type 2 PSE. If long_class_event is TRUE this indicates the PSE is a Type 3 or Type 4 PSE."

1. We need to get rid of the notion of default values
2. Behavior does not match state diagram.

SuggestedRemedy

Do:
- Replace the 1 to last sentence by:
"If long_class_event is FALSE, this indicates the PSE is a Type 1 or Type 2 PSE."
- Add "long_class_event <= FALSE" to the DO_DETECTION state in Figure 145-26 and 145-29.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD DW
Suggested remedy looks good, just want to propose a friendly amendment after discussing with Lennart.
Background – “do_class_timing” is depicted as mandatory in the PD SDs, which override the text. Despite the fact that it’s impossible to tell at the PI if the PD actually measures the duration of the first class event, it’s not clear based on the SDs and their definitions that there is an option to skip the measurement (effectively always returning FALSE). That’s because the SD trumps all. So, we should modify the definitions of function “do_class_timing” and variable “long_class_event” such that optional behavior is depicted as such in the SDs and the value FALSE includes unknown due to the PD not actually performing the measurement.
Proposal – Since this comment is related to the SS PD SD, the DS PD SD will have to be fixed by a comment next cycle. There are 2 parts:
1. Clause 145, subclause 145.3.3.6, page 165, line 47: Change the first sentence of the definition of the function “do_class_timing” from “This function is used to evaluate the Type of PSE connected to the PI by measuring the length of the first class event.” to “This function is used to evaluate the Type of PSE connected to the PI by measuring the length of the first class event, or by returning FALSE.”
2. Clause 145, subclause 145.3.3.6, page 166, line 2: Change the definition of the value FALSE for the variable “long_class_event” from “The PSE is identified as a Type 1 or Type 2 PSE.” to “The PSE is identified as a Type 1 or Type 2 PSE, or the PD has not measured the length of the first class event.”

Cl **145** *SC* **145.3.8** *P* **182** *L* **10** # 158

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **D** *PD Power*

Table 145-28 item 3 (Voverload-2P): The maximum value=57V is missing for both types 3 and 4.

SuggestedRemedy

Merge the maximum value of Table 145-28 item 3 (Voverload-2P) and set it to 57V.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
This is about the PI voltage during overload, which means voltage goes DOWN.
It adds nothing to specify a maximum here.

Response DNA: I agree, I just figured it was easier to add it than fight about it…

Cl **145** *SC* **145.3.8** *P* **183** *L* **30** # 312

Yseboodt, Lennart — Philips

Comment Type **ER** *Comment Status* **D** *PD Power*

Table 145-28, Item 13 Ripple and Noise, additional information: "See 145.3.8.7. Balanced source impedance: R_Ch".

Means... what ? 145.3.8.7 does not mention anything about balanced source impedances.

SuggestedRemedy

Strike: "Balanced source impedance: R_Ch."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
"The text ""Balanced source impedance: RCh"" has importance so it can't be deleted in addition it is not exactly accurate so do the following:Move the text to 145.3.8.7 as follows: ""The PD shall meet VNoise_PD, the specification for ripple and noise in Table 145–28, the common-mode and/or differential pair-to-pair noise at the PD PI generated by the PD circuitry, for all operating voltages in the range of VPort_PD-2P, and over the range of input power of the device when PD is powered through Rch with intra pair resistance unbalance unbalance as described by 33A.3."""

Reponse DNA: Yair, that does nothing to add clarity to what "Balanced source impedance: R_Ch" means. Furthermore, having that text in the additional information column of the table is rediculous. If you need to specify it, it belongs in the section that the additional information column references.

TFTD FS
The source impedance absolutely needs to be present!!!! This section exists to keep PD noise below levels that corrupt Ethernet data communication.

If a noise free PSE source provides power to a PD through a channel with resistance Rch then if the PD draws noise current, VPD will have a noise component proportional to Rch. If Rch does not exist, a noisy, really crappy, PD passes IEEE requirements, which is really, really, BAD.

Reject this comment. Discipline the commenter: -1 point from serial comment score.

Then add on page 190, at the end of section 145.3.8.7,
“Noise generated is normally worst-case when the channel resistance is Rch.”

Cl **145** *SC* **145.3.8.1** *P* **184** *L* **7** # 87

Bennett, Ken — Sifos Technologies, In

Comment Type **T** *Comment Status* **D** *PD Power*

The following statement is incorrect:

"The behavior of a PD at a voltage outside of VPort_PD-2P is undefined once the PD reaches the POWER_DELAY or POWERED state, until VPD falls below VReset_PD".

Voff_PD, Voverload_PD-2P, and Vtransient_PD-2P are all examples where this is not true.

SuggestedRemedy

Remove (or revise) the sentence.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There are a few issues with this sentence. The one you point out, plus do we really mean completely undefined? No, the PD must still meet the detect and class electrical parameters I assume.

Since the SD only transitions to NOPOWER based on Voff_PD, how about:

"If VPD falls below Voff_PD once a PD has reached the POWER_DELAY or POWERED state, the PD's behavior, with the exception of the electrical parameters defined in Table 145-20, Table 145-23, and Table 145-26, is undefined until VPD falls below Vreset_PD".

TFTD HS
Undefined best means undefined. New text is limiting.

Response DNA: Yes, my point is to limit the scope of what is undefined. If it is truly undefined then a compliant PD can draw infinite current as soon as the voltage drops. We don't want that.

Cl **145** *SC* **145.3.8.2** *P* **184** *L* **11** # 88

Bennett, Ken — Sifos Technologies, In

Comment Type **E** *Comment Status* **D** *PD Power*

The first sentence of this section references PClass_PD and PClass_PD-2P in table 145-28, however that table no longer has them listed.

Pport_PD, Pport_PD-2P were previously used in the table as symbols to describe a PD's input average power, with corresponding maximum limits of PClass_PD, PClass_PD-2P. The elimination of the Pport variables caused PClass_PD and PClass_PD-2P to be removed from table 145-28

SuggestedRemedy

Restore the variables and the input average power sections in Table 145-28.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 396

TFTD

I believe Lennart's comment (396) did this. Ken, is that what you were looking for?

TFTD KB
Yes, this is what I was looking for.

Cl **145** *SC* **145.3.8.2** *P* **184** *L* **11** # 164

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan12*

In the text "PClass_PD and PClass_PD-2P in Table 145–28 are determined per the assigned Class. PClass_PD values for each Class are shown in Table 145–24, PClass_PD-2P values for each Class are shown in Table 145–25." are not in Table 145-28. They are in Table 145–24 and Table 145-25. In addition some information regarding the conditions that PClass_PD and PClass_PD-2P should be met.

SuggestedRemedy

See darshan_12_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.8.2.1** *P* **184** *L* **31** # 235

Stewart, Heath — Linear Tech Corp

Comment Type **TR** *Comment Status* **X** *Pres: Stewart1*

The text allows both PSE and PD to reclaim the IR drop in the cable.

SuggestedRemedy

Adopt hstewart_01_0317_Pcon.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.8.2.1** *P* **184** *L* **37** # 313

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **D** *PD Power*

"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, the PD may consume greater than P Class_PD-2P but shall not consume greater than P Class-2P at the PSE PI and shall not draw current in excess of I Cable as defined in Table 145-1."

PClass-2P applies to a pairset, not the complete PSE PI.

SuggestedRemedy

"... but shall not consume greater than P Class-2P on the pairset at the PSE PI and ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD FS
This resolution may be affected be the amended resolution to 360

Cl **145** *SC* **145.3.8.3** *P* **185** *L* **37** # 208

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **TR** *Comment Status* **X** *PD Inrush*

When PDs are tested it is common practice to power them on directly with a bench power supply. This is supported by requirements that PDs accept voltages from 0 to 57V on the PI (145.3.1).

SuggestedRemedy

At the end of the section Input inrush current section add,
"PDs may be powered by bench power supplies for testing purposes when the supply current is limited to ILIM-2P provided in 145.2.8.7."

Alternatively, we could omit this text if Task Force participants feel that no current limits are required. Resolution to this comment may affect how comments related to 145.3.1 are handled.

Proposed Response *Response Status* **W**

TFTD

Cl **145** *SC* **145.3.8.4** *P* **186** *L* **39** # 167

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan9*

Proposed Remedy for comment #385 D2.2 regarding Irms. If Pclass_PD is met

SuggestedRemedy

See darshan_09_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.8.4.1** *P* **187** *L* **22** # 315

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **X** *Pres: Yseboodt5*

The peak operating power exceptions section needs some fixing.

SuggestedRemedy

Adopt yseboodt_05_0315_peakpowerfix.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.3.8.6** *P* **188** *L* **20** # 209

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **TR** *Comment Status* **X** *PD Power*

This comment closes a TODO related to D2.2 #87 and #96 for Ken and Fred.

System operation is dependent on the assigned class. ILIM exists to provide PSE current to a PD when the PSE voltage increases (see schindler_1_0915). A Type-4 PSEs provide higher power so they can charge the PD bulk capacitor faster (TLIM is 6ms for Type 4 vs 50ms for Type 2). However, if ILIM-2P is lowered when driving a PD with class < 5 then TLIM needs to increase to ensure the capacitance is charged.

SuggestedRemedy

Keep text as is. Do not change 146.3.8.6 to accommodate D2.2 #87 or #96, because changes that reduce the burden on the PSE, such as changing or reducing the current or charging time may result in failures.

Proposed Response *Response Status* **W**

TFTD.

We are leaving the min current limit class dependent (good), but Tlim seems to be Type dependent rather than class, so how does this work?

It seems to imply that 0.4A for 6ms is ok for a Type 4 PSE hooked up to a class 0 to 3 PD. Is that right?

See 91

TFTD KB
The question:
"It seems to imply that 0.4A for 6ms is ok for a Type 4 PSE hooked up to a class 0 to 3 PD. Is that right?"

highlights a problem in the PSE section. The TDL focused solely on section 145.3.8.6, which doesn't impose anything on PSEs; it only describes Type 3,4 PD behavior.

The example in the response is allowed under the PSE rules, but it isn't ok. It can cause interoperability problems with Type 1 and 2 PDs and may overly burden Type 3,4 PDs.

The fix, as I think Fred suggests, is to increase Tlim if Ilim is lowered. This would need to be specified in the PSE section, and can't be fixed in section 145.3.8.6.

Cl **145** *SC* **145.3.8.6** *P* **188** *L* **23** # 91

Bennett, Ken — Sifos Technologies, In

Comment Type **T** *Comment Status* **X** *PD Power*

The sentence starting with "A single-signature PD includes CPort..." leads into a listing of PD types and Cport values that "Intrinsically meet the requirements in this subclause".

This is no longer true, because PDs can be demoted to an assigned class with different TLim and ILim characteristics.

SuggestedRemedy

Delete the text starting at line 23 ("A single signature PD includes...") and ending at line 36, just after the list of PD types and capacitances.

Proposed Response *Response Status* **W**

TFTD

See 209

Cl **145** *SC* **145.3.8.6** *P* **190** *L* **1** # 317

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **D** *PD Power*

At the end of the transient section there is a remnant from 802.3at, which seems an incredibly complex way to describe I_LIM-2P min + 5mA.

SuggestedRemedy

- Delete page 190, line 1 through 10
- Change in Figure 145-33, in TR1, "MDI I_LIM-2P" by I_LIM-2P + 5mA
- update where clause for Figure 145-33 to reflect changes

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy is OK but the "+5mA" looks to me too low and not practical. To verify with Fred how he got to this value and verify if it is still good for class 5-8. Add to TODO list.

Cl **145** *SC* **145.3.8.7** *P* **190** *L* **12** # 299

Walker, Dylan Cisco

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

This sentence doesn't read well. Taking a stab at an improvement that would also stay in sync with the 2 existing PICS entries.

SuggestedRemedy

Rephrase

"The PD shall meet V Noise_PD , the specification for ripple and noise in Table 145–28, the common-mode and/or differential pair-to-pair noise at the PD PI generated by the PD circuitry, for all operating voltages in the range of V Port_PD-2P, and over the range of input power of the device."

as

"V Noise_PD, the specification for ripple and noise in Table 145-28, shall apply to the common-mode and/or differential pair-to-pair noise at the PD PI generated by the PD circuitry. V Noise_PD shall apply for all operating voltages in the range of V Port_PD-2P, and over the range of input power of the device."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY
This comment should not be marked E if it turns one shall into two.
There are again a lot of redundant qualifiers in this shall, and indeed it is a clumsy sentence.
How about this:
"The PD shall meet VNoise_PD. VNoise_PD, defined in Table 145-28 is the common-mode and/or differential pair-to-pair noise at the PD PI generated by the PD."

TFTD HS
A strong requirement became weaker. Prefer 318.

Cl **145** *SC* **145.3.8.7** *P* **190** *L* **15** # 318

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **D** *Editorial*

"The PD shall meet V Noise_PD , the specification for ripple and noise in Table 145-28, the common-mode and/or differential pair-to-pair noise at the PD PI generated by the PD circuitry, for all operating voltages in the range of V Port_PD-2P , and over the range of input power of the device."

- Sentence stumbles all over itself.
- "over the range of input power" is a redundant qualifier of this requirement

SuggestedRemedy

Replace by:
"The PD shall meet V Noise_PD, the common-mode and/or differential pair-to-pair noise at the PD PI generated by the PD circuitry, as defined in Table 145-28, for all operating voltages in the range of V Port_PD-2P".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 299

TFTD YD
"The new proposed text is nicer but technically so wrong. Deleting the text ""over the range of input power"" may lead to situation the user will check ripple and noise only at maximum power where they expect to see worst case noise and ripple but it is not always true. worst case ripple may happen at any load including NO load with marginal stability systems or with specific power conversion topologies.. Please add this as response to #318 in addition in addition to OBE it to 299 for the record."

Cl **145** *SC* **145.3.8.7** *P* **190** *L* **22** # 319

Yseboodt, Lennart Philips

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

"The system designer is advised to assume the worst-case condition in which both PSE and PD generate ..."

SuggestedRemedy

Redundant words removed:
"Assume the worst-case condition in which both PSE and PD generate..."

Proposed Response *Response Status* **W**

TFTD

Something about that strikes me as odd…

Shouldn't this be a note?

TFTD YD
It should not be a note. I prefer the following remedy: " Change to: "It is recommended to assume the worst-case condition in which both PSE and PD generate..."

Cl **145** *SC* **145.3.8.10** *P* **190** *L* **38** # 320

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X** *Pres: Yseboodt8*

There are currently no peak unbalance requirements for the PD.

SuggestedRemedy

Adopt yseboodt_08_0315_peakunbalance.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

TFTD YD
"No need for Peak unbalance for the PD.If PD meets Icon-2P-unb, it intrinsically meets Ipeak_unb etc. it guarantees by the math and physics.The unbalance rate for Icon_2p_unb generated by Pclass is ABIT HIGHER THAN generated by Ppeak=1.05xPclass SO Ppeak is covered."

Cl **145** *SC* **145.3.8.10** *P* **190** *L* **46** # 181

Jones, Chad Cisco

Comment Type **ER** *Comment Status* **X** *Pres: Darshan1*

"RPair_PD_max is given RPair_PD_min, defined in Equation (145–31), the highest allowable common mode effective resistance in the powered pairs of the same polarity." huh?

SuggestedRemedy

I don't know what we are trying to say here. I just know this is wrong as it makes no sense. TFTD and provide the proper verbiage.

Proposed Response *Response Status* **W**

TFTD

Yair, what were you trying to say here?

TFTD YD
The intent in "RPair_PD_max is given RPair_PD_min, defined in Equation (145–31), the highest allowable common mode effective resistance in the powered pairs of the same polarity."

Was to say that "RPair_PD_max, defined in Equation (145–31) for a given RPair_PD_min, is the highest allowable common mode effective resistance in the powered pairs of the same polarity."

I have modify the text in darshan_01_0317.pdf. Please let me know if you have better wording.

TFTD YD
See darshan_01_0317.pdf

Cl **145** *SC* **145.3.8.10** *P* **191** *L* **12** # 210

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **ER** *Comment Status* **D** *Unbalance*

The legacy sentence,
“Common mode resistance is the effective resistance of the two wires and their components in a pair of the same polarity connected in parallel.”

can be improved.

SuggestedRemedy

Replace the called out sentence with,
“Common mode resistance is the parallel resistance of all conductors and in-series components for pairs of the same polarity in both pairsets.”

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

I don't believe the suggested remedy is correct. I believe the way common mode resistance is used, it does not include both pairsets.

TFTD

Cl **145** *SC* **145.3.8.10** *P* **191** *L* **20** # 321

Yseboodt, Lennart — Philips

Comment Type **TR** *Comment Status* **X** *Pres: Darshan12*

"Under all operating states, dual-signature PDs shall not exceed I Con-2P as defined in Equation (145-8) for longer than T CUT-2P min as defined in Table 145-16 on any pair when PD PI pairs of the same polarity are connected to all possible common source voltage in the range of V Port_PSE-2P through two common mode resistances, R source_min and R source_max, as defined in Equation (145-32) and shown in Figure 145-34."

This is a troublesome statement for a few reasons:
- dual-sig PDs are already required not to exceed PClass_PD-2P (which equates to Icon-2P) under any circumstance
- Icon-2P is a PSE parameter, unknowable to the PD
- what this really tries to do is qualify that PClass_PD-2P shall to only apply to PDs connected to a channel with acceptable unbalance.

SuggestedRemedy

Since the object of this shall (not to exceed ICon-2P) is already met, only the qualifying condition has any value in this statement.
Option 1 is the simplest. If we really want to specify unbalance requirements for single-load dual-signature PDs... option 2.
Option 3 explain that dual-sigs can only meet PClass_PD-2P, when connected through a valid channel. This is much more informative.

OPTION 1: Remove the quoted paragraph.

OPTION 2: Replace as follows:
"Dual-signature PDs shall not exceed PClass_PD-2P / VPD, as defined in Table 145-25, for longer than TCUT-2P min as defined in Table 145-16 on any pair, when pairs of the same polarity are connected through all possible common source voltage in the range of V Port_PSE-2P through two common mode resistances, R source_min and R source_max, as defined in Equation (145-32) and shown in Figure 145-34."

Option 3: Replace as follows:
"Dual-signature PDs can only meet the input average power requirement of PClass_PD-2P as defined in 145.3.8, when PD PI pairs of the same polarity are connected to all possible common source voltage in the range of V Port_PSE-2P through two common mode resistances, R source_min and R source_max, as defined in Equation (145-32) and shown in Figure 145-34."

Proposed Response *Response Status* **W**

TFTD

option 3 wording is off (makes it sound like they are not allowed to meet Pclass_pd-2p when the channel is not balanced.

TFTD YD

See darshan_12_0317.pdf

Cl **145** *SC* **145.3.8.10** *P* **192** *L* **19** # 322

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **X** *Pres: Darshan1*

Note under Figure 145-34:
"NOTE 1 - R source includes resistance R con which is the connection resistance at the PD. The maximum recommended R con value is 0.02 ohm."

- Introduces a named parameter which is used only once in the entire draft: in the same note.
- I struggle with the second sentence. This connection resistance is precisely at the PI and depends on the specific connectors being used, as well as many other factors.

SuggestedRemedy

"Note 1 - Rsource includes the connector resistance at the PD PI, which is typically 20 mOhm per contact."

Proposed Response *Response Status* **W**

TFTD

Agree with point 1. point 2 changes the meaning quite a bit, so TFTD.

TFTD YD
See darshan_01_0317.pdf

Cl **145** *SC* **145.3.9** *P* **193** *L* **1** # 267

Stover, David Linear Tech Corp

Comment Type **TR** *Comment Status* **X** *Pres: Stover1*

Table 145-31 allows a Class 0 to 4 PD with "long_class_event = TRUE" to present 10mA for 7ms, to indicate the PD still requires power. I believe we mean to say, Class 0 to 4 PD may draw a minimum of "10mA for 75ms" or, when long_class_event = TRUE, Class 0 to 4 PD may draw a minimum of "16mA for 7ms to 75ms" or "10mA for greater than 75ms." Otherwise, what is the point of raising Iport_MPS to 16mA for Class 5 to 8 PDs?

SuggestedRemedy

See stover_01_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.4** *P* **194** *L* **1** # 425

Zimmerman, George CME Consulting/Aqua

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

With the exception of adding new phy speeds and requirements related to them, very little is added here that isn't in clause 33.4. If previous comment is accepted to put 2.5G/5G/10GBASE-T support back into clause 33, this clause would be better written to reference 33.4 and add the few requirements specific to Type 3 and Type 4 systems.

SuggestedRemedy

See comment. If 2.5G/5G/10G is NOT put back into clause 33, then consider this withdrawn. Otherwise, Insert after line 9 (end of 145.4 opening): "The Additional electrical specifications contained in 33.4 for Type 2 devices apply to clause 145 Type 3 and Type 4 PSE and PDs, with IEC 62368-1 is specified in addition to IEC 60950-1 in all instances, and the additions and exceptions specified in this clause. Where there are different requirements specified for Type 1 and Type 2 devices in Clause 33, Type 2 requirements apply. Replace 145.4.1 with "In addition to the requirements in 33.4.1 the following requirements apply: (1) In a multiport system, the implementer should maintain DC isolation through the termination circuitry to eliminate cross-port leakage currents. (2)An environment B PSE that supports 4-pair power shall switch the more negative conductor. It is allowed to switch both conductors. " Replace 33.4.2 with "In addition to the requirements of 33.4.2,The PSE PI shall withstand without damage the application of short circuits of any wire to any other wire within the cable for an indefinite period of time. The magnitude of the current through such a short circuit:
— shall not exceed IPSEUT-Type3-2P, as defined in Equation (145–19), for Type 3 PSEs
— shall not exceed IPSEUT-Type4-2P, as defined in Equation (145–20), for Type 4 PSEs."

Proposed Response *Response Status* **W**

TFTD

Clause 33 would need a maintenance request for the addition of the new speeds.

Cl **145** *SC* **145.4.8** *P* **200** *L* **8** # 324

Yseboodt, Lennart Philips

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

"Alternative A Midspan PSEs that support 100BASE-TX shall enforce channel current unbalance less than or equal to 10.5 mA or meet 145.4.9.2."

used to be: "Alternative A Type 2 Midspan PSEs that support 100BASE-TX shall enforce channel current unbalance less than or equal to Type 1 I unb (see Table 33-18) or meet 33.4.9.2."

This changed as part of the Clause split and now is a requirement on Type 3/4 as well. TF to verify this is correct. I also changed the reference to a Type 1 parameter to an explicit value.

The description of unbalance is poorly worded, should be intra-pair unbalance.

SuggestedRemedy

Change to:
"Alternative A Midspan PSEs that support 100BASE-TX shall enforce channel intra-pair current unbalance less than or equal to 10.5 mA or meet 145.4.9.2."

Proposed Response *Response Status* **W**

TFTD as requested.

TFTD YD
"The proposed remedy ""Alternative A Midspan PSEs that support 100BASE-TX shall enforce channel intra-pair current unbalance less than or equal to 10.5 mA or meet 145.4.9.2."" is incorrect.1. 10.5mA was correct for Type 1 and 2. For Type 3 and 4 it should be Iunb.2. ""channel intra-pair current unbalance (see 33A.3)"" will be OK.Proposed remedy: ""Alternative A Midspan PSEs that support 100BASE-TX shall enforce channel intra-pair current unbalance (See 33A.3) less than or equal to Iunb (See 145.2.8.12) or meet 145.4.9.2."""

Cl **145** *SC* **145.5.3.10** *P* **202** *L* **9** # 121

Darshan, Yair Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan3*

D2.3 DONE
Now that Type 3 and 4 has separate clause, comment #155 from D2.2 doesn't need maintenance request for Type 3 and 4 and parts of it can be implemented in the new clause for Type 3 and 4 systems.

SuggestedRemedy

See darshan_03_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.5.3** *P* **207** *L* **27** # 325

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X** *Pres: Yseboodt4*

The variables in the DLL "Constants" subclause are not constants.
PD_DLLMAX_VALUE, PD_INITIAL_VALUE, and PSE_INITIAL_VALUE all depend on other variables (pd_max_power, pd_allocated_pwr) to get their value.
These get set after classification has completed. As such, these are not constants.

SuggestedRemedy

Adopt yseboodt_04_0317_dllconstants.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.5.3.6** *P* **211** *L* **15** # 327

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **D** *Pres: Darshan4*

Variable "pse_power_type" is not used anymore.

SuggestedRemedy

Remove variable "pse_power_type" on page 211, 218 and 221.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
Remedy is OK and I covered by darsha_04_0317.pdf

Cl **145** *SC* **145.5.3.3** *P* **211** *L* **15** # 326

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **D** *Pres: Darshan4*

The variable pse_power_type is not used in Figures 145-43 or 145-44, nor in Table 145-39. It also no longer exist in the PSE or PD section.

SuggestedRemedy

Remove variable from 145.5.3.3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
Remedy is OK and I covered by darsha_04_0317.pdf

Cl **145** *SC* **145.5.3.5** *P* **211** *L* **40** # 328

Yseboodt, Lennart Philips

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

Update the description of the do_autoclass_measure function, with the updated on in the PSE section (with P_AUTOCLASS removed.).

SuggestedRemedy

Per comment.

Proposed Response *Response Status* **W**

TFTD

Lennart, what does this mean? Did you mean "with the update done in"?

TFTD LY
Sorry - confusing typo in the comment.
Update the description of do_autoclass_measure, as was done in the PSE section.

Cl **145** *SC* **145.5.3.6** *P* **215** *L* **10** # 329

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **D** *DLL*

Arc from IDLE to MEASURE includes "!pd_autoclass". This blocks a measurement with an enabled "pd_autoclass" in the PSE.

SuggestedRemedy

Remove "!pd_autoclass" from the arc from IDLE to MEASURE.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD DS
"pd_autoclass" was implemented as a flag, set by the PD during MEPLY and cleared by PSE after MEPLY Autoclass completed.

There is an inferred priority for PSE to service Autoclass requests; MEPLY wins. As intended, in D2.3, DLL-based Autoclass measurements may never be performed when "pd_autoclass" is set.

Please clarify:
1) Is it important pd_autoclass is a constant, reflecting initial PD request?
2) A general question about DLL behavior: Are we assured DLL-based Autoclass requests will not appear prior to completion of MEPLY-based Autoclass request (i.e., after ~4 seconds)? Because that would simplify some of the transition logic and guide answers to these comments

Cl **145** *SC* **145.5.3.6** *P* **215** *L* **10** # 213

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **TR** *Comment Status* **D** *DLL*

PSEs are only able to do a DLL autoclass if pd_autoclass was not done, which is incorrect. DLL autoclassifictaion may occur when ever the system is autoclass capable.

SuggestedRemedy

Delete the exit condition term "*!pd_autoclass" from the transition from IDLE to MEASURE.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD DS
"pd_autoclass" was implemented as a flag, set by the PD during MEPLY and cleared by PSE after MEPLY Autoclass completed.

There is an inferred priority for PSE to service Autoclass requests; MEPLY wins. As intended, in D2.3, DLL-based Autoclass measurements may never be performed when "pd_autoclass" is set.

Please clarify:
1) Is it important pd_autoclass is a constant, reflecting initial PD request?
2) A general question about DLL behavior: Are we assured DLL-based Autoclass requests will not appear prior to completion of MEPLY-based Autoclass request (i.e., after ~4 seconds)? Because that would simplify some of the transition logic and guide answers to these comments

Cl **145** *SC* **145.5.3.8** *P* **216** *L* **37** # 106

Bullock, Chris — Cisco Systems

Comment Type **ER** *Comment Status* **D** *Pres: Darshan3*

The Figure numbers for the dual-signature state diagrams are incorrect.

SuggestedRemedy

Replace:
The PSE power control state diagram (Figure 145–43) and PD power control state diagram (Figure 145–44)use "_mode(M)"

With:
The PSE power control state diagram (Figure 145–47) and PD power control state diagram (Figure 145–48)use "_mode(M)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
More change are required. See darshan_03_0317.pdf

Cl **145** *SC* **145.5.3.8** *P* **217** *L* **42** # 104

Bullock, Chris — Cisco Systems

Comment Type **TR** *Comment Status* **D** *Pres: Darshan3*

The "local_system_change" variable should be "local_system_change_mode(M)"

SuggestedRemedy

Replace:
local_system_change

With:
local_system_change_mode(M)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy is OK but this change is a part of other changes that need to be done. See darshan_03_0317.pdf.

Cl **145** *SC* **145.5.3.8** *P* **218** *L* **39** # 117

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan3*

In the text for variable pd_dll_single_or_dual "A variable in the PD power control state diagram, defined in Figure 145-44, 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.". Remove the text "Type 3 and Type 4 PD state diagrams do not use this variable." since this is not correct. Dual-signature PDs are Type 3 and 4.
In addition, in darshan_03_0317.pdf, it is suggested to delete this variable due to the fact that PD knows if it is single-signature or dual-signature PD so this comment may be OBE by darshan_03_0317.pdf.

SuggestedRemedy

See darshan_03_0317.pdf for proposed remedy.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.5.3.9** *P* **219** *L* **3** # 105

Bullock, Chris — Cisco Systems

Comment Type **TR** *Comment Status* **D** *Pres: Darshan3*

The variable "pse_power_review" should be "pse_power_reveiw_mode(M)"

SuggestedRemedy

Replace:
pse_power_review

With:
pse_power_review_mode(M)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Also, TFTD because in the PSE_POWER_REVIEW state the only entry in the state is "pse_power_review_mode(M)". I assume there should be an assignment or something.

TFTD YD
The remedy is OK but this change is a part of other changes that need to be done. See darshan_03_0317.pdf.

Cl **145** *SC* **145.5.3.9** *P* **219** *L* **8** # 107

Bullock, Chris — Cisco Systems

Comment Type **ER** *Comment Status* **D** *DLL*

The variable "pd_power_review" should be "pd_power_reveiw_mode(M)" for dual signature PDs

This should also be changed in the PD_POWER_REVIEW state of Figure 145-48

SuggestedRemedy

Replace:
pd_power_review

With:
pd_power_review_mode(M)

2 places:
variable definition section and PD_POWER_REVIEW state

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy is OK. Also to change _mode(M) to mode(X).

Cl **145** *SC* **145.5.3.10** *P* **220** *L* **8** # 120

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan3*

Now that Type 3 and 4 has separate clause, comment #167 from D2.2 doesn't need maintenance request for Type 3 and 4 and parts of it can be implemented in the new clause for Type 3 and 4 systems.

SuggestedRemedy

See darshan_03_0317.pdf

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **145** *SC* **145.5.3.10** *P* **220** *L* **8** # 118

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **D** *DLL*

TDL #268 D2.2.
in the INITIALIZE state the following text is not required anymore per comment #167 D2.2.
Figure 145-48: Remove "pd_dll_power_type<== parameter_type"

SuggestedRemedy

Remove "pd_dll_power_type<== parameter_type"

Proposed Response *Response Status* **W**

TFTD

What is the initial value of "pd_dll_power_type" if we remove this?

TFTD YD
This is TFTD however to your question, see comment #155 D2.2. It was removed also from the single-signature PD DLL state machine.

Cl **145** *SC* **145.5.3.10** *P* **221** *L* **9** # 119

Darshan, Yair — Mirosemi

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

D2.3 DONE
TDL #269 D2.2.
in the INITIALIZE state the following text is not required anymore per comment #167 D2.2.
Figure 145-48: Remove "pse_dll_power_type <==pse_power_type"

SuggestedRemedy

Remove "pse_dll_power_type <==pse_power_type"

Proposed Response *Response Status* **W**

TFTD

What is the initial value of "pse_dll_power_type" if we remove this?

TFTD YD
This is TFTD however to your question, see comment #167 D2.2. It was removed also from the single-signature PSE DLL state machine.

Cl **145** *SC* **145.5.3.10** *P* **221** *L* **34** # 108

Bullock, Chris — Cisco Systems

Comment Type **ER** *Comment Status* **D** *DLL*

The assignment of "PSEAllocatedPowerValueEcho_mode(M) <= TempVar" should use the value TempVar_mode(M).

SuggestedRemedy

In the MIRROR_UPDATE state,
Replace:
PSEAllocatedPowerValueEcho_mode(M) <= TempVar

With:
PSEAllocatedPowerValueEcho_mode(M) <= TempVar_mode(M)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
The remedy is OK. Also to change _mode(M) to mode(X).

Cl **145** *SC* **145.6.1** *P* **224** *L* **21** # 332

Yseboodt, Lennart — Philips

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

"All equipment subject to this clause shall conform to IEC 60950-1. In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1."

IEC 62368-1 is the successor to IEC 60950-1. We have put references to this IEC standard in other parts of the document, but here (in the requirement) it was omitted.

SuggestedRemedy

Replace by:
"All equipment subject to this clause shall conform to IEC 60950-1 and IEC 62368-1. In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1 and shall be classified as Power Source Class 2 according to IEC 62368-1."

IEC 62368 defines PS2 as "PS2 is a circuit where the power source, (see Figure 36) measured according to 6.2.2:"
" - exceeds PS1 limits; and"
" - does not exceed 100 W measured after 5 s."

Right now IEC 62368-3 is out for vote and will reach 3.0 stage after April.
This standard is specific to PoE and USB powering: "Safety of electronic equipment within the field of audio/video, information technology and communication technology"
We will need to review it and possible include a shall statement for it as well.

Proposed Response *Response Status* **W**

TFTD to discuss 62368-3

Cl **33A** *SC* **33A** *P* **255** *L* **1** # 402

Yseboodt, Lennart — Philips

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

The NEW material into Annex 33A is about unbalance on the PD side.

Propose to make Annex 145A the "unbalance" annex, so we can leave 33A alone. 145A then covers both the PSE and the PD.

SuggestedRemedy

- Retitle 145A to "Resistance and current unbalance"
- Take the existing subclauses (145A.1 through 145A.3), bump them down to 3rd level and insert then under a new 145A.2 "PSE Unbalance".
- Create a new 145A.3 "PD Unbalance"
- Copy 33A.3 into a new 145A.1 (common to both PSE and PD)
- Move 33A.4 to 145A.3 to become 145A.3.1
- Take Annex 33A out of the draft, thereby discarding all the changes we did to it in 802.3bt.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
"The remedy is OK. The last item needs discussion.Not clear what is the first line ""The NEW material into Annex 33A is about unbalance on the PD side."" ?"

Cl **33A** *SC* **33A.1** *P* **255** *L* **12** # 140

Darshan, Yair — Mirosemi

Comment Type **TR** *Comment Status* **X** *Pres: Darshan5*

33A.1 and 33A.2 was not fully implemented in D2.2.

SuggestedRemedy

Implement darshan_05_0317.pdf. If this section will be moved to clause 33, to file maintenance request.

Proposed Response *Response Status* **W**

WFP

TFTD

Cl **33A,1** *SC* **33A,1** *P* **255** *L* **30** # 411

Zimmerman, George — CME Consulting/Aqua

Comment Type **ER** *Comment Status* **D** *Pres: Darshan5*

"as defined in Table 33-12" - several issues - should be an external reference, but also should be Table 33-11, according to IEEE Std. 802.3-2015. Annex 33A contains numerous stylistic edits when it should just be what was in 802.3-2015. Unless justified by a maintenance request, and some may be, I haven't checked, these should not be in the draft, but in a new annex.

SuggestedRemedy

Revert annex 33A to 802.3-2015 except where justified by maintenance requests. Commenter volunteers to coordinate maintenance requests for defects related to annex 33a, such as changing "Compliance to the above requirements" to "Verification of these guidelines" (line 41). [Note - all my other comments on Annex 33A.1 and 33A.2 are OBE if this is accepted and can be considered withdrawn, if I am not present during comment resolution]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
See darshan_05_0317.pdf

TFTD LY
Comment in conflict with 402. Accepting this comment means deleting all of the new unbalance material.
Suggest OBE 411 to 402.

Cl **33A** *SC* **33A.1** *P* **255** *L* **31** # 412

Zimmerman, George — CME Consulting/Aqua

Comment Type **ER** *Comment Status* **D** *Pres: Darshan5*

V port_PSE-2P isn't in clause 33 (none of the dash 2P variables are).

SuggestedRemedy

Change all "dash 2P" to reflect proper values referenced in Clause 33

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 411

TFTD YD
See darshan_05_0317.pdf

Cl **33A** *SC* **33A.1** *P* **255** *L* **38** # 413

Zimmerman, George CME Consulting/Aqua

Comment Type **ER** *Comment Status* **D** *Pres: Darshan5*

Table 33-17 shoudl be marked external and is the wrong reference for where VPort_PSE is defined in 802.3-2015 (should be 33-11)

SuggestedRemedy

Change reference to external and make it Table 33-11.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 411

TFTD YD
See darshan_05_0317.pdf

Cl **33A** *SC* **33A.1** *P* **255** *L* **42** # 414

Zimmerman, George CME Consulting/Aqua

Comment Type **ER** *Comment Status* **D** *Pres: Darshan5*

Table 33-12 reference should be 33-11, and marked external

SuggestedRemedy

See comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 411

TFTD YD
See darshan_05_0317.pdf

Cl **33A** *SC* **33A.2** *P* **256** *L* **29** # 415

Zimmerman, George CME Consulting/Aqua

Comment Type **E** *Comment Status* **D** *Pres: Darshan5*

There is no Z_emi in figure 33A-1. there are two Zo_emi's indicated. One is a circuit element and one appears to be an impedance looking into a combination of circuit elements.

SuggestedRemedy

Change Zo_emi to Z_emi on the one indicated as a circuit element.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 411

TFTD YD
See darshan_05_0317.pdf

Cl **33A** *SC* **33A.2** *P* **256** *L* **41** # 417

Zimmerman, George CME Consulting/Aqua

Comment Type **T** *Comment Status* **D** *Pres: Darshan5*

Comment on line 46 begs solution. Reverting to existing text does no harm, except that Pport isn't a variable and isn't in Table 33-18, and leaves the reader guessing. Same change appears needed on line 51 as well for PClass_PD. See proposed resolution for best guess.

SuggestedRemedy

Change PClass_PD to Pport_PD: L41: Delete "PClass_PD as defined in Table 33-30" and replace with "max load of Pport_PD = PPort_PD max as defined by maximum class supported in Table 33–18". L51: Change "less than PClass_PD" to "less than PPort_PD max"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 411

TFTD KB
No change needed because the variable "Pport_PD" is defined as the PD's average input power in 802.3-2015 Clause 33 (see 33.3.7.2.1).

TFTD YD
TFTD YD
See darshan_05_0317.pdf

Cl **33A** *SC* **33A.2** *P* **256** *L* **41** # 416

Zimmerman, George — CME Consulting/Aqua

Comment Type **ER** *Comment Status* **D** *Pres: Darshan5*

PClass_PD is in Table 33-18, not 33-30 (there is no 33-30), and the reference should be marked external

SuggestedRemedy

See comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 411

TFTD YD
See darshan_05_0317.pdf

Cl **33A** *SC* **33A.3** *P* **257** *L* # 214

Schindler, Fred — Seen Simply, Cisco, T

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

Existing text,
"Common mode resistance is the resistance of the two wires in a pair (including connectors), connected in parallel."

Can be improved and currently does not match text in the normative section 145.2.8.5.1 on page 151. I am confused as to whether pairs with the same polarity and in-series components of both pairsets are in parallel or whether only conductors and in-series components of a pair within pairset are in parallel.

The Task Force should discuss why duplicate text is used rather than using a reference to Clause 145 and why these formulas are not placed where they may be needed by the reader of the specification. i.e., moving the formula requires duplicate support text and leads to more problems than leaving the formua within the normative section.

Following this text, on page 258, a Figure is provide, which does not help me understand what common mode pair-to-pair resistance is. The figure does not indicate Alternatives or Modes, which may help readers understand the definition. The figure also reuses the same name for two resistances so it is not clear what the intent is.

SuggestedRemedy

Assign a TDL (not to this commenter) to improve this Annex as required by the Task Force.

This fix may be correct:
Replace the called out text with,

"Common mode resistance is the parallel resistance of all conductors and in-series

Proposed Response *Response Status* **W**

TFTD as requested.

33A.3 will be copied to 145A.1 (see comment 402)

TFTD YD
33A.1 can't be copied to 145A.1. They are different topics (3%unbalance vs PSE PI P2P unbalance) . It needs to be in depended Annex. This comment is about CHANNEL common mode resistance definition. The consistency issue was resolved in darshan_01_0317.pdf

Cl **33A** *SC* **33A.3** *P* **257** *L* **1** # 418

Zimmerman, George — CME Consulting/Aqua

Comment Type **ER** *Comment Status* **D** *Annex*

33A.3 is already in the text of clause 33. It applies as well to clause 145, but should be in an informative annex.

SuggestedRemedy

Insert 33A.3 text as new informative annex 145C. (this doesn't relate to PSE PI pair-to-pair resistance/current unbalance so it doesn't fit in 145A).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

It will be copied into 145A.1 (see comment 402)

TFTD LY
OBE to 402

Cl **33A** *SC* **33A.3** *P* **257** *L* **2** # 215

Schindler, Fred — Seen Simply, Cisco, T

Comment Type **ER** *Comment Status* **D** *Annex*

Annex associated with Clause 145 need to be renumbered.

SuggestedRemedy

Have the Editor renumber Annexes, 33A.3 to 33A.4 to indicate they are related to Clause 145.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD LY

OBE by 402

Cl **145** *SC* **33A.3** *P* **257** *L* **8** # 333

Yseboodt, Lennart — Philips

Comment Type **ER** *Comment Status* **D** *Pres: Darshan1*

Equations 33A-1, 33A-2 and 33A-3 are... not equations due to a missing equal sign.

SuggestedRemedy

Suggest parameter names RPair_unb, RCh_unb, and RCh_delta as names.
Introduce names and update text to match.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

TFTD YD
See darshan_01_0317.pdf

Cl **33A** *SC* **33A.4** *P* **257** *L* **16** # 419

Zimmerman, George — CME Consulting/Aqua

Comment Type **TR** *Comment Status* **D** *Annex*

New section 33A.4 does not apply to clause 33 systems.

SuggestedRemedy

Insert 33A.4 text as text in 145A, immediately before 145A.2, since this relates directly to pair-to-pair resistance/currrent unbalance.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

33A.4 to be moved to 145A.3.1

TFTD LY
OBE to 402

Cl **145A** *SC* **145A.3** *P* **260** *L* **51** # 130

Darshan, Yair — Mirosemi

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

We need to verify by simulations that 145A.3 test model is working.

SuggestedRemedy

Add to Ken TODO list.

Proposed Response *Response Status* **W**

TFTD

Cl **145A** *SC* **145A.3** *P* **260** *L* **53** # 151

Darshan, Yair
Mirosemi

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

The verification circuit and procedure need to be validated by simulation or lab tests.

SuggestedRemedy

To add to KEN TODO list.

Proposed Response *Response Status* **W**

TFTD