Cl **145** *SC* **145.3.3.7** *P* **179** *L* **40** # 1

Abramson, David Texas Instruments

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

The NO_POWER state allows unwanted behavior by the PD.

SuggestedRemedy

Adopt changes in abramson_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18l** *P* **47** *L* **4** # 2

Anslow, Pete Ciena

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

Comment #57 against D2.3 and was ACCEPT IN PRINCIPLE with a pointer to comment #122.
The Comment #122 response was:
"adopt darshan_03_0317Rev007F.pdf with editorial license to clean up.
This comment resolves comments: 55, 56, 57, 63, 70, 71, 104, 105, 106, 117, 118, 119, 120, 121, 126, 128, 399"
However, the referenced file makes no changes to 30.12.2.1.18l or 30.12.3.1.18l, nor does it rebut comment #57.
This comment therefore repeats comment #57:
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* **O**

Cl **FM** *SC* **FM** *P* **1** *L* **12** # 3

Anslow, Pete Ciena

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

It is my understanding that the amendment title has to match the title in the PAR.
Unless this is wrong, the title cannot be changed to "Power over Ethernet over 4 Pairs" without a PAR revision.

SuggestedRemedy

Change the title back to match the PAR: "Physical Layer and Management Parameters for DTE Power via MDI over 4-Pair"

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **1** *L* **22** # 4

Anslow, Pete Ciena

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

Now that IEEE Std 802.3bv-2017 has been approved, "201x" should be changed to "2017".

SuggestedRemedy

Change "201x" to "2017" here and on page 12 line 13, change "20xx" to "2017"

Proposed Response *Response Status* **O**

Cl **25** *SC* **25.4.6** *P* **29** *L* **17** # 5

Anslow, Pete Ciena

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

The only text shown from 25.4.6 is the first paragraph.

SuggestedRemedy

Change the editing instruction to: "Change the first paragraph of 25.4.6 as follows:

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.10** *P* **37** *L* **50** # 6

Anslow, Pete Ciena

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

If subclause 30.9.1.1.10 is deleted, then the row for aPSEShortCounter in Table 30-4 has to be deleted.

SuggestedRemedy

Add instructions under 30.2.5 to delete the row for aPSEShortCounter in Table 30-4 .

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.17** *P* **54** *L* **47** # 7

Anslow, Pete Ciena

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

Changes are shown to 30.12.3.1.17, but there is no corresponding editing instruction.

SuggestedRemedy

Add an editing instruction.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.14** *P* **43** *L* **15** # 8
Anslow, Pete Ciena

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

Applying the changes shown results in text that reads: "and whether it is Type 1 or or greater than Type 1" (double "or").
Same issue with the next sentence.

SuggestedRemedy

Change "or greater than Type 1" to "greater than Type 1" in two places.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1.1** *P* **63** *L* **17** # 9
Anslow, Pete Ciena

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

The general rule for placement of editing instructions is that if the subclause title is being changed or the entire subclause is being inserted, then the editing instruction comes before the subclause title, otherwise the editing instruction comes after the subclause title. This is correct for 33.1 and 33.2.1, but incorrect for 33.1.1, 33.3.1, 33.4, 33.8.4.3, etc.

SuggestedRemedy

Correct the placement of the editing instructions throughout the draft

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.1** *P* **63** *L* **32** # 10
Anslow, Pete Ciena

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

The 802.3 Framemaker template says:
Include existing headings for each layer above the heading being inserted or modified.

SuggestedRemedy

Add the heading for 33.2, 33.3, 33.8, and 33.8.3

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.1** *P* **63** *L* **34** # 11
Anslow, Pete Ciena

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

"Change the last sentence" should be "Change the last paragraph"

SuggestedRemedy

change "last sentence" to "last paragraph"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.2** *P* **63** *L* **41** # 12
Anslow, Pete Ciena

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

33.2.2 contains more text than is shown here.

SuggestedRemedy

Change the editing instruction to: "Change the first paragraph of 33.2.2 as follows:"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.2** *P* **63** *L* **49** # 13
Anslow, Pete Ciena

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

The inserted text contains 3 references to Figure 33-9. This figure is the "PSE state diagram", which seems incorrect.

SuggestedRemedy

Change "Figure 33-9" to "Figure 33-7" in 3 places.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2.2** *P* **64** *L* **4** # 14
Anslow, Pete Ciena

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

"in the caption of Figure 33-5" should be "in the title of Figure 33-5"

SuggestedRemedy

Change "caption" to "title"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4** *P* **64** *L* **14** # 15

Anslow, Pete Ciena

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

The editing instruction says: "Change 33.4 and its subclauses as follows:", but not all of the subclauses are present and most of them already have their own editing instruction.

SuggestedRemedy

Change this editing instruction to "Change 33.4 as follows:"
Add an editing instruction immediately after the title of 33.4.6: "Change 33.4.6 as follows:"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.3** *P* **64** *L* **28** # 16

Anslow, Pete Ciena

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

In "Delete Equation 33-15, Equation 33-16, and the associated text.", it is unclear what "associated text" is to be deleted. Also, there is a second editing instruction "Change 33.4.3 as follows:", which conflicts with the first.

SuggestedRemedy

Remove the editing instruction: "Delete Equation 33-15, Equation 33-16, and the associated text."
Show the whole of 33.4.3 with Equation 33-15, Equation 33-16, and the associated text in strikethrough font.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.4** *P* **65** *L* **28** # 17

Anslow, Pete Ciena

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

Only the first paragraph of 33.4.4 is shown

SuggestedRemedy

Change the editing instruction to: "Change the first paragraph of 33.4.4 as follows:

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.4** *P* **65** *L* **33** # 18

Anslow, Pete Ciena

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

The text at the end of the first paragraph of 33.4.4 is being added but is not underlined.

SuggestedRemedy

underline "the values in Table 33–19b while operating at the specified speed, when measured over the specified bandwidth."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.6** *P* **66** *L* **32** # 19

Anslow, Pete Ciena

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

The equation numbers in Clause 33 are incorrect.

SuggestedRemedy

Change the equation in:
33.4.6 to 33-17a
33.4.9.1.1 to 33-18 followed by 33-18a
33.4.9.1.2 to 33-19

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.6** *P* **66** *L* **32** # 20

Anslow, Pete Ciena

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

The units in equation 33-17a (shown as 0-0a) should be outside the brackets.

SuggestedRemedy

Change "10mVpp/f" to "10/f"
Change "1mVpp" to "1"
add "mV peak-to-peak" in upright font after the closing bracket.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.6** *P* **66** *L* **37** # 21

Anslow, Pete Ciena

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

This says "f is the frequency in MHz for a 10 Gb/s PHY", but the equation covers 2.5GBASE-T, 5GBASE-T, or 10GBASE-T.
Also, to match the other values, fmax should just be a number.

SuggestedRemedy

Change "f is the frequency in MHz for a 10 Gb/s PHY" to "f is the frequency in MHz".
Change "fmax is the frequency in MHz, 100 MHz for 2.5GBASE-T, 250 MHz for 5GBASE-T, and 500 MHz for 10GBASE-T" to "fmax is 100 for 2.5GBASE-T, 250 for 5GBASE-T, and 500 for 10GBASE-T".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9** *P* **67** *L* **3** # 22

Anslow, Pete Ciena

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

There is no change to 33.4.9

SuggestedRemedy

Change the editing instruction to: "Change 33.4.9.1 and 33.4.9.1.1 through 33.4.9.1.4 as follows:

Proposed Response *Response Status* **O**

Cl **40** *SC* **40.6** *P* **71** *L* **7** # 23

Anslow, Pete Ciena

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

As there is no change to the text in 40.6, remove the two sentences.

SuggestedRemedy

Remove the two sentences on lines 7 and 9.

Proposed Response *Response Status* **O**

Cl **40** *SC* **40.6.1.1** *P* **71** *L* **14** # 24

Anslow, Pete Ciena

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

There is no editing instruction associated with the change to 40.6.1.1

SuggestedRemedy

Add an editing instruction: "Change the first paragraph of 40.6.1.1 as follows:"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3** *P* **75** *L* **19** # 25

Anslow, Pete Ciena

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

"TBD 8–255" should be "TBD 8 to 255"

SuggestedRemedy

Change "TBD 8–255" to "TBD 8 to 255"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2** *P* **75** *L* **31** # 26

Anslow, Pete Ciena

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

The editing instruction: "Change 79.3.2 as follows:" is there twice.

SuggestedRemedy

Delete the second instance.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.2** *P* **76** *L* **44** # 27

Anslow, Pete Ciena

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

The second and third sentence in strikethrough font (starting "Type 3 or Type 4 PSEs") is not part of the base standard.

SuggestedRemedy

Remove the two sentences starting "Type 3 or Type 4 PSEs" on lines 44 through 47.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6a** *P* **80** *L* **23** # 28

Anslow, Pete Ciena

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

"Insert 79.3.2.6a through 79.3.2.6f" should be "Insert 79.3.2.6a through 79.3.2.6g"

SuggestedRemedy

Change "79.3.2.6f" to "79.3.2.6g" in the editing instruction.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145** *P* **146** *L* **8** # 29

Anslow, Pete Ciena

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

Several table in Clause 145 have blank cells in the min or max columns, which should contain an em-dash

SuggestedRemedy

Make sure all tables have a em-dash in currently blank min or max columns.
In particular, Tables 145-7, 145-8, 145-9, 145-10, 145-14, 145-16, 145-27, 145-28, 145-30, 145-31, 145-32

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **162** *L* **31** # 30

Anslow, Pete Ciena

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

Four trailing zeros in Equation 145-15.
Four trailing zeros in Equation 145-18.

SuggestedRemedy

Delete them

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1.3** *P* **102** *L* **22** # 31

Beia, Christian ST Microelectronics

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

"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."
They are not the same definitions as used in Clause 33.
The use of "pairset" is more clear and coherent

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* **O**

Cl **145** *SC* **145.3.8** *P* **193** *L* **20** # 32

Beia, Christian ST Microelectronics

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

The assigned Class is the result of the PD requested Class and the number of class events produced by the
PSE as shown in Table 145–11.
Assigned Class has values from 1 to 8
In Table 145-28 Item 6, Item 7 the assigned Class can be 0

SuggestedRemedy

Change
"Single-signature PD, Class 0 to 6"
To
"Single-signature PD, Class 1 to 6"
Both on line 20 and line 31

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8** *P* **194** *L* **6** # 33

Beia, Christian ST Microelectronics

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

Assigned Class has values from 1 to 8
In Table 145-28 Item 10 the assigned Class can be 0

SuggestedRemedy

Recollocate Classes from 1 to 8

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8** *P* **194** *L* **31** # 34

Beia, Christian ST Microelectronics

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

Assigned Class has values from 1 to 8
In Table 145-28 Item 13 the assigned Class can be 0

SuggestedRemedy

Change
"PI capacitance during MDI_POWER states for single-signature PDs"
To:
"PI capacitance during MDI_POWER states per assigned Class for single-signature PDs"

and Change:
"Class 0 to 4"
To:
"Class 1 to 4"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8** *P* **194** *L* **37** # 35

Beia, Christian ST Microelectronics

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

Assigned Class has values from 1 to 8
In Table 145-28 Item 14 the assigned Class can be 0

SuggestedRemedy

Change
"Pairset capacitance during MDI_POWER states for dual-signature PDs"
To:
"Pairset capacitance during MDI_POWER states per assigned Class for dual-signature PDs"

and Change:
"Class 0 to 4"
To:
"Class 1 to 4"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **150** *L* **21** # 36

Beia, Christian ST Microelectronics

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

PDs assigned Class is not defined
Table 145-24 refers to PDs requested Class

SuggestedRemedy

Change
"PClass_PD is the maximum power at the PD PI per the PDs assigned Class, as defined in Table 145–24)"
To:
"PClass_PD is the maximum power at the PD PI per the PDs requested Class, as defined in
Table 145–24)"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **150** *L* **37** # 37

Beia, Christian ST Microelectronics

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

PDs assigned Class is not defined
Table 145-25 refers to PDs requested Class

SuggestedRemedy

Change:
"PClass_PD-2P is the maximum power at the PD PI for a pairset per the PDs assigned Class, as
defined in Table 145–25"
To:
"PClass_PD-2P is the maximum power at the PD PI for a pairset per the PDs requested Class, as
defined in Table 145–25"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.7.3.3** *P* **256** *L* **6** # 38

Beia, Christian ST Microelectronics

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

In Item PD69 is used a definition of PDs assigned Class, but refers to PDs request Class

SuggestedRemedy

Change:
"Pair-to-pair unbalance for single-signature PDs assigned
Class 5 or higher"
To:
"Pair-to-pair unbalance for single-signature PDs required
Class 5 or higher"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1** *P* **190** *L* **42** # 39

Beia, Christian ST Microelectronics

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

Table 145-25 refers to Pclass_PD-2P then the relevant note should be changed accordingly

SuggestedRemedy

Change:
"NOTE—PDs may be assigned to a lower Class than the PD requested Class, which results in a
lower value of PClass_PD."
To:
"NOTE—PDs may be assigned to a lower Class than the PD requested Class, which results in a
lower value of PClass_PD-2P."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **203** *L* **10** # 40

Beia, Christian ST Microelectronics

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

Assigned Class has values from 1 to 8
In Table 145-31 Item 1 the assigned Class can be 0

SuggestedRemedy

Change:
"Class 0 to 4"
To:
"Class 1 to 4"

Proposed Response *Response Status* **O**

Cl **145A** *SC* **145A.3.2** *P* **267** *L* **26** # 41

Bennett, Ken Sifos Technologies, In

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

This addresses the TODO for draft 2.3, #130,#151. The Effective resistance RPSE measurement in Annex 145A.3.2 was evaluated.

SuggestedRemedy

See bennett_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **132** *L* **16** # 42

Darshan, Yair Mirosemi

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

Editor to scan all state machines (PSE, PD, DLL) and whenever we have "variable<operator>X" e.g. "pd_class_sig=4" add parantesis e.g. "(pd_class_sig=4)".

SuggestedRemedy

Adopt request in the comment

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **132** *L* **33** # 43

Darshan, Yair Mirosemi

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

TODO #115 D2.3. Comment: 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. Response: Add TODO (Yair): Create proposal for option to allow 2 or 3 class fingers if pse available power = 4.

SuggestedRemedy

Adopt darshan_10_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **138** *L* **17** # 44

Darshan, Yair Mirosemi

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

TODO #253 D2.3 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

Adopt darshan_11_0517.pdf if ready.
If not ready, keep in TODO.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **151** *L* **15** # 45

Darshan, Yair Mirosemi

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

There are significant differences between the fixed values of the power per class in Table 145-11 to the calculated Pclass per equation 145-2. See for example class 4. Pclass in the table is 30W and the calculated value is 27.37W.

SuggestedRemedy

Adopt darshan_03_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **151** *L* **45** # 46

Darshan, Yair Mirosemi

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

In the text "After a successful DLL classification, the assigned Class changes depending on the value of the PSEAllocatedPowerValue variable, as defined in Table 145–12. The PSEAllocated-PowerValue values correspond with the maximum power a PD may draw, PClass_PD; see Table 145–24 and 145.5.3.3.5.", missing PSEAllocatedPowerValue_alt(X).

SuggestedRemedy

Change text to:
"After a successful DLL classification, the assigned Class changes depending on the value of the PSEAllocatedPowerValue variable when single-signature PD is supported and PSEAllocatedPowerValue_alt(X) when dual-signature PD is supported, as defined in Table 145–12. The PSEAllocatedPowerValue and PSEAllocated-PowerValue values correspond with the maximum power a PD may draw, PClass_PD and PClass_PD-2P respectively; see Table 145–24 and 145.5.3.3.5."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8** *P* **156** *L* **25** # 47

Darshan, Yair Mirosemi

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

The use of Icon-2P_unbalance in Table 145-16 can be improved. See darshan_13_0517pdf.

SuggestedRemedy

Adopt darshan_13_0517.pdf if ready. If not ready, add to TO DO list

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8** *P* **156** *L* **27** # 48

Darshan, Yair Mirosemi

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

TODO #129, #152 D2.3 To verify after all unbalance numbers are stable that Icon-2P_unb, Ipeak_2P_unb and ILIM-2P are sync with Table 145-17 (Rload_min and Rload_max table) with resistance of +/-1% accuracy.

SuggestedRemedy

Adopt darshan_07_0517.pdf if ready. If not ready, addto TO DO list.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5** *P* **161** *L* **44** # 49

Darshan, Yair Mirosemi

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

To verify that Ipeak-2P_unb max value is in sync with (ILIM-2P-2mA).

SuggestedRemedy

Addopt darshan_07_0517.pdf if ready. If not ready, add to TO DO list.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **162** *L* **15** # 50

Darshan, Yair Mirosemi

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

There is an issue raised by Fred regarding the use of the word "ensures" in two locations:
1. The existing text, p162 L15
“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.”

2. The existing text, p201 L39,
“RPD_min, RPD_max ensures that along with any other parts of the system, i.e., channel (cables and connectors) and the PSE, the maximum pair current including unbalance does not exceed ICon-2P-unb as defined in Table 145–16 during normal operating conditions. See Annex 145A.”

Based on the information I got from David Law:
There is an issue based on 'ensure' being a possible explicit or implicit guarantee. This is addressed in subclause 10.2.5 '"Absolute" verbiage' of the IEEE-SA Standards Style Manual
<https://development.standards.ieee.org/myproject/Public/mytools/draft/styleman.pdf> which reads as follows.

10.2.5 "Absolute" verbiage
Avoid making guarantees if there is a possibility of unforeseen situations or circumstances altering an outcome. Review the text for any explicit or implicit guarantees made within the document, especially those that are safety-related.
For example, words such as "ensure," "guarantee," "always," etc., should be modified if they are inaccurate. Substitutions might include "maximize" or "minimize" or "often."

Now Analyzing this info:
Base on the above:
1. This is not a safety requirements ===> no issues to use “ensure”.
2. The statement that use “ensures” is accurate under the conditions of the statement itself if they are defined accurately. To achieve the accuracy, see proposed changes.

SuggestedRemedy

Option 1:
1. Modify the existing text in p162 L15 to:
“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 that meets Rch_unb_min and Rch_unb_max requirements per Table 145-17) and the PD (that meet 145.3.8.10 requirements), the pairset with the highest current including unbalance does not exceed ICon-2P-unb as defined in Table 145–16 during normal operating conditions.”
2.Modify the existing text in p201 L39:
“The PD PI pair-to-pair effective resistance unbalance determined by RPD_min and RPD_max ensures that along with any other parts of the system, i.e., channel (cables and

connectors that meet Rch_unb_min and Rch_unb_max requirements per Table 145-17) and the PSE (that meets 145.2.8.5.1 requirements), the maximum pair current including unbalance does not exceed ICon-2P-unb as defined in Table 145–16 during normal operating conditions. See Annex 145A."

Option 2:
1.Modify the existing text in p162 L15:
"The PSE PI pair-to-pair effective resistance unbalance determined by RPSE_max and RPSE_min, in conjunction with other parts of the system, i.e., channel (cables and connectors that meets Rch_unb_min and Rch_unb_max requirements per Table 145-17) and the PD (that meets 145.3.8.10 requirements), are intended to limit the current on the pairset with the highest current including unbalance, does not exceed ICon-2P-unb as defined in Table 145–16 during normal operating conditions."
2. Modify the existing text in p201 L39:
"The PD PI pair-to-pair effective resistance unbalance determined by RPD_min, and RPD_max in conjunction with any other parts of the system, i.e., channel (cables and connectors that meet Rch_unb_min and Rch_unb_max requirements per Table 145-17) and the PSE (that meets 145.2.8.5.1 requirements), are intended to limit the current on pairset with the highest current including unbalance, does not exceed ICon-2P-unb as defined in Table 145–16 during normal operating conditions. See Annex 145A."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **162** *L* **48** # 51

Darshan, Yair Mirosemi

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

In the text below:
"A PSE shall not source more than ICon-2P-unb min on any pair when connected to a **load** as shown in Figure
145–22, using values of Rload_min and Rload_max as specified in Equation (145–16) and Equation (145–17).", It is not clear that the "load" is the PSE load

SuggestedRemedy

Change text to "A PSE shall not source more than ICon-2P-unb min on any pair when connected to the **PSE load** as shown in Figure 145–22, using values of Rload_min and Rload_max as specified in Equation (145–16) and Equation (145–17)."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **6** # 52

Darshan, Yair Mirosemi

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

TODO #129 #152 D2.3 Table 145-17 contain resistance values of actual test verification model. This values may need to be rounded to 1% in order that Icon-2P_unb will be kept with accuracy of +/-5mA/TBD.

SuggestedRemedy

Adopt darshan_08_0517.pdf if ready. If not ready, addto TO DO list.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **38** # 53

Darshan, Yair Mirosemi

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

The variable names for Rchunb_min, Rchunb_max, Rpair_PD_min and Rpair_PD_max in Equation 145-16 and Equation 145-17 were not implemented per darshan_010317Rev008.pdf.

SuggestedRemedy

1.Change Equation 145-16 from: Rload_min=Pair_PD_min+Rchunb_min:
To: Rload_min=Rpd_min+Rch_unb_min
2. Change Equation 145-17 from: Rload_max=Rair_PD_max+Rchunb_max:
To: Rload_max=Rpd_max+Rch_unb_max:

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **164** *L* **4** # 54

Darshan, Yair Mirosemi

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

Update Figure 145-22 per darshan_09_0517.pdf

SuggestedRemedy

Adopt darshan_09_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **164** *L* **20** # 55

Darshan, Yair Mirosemi

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

TODO#370 D2.3.
Comment: Figure 145-22 is titled "PSE PI unbalance specification and E2EP2PRunb" to replace the abbreviation with "PSE PI unbalance specification and system resistance unbalance". Also remove the two occurences of this abbreviation in Annex 145A and replace by remedy text.
Respose: check correct usage of these terms and provide new definition(s)

SuggestedRemedy

Adopt darshan_09_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.2** *P* **172** *L* **16** # 56

Darshan, Yair Mirosemi

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

"The PD shall be implemented to be insensitive to the polarity of the power supply on either Mode." the intent is the PD shall be implemented to be insensitive to the polarity regardless if it is working on 2-pairs or 4-pairs i.e. on mode A and mode B and not just on mode A or mode B etc.

SuggestedRemedy

Change the text from: "The PD shall be implemented to be insensitive to the polarity of the power supply on either Mode."
To "The PD shall be implemented to be insensitive to the polarity of the power supply on mode A and Mode B."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.7** *P* **179** *L* **23** # 57

Darshan, Yair Mirosemi

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

in DO_CLASS_EVENT6 state the present_class_sig_B may be FALSE too due to the fact that it is not actual DO_CLASS_EVENT. I understand that during this time we may have class signature or we may not have it so in order to be flexible we can do the following: Cahnge present_class_sig_A and present_class_sig_B to all possible combinations i.e A=FALSE and B=TRUE or A=FALSE and (B=FALSE or TRUE) which results with keeping in the state just present_class_sig_A <==FALSE and remove present_class_sig_B so present_class_sig_B can be FALSE or TRUE.

SuggestedRemedy

Remove "present_class_sig_B<==TRUE" fron the state.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.7** *P* **179** *L* **44** # 58

Darshan, Yair Mirosemi

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

Put paranthesis around comparison in powered to power_update state.

SuggestedRemedy

Change from "pd_power_update * pd_dll_enabled * VPD ≥ VOff_PD"
To "pd_power_update * pd_dll_enabled * (VPD ≥ VOff_PD)"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8** *P* **193** *L* **40** # 59

Darshan, Yair Mirosemi

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

In Table 145-28 Item 8 "Inrush to PD current control delay". This parameter name is not clear.
What is "PD control delay"

SuggestedRemedy

Group to discuss and suggest better definition.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.2** *P* **195** *L* **46** # 60

Darshan, Yair Mirosemi

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

In the text "PDs may also adjust their maximum required operating power below PClass_PD or PClass_PD-2P by using Autoclass (see 145.3.6.2)." . The Autoclass applies only for single-signature. Delete "or Pclass_PD-2P"

SuggestedRemedy

Change from: "PDs may also adjust their maximum required
operating power below PClass_PD or PClass_PD-2P by using Autoclass (see 145.3.6.2)." .
To "PDs may also adjust their maximum required
operating power below PClass_PD by using Autoclass (see 145.3.6.2)."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.6** *P* **198** *L* **25** # 61

Darshan, Yair Mirosemi

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

(TODO #209, #91 145.3.8.6 Page 188 lines 20, 23)
(Yair, Fred): Fix PSE section so that PSEs that lower current limit based on class, increase Tlim (or something) in order to deliver needed charge.

Comment #209 D2.3
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.

Comment #91 D2.3
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

See Fred's suggested remedy.
If not ready, keep it in TODO

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **200** *L* **34** # 62

Darshan, Yair Mirosemi

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

In the text "See Figure 145A–1. Effective resistances of RPD_min and RPD_max include the
effects of PD pair to pair voltage difference and the PD PI resistive elements. See definition and measurements
in Annex 145A." there are wrong Annex number and wrong Figure number.

SuggestedRemedy

Change from "See Figure 145A–1. Effective resistances of RPD_min and RPD_max include the
effects of PD pair to pair voltage difference and the PD PI resistive elements. See definition and measurements in Annex 145A."
To "See Figure 145A–4. Effective resistances of RPD_min and RPD_max include the effects of PD pair to pair voltage difference and the PD PI resistive elements. See definition and measurements in Annex 145A.4."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **200** *L* **39** # 63

Darshan, Yair Mirosemi

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

In the text "PDs that meet Equation (145–26) intrinsically meet
unbalance requirements.", it is not clear which unbalance requirements. It should be "PDs that meet Equation (145–26) intrinsically meet all PD unbalance requirements."

SuggestedRemedy

Change from "PDs that meet Equation (145–26) intrinsically meet unbalance requirements."
To "PDs that meet Equation (145–26) intrinsically meet all PD unbalance requirements."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **201** *L* **4** # 64

Darshan, Yair Mirosemi

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

In the text "Figure 145A–1 illustrates the relationship between RPD_max and RPD_min effective resistances at….", the figure number shold be 145A-2 and not 145A-1.

SuggestedRemedy

Change from "Figure 145A–1 illustrates the relationship between RPD_max and RPD_min effective resistances at…."
To " In the text "Figure 145A–2 illustrates the relationship between RPD_max and RPD_min effective resistances at…."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **201** *L* **8** # 65

Darshan, Yair Mirosemi

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

In the text "Single-signature PDs shall not exceed ICon-2P-unb for longer than TCUT-2P min and 5 % duty cycle, and shall not exceed IPeak-2P-unb, as defined in Table 145–16 on any pair when PD PI pairs…", there are few problems that makes the spec broken:
1) IPeak-2P-unb is not defined in Table 145-16. It is defined by Equation 145-12.
2) Equation 145-12 belongs to PSE section and set the actual Ipeak-2P_unb current which is not the maximum Ipeak-2P_unb since it depends on PSE voltage. PDs must be designed to the maximum Ipeak-2P_unb (and also to the maximum Icon-2P_unb) due to the fact that the PD doesn't control the actual Ipeak-2P-unb since it doesn't have the knowledge of PSE voltage and more important, they can be connected to PSE with the minimum voltage which will create the maximum possible current.
As a result of the above arguments we need to define new PD parameters name to Icon-2P_unb and Ipeak-2P_un i.e. Icon_PD-2P_unb and Ipeak_PD-2P_unb with fixed maximum values that are a function of PD parameters only (as we did per the concept we adopt on march for the comment #320 from D2.3 (see yseboodt_08_0315_peakunbalance.pdf arguments) that generated the new Equation #145-28 and 145-29).

SuggestedRemedy

Adopt darshan_04_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **201** *L* **12** # 66

Darshan, Yair Mirosemi

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

TODO #321 D2.3
The response to this comment was: "ACCEPT IN PRINCIPLE. Add TODO (Yair, Lennart): Figure out how to deal with DS unbalance (Icon-2p) requirements. See Darshan_12 and this comment [#321 D2.3]."

The response to this action item (Agreed by Lennart and Yair):
Comment #321 from D2.3 has been resolved completely by the following adopted baselines:
1) yseboodt_08_0317.pdf adopted per comment #320. It also addressing comment #321 D2.3 (145.3.8.10 text Icon_pd-2P=Pclass_PD-2P/Vpd)
2) darshan_09_0317_final.pdf per comment 167 regarding Irms spec that changes 145.3.8.2 and 145.3.8.4 which also addresses some of the concerns that I had in darshan_12 per comment #164 D2.3 and was withdrawn by me with the agreement per this action item to check the integrity of the proposal in darshan_12 with comment #321 THAT WAS ALREADY ADRESSED BY COMMENT #320 D2.3. In fact Comment #321 D2.3 should have been OBE by comment #320 D2.3 and the subject of this action item should have been: To check if darshan_12 is covered by darshan_09 and yseboodt_08 which it does.

SuggestedRemedy

No change to the spec is required.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **201** *L* **13** # 67

Darshan, Yair Mirosemi

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

In the text "Dual-signature PDs shall not exceed ICon_PD-2P as defined in Equation (145–28) for longer than
TCUT-2P min and 5 % duty cycle, as defined in Table 145–16, and shall not exceed IPeak_PD-2P on any pair.....", missing reference to Equation 145-29.

SuggestedRemedy

Change to "Dual-signature PDs shall not exceed ICon_PD-2P as defined in Equation (145–28) for longer than TCUT-2P min and 5 % duty cycle, as defined in Table 145–16, and shall not exceed IPeak_PD-2P, as defined in Equaton 145-29 on any pair....."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **16** # 68

Darshan, Yair Mirosemi

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

In the text "Accessible external conductors are specified in subclause 6.2.1 b) of IEC 60950-1 and IEC 62368-1.", standard specifies IEC 60950-1 subclause 6.2.1b but does not specify similar IEC62368-1 subclause.
For consistency, we should add subclause of IEC62368-1

SuggestedRemedy

Adopt Arkadiy_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **16** # 69

Darshan, Yair Mirosemi

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

In the text "Accessible external conductors are specified in subclause 6.2.1 b) of IEC 60950-1 and IEC 62368-1.", the 802.3bt requires to meet both standards IEC60950-1 (which will be withdrawn by the end of 2018) and IEC 62368-1. From a safety point of view, device or system need to satisfy just one of this standard. Therefore, we should change AND to OR.

SuggestedRemedy

Adopt Arkadiy_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **18** # 70

Darshan, Yair Mirosemi

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

In the text "This electrical isolation shall withstand at least one of the following electrical strength tests:", there is an ambiguity in current IEEE 802.3bt requirements for electrical isolation.
Customers may argue (and we have many such cases) that a product meet UL/IEC electrical isolation requirements but does not meet IEEE802.3. Customers believes that IEEE802.3 requirements are more stringent than UL/IEC and does not allow to remove protective components as it allowed in IEC 60950-1 5.2.2 Note 4 as follows:
“NOTE 4 Components providing a d.c. path in parallel with the insulation to be tested, such as discharge resistor for filter capacitors, voltage limiting devices or surge suppressors, should be disconnected.”
The requirements which allow to remove components as in Note 4 should be added to IEEE specs or at least IEEE802.3bt should have clear referal on this subject to IEC60950 or IEC62368.

SuggestedRemedy

Adopt Arkadiy_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **27** # 71

Darshan, Yair Mirosemi

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

IIEEE802.3bt has following compliance criteria for the electrical stength test: "There shall be no insulation breakdown, as defined in subclause 5.2.2 of IEC 60950-1 and IEC 62368-1, during the test. The resistance after the test shall be at least 2 M ohm, measured at 500 V dc". This compliance criteria aplies for a) and b) and c) electrical test procedures. However a) and b) compliance requirements are different than for c) impulse test. Requirements a) and b) compliance criteria per paragraph 5.2.2 IEC60950:
"There shall not be insulation breakdown during test. Insulation breakdown is considered to have occurred when the current that flows as a result of the application of the test voltage rapidly increases in an uncontrolled manner, that is the insulation does not restrict the flow of current".

For requirements c): per paragraph 6.2.23 IEC60950-1:
"For impulse tests, damage to insulation is verified in one of two ways, as follows:
– during the application of the impulses, by observation of oscillograms. Surge suppressor operation or breakdown through insulation is judged from the shape of an oscillogram.
– after application of all the impulses, by an insulation resistance test. Disconnection of surge suppressors is permitted while insulation resistance is being measured. The test voltage is 500 V d.c. or, if surge suppressors are left in place, a d.c. test voltage that is 10 % less than the surge suppressor operating or striking voltage. The insulation resistance shall not be less than 2 MΩ."

Therefore IEEE requirements that" The resistance after the test shall be at least 2 Mohm , measured at 500 V dc" referring just to impulse test c) and not to steady stay tests a) and b). Therefore compliance critea should be removed at all from IEEE802.3bt or it need to be specify correctly for case a) and b) and separately to case c) according to requirements of IEC60950 or IEC62368.

SuggestedRemedy

Adopt Arkadiy_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **27** # 72

Darshan, Yair Mirosemi

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

The text " There shall be no insulation breakdown, as defined in subclause 5.2.2 of IEC 60950-1 and IEC 62368-1, during the test. The resistance after the test shall be at least 2 M ohm, measured at 500 V dc." specifies IEC 60950-1 subclause 5.2.2 but does not specify similar IEC62368-1 subclause. For consistency , we should add subclause 5.4.9.2 of IEC62368-1.
Therefore in IEEE 802.3bt text can be change from "IEC60950-1 and IEC62368-1: to "IEC60950-1 or IEC62368-1".
See arkadiy_01_0517.pdf for more issues about this text.

SuggestedRemedy

Adopt arkadiy_01_0517.pdf.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.3.2** *P* **219** *L* **31** # 73

Darshan, Yair Mirosemi

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

pse_power_update variable is used by the state machine but is missing from the variable list in the
PSE section.

SuggestedRemedy

Copy the variable pse_power_update from
145.2.5.4 into 145.5.3.3.2

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.6.2** *P* **228** *L* **26** # 74

Darshan, Yair Mirosemi

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

pse_power_update_alt(X) variable is used by the state machine but is missing from the variable list in 145.5.3.6.2. We do have pse_power_update_pri and pse_power_update_sec that do it but we may need away to transform from _pri and _sec to _alt(X).

SuggestedRemedy

Adopt darshan_02_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.6.2** *P* **228** *L* **30** # 75

Darshan, Yair Mirosemi

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

The text "The PSE power control state diagram (Figure 145–41) uses "_alt(X)", which is defined in 145.3.3, and the following variables:" was not in the approved baseline from March 2017 (darshan_03_0317Rev007F.pdf) but we need it for the introduction of this term. The problem is that "_alt(X)" is not defined in 145.3.3.

SuggestedRemedy

Change from "The PSE power control state diagram (Figure 145–41) uses "_alt(X)", which is defined in 145.3.3, and the following variables:"

To: "Dual-signature PSEs shall provide the behavior of the state diagram shown in Figure 145–41 over each pairset independently unless otherwise specified. All the parameters that apply to Alternative A and Alternative B are denoted with the suffix "_alt(X)" where "X" can be "A" or "B". A parameter that ends with the suffix "_alt(X)" may have different values for Alternative A and Alternative B."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.6.2** *P* **229** *L* **18** # 76

Darshan, Yair Mirosemi

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

The text "When a PD mode is not active, the value shall be set to zero." was not in the baseline in darshan_03_0317..

SuggestedRemedy

Remove "When a PD mode is not active, the value shall be set to zero."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.6.2** *P* **229** *L* **34** # 77

Darshan, Yair Mirosemi

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

In the text "pse_dll_ready_alt(X) An implementation-specific control variable that indicates that the PSE has initialized Data Link Layer classification. This variable maps into the aLldpXdot3LocReady attribute (30.12.2.1.20)." there are few updates need to be made:
1) the aLldpXdot3LocReady need to be "aLldpXdot3LocReadyA and aLldpXdot3LocReadyB" (they are already used in the DLL state machine and exist in the variable list.
2) The aLldpXdot3LocReadyA and aLldpXdot3LocReadyB are not defined in clause 30.
3) The aLldpXdot3LocReadyA, aLldpXdot3LocReadyB are not included in Table 30-7.
4. The link for 30.12.2.1.20 is correct for aLldpXdot3LocReady which is used for single-signature DLL state machine and is incorrect for the dual-signature DLL state machine.

SuggestedRemedy

Adopt darshan_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.6.5** *P* **231** *L* **51** # 78

Darshan, Yair Mirosemi

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

The changes for the title of figure 145-45 was not implemented per darshan_03_0317Rev007F.pdf

SuggestedRemedy

Change from "Figure 145–45—PSE power control state diagram when connected to a dual-signature PD"
To "Figure 145–45—PSE power control state diagram Alternative (X) when connected to a dual-signature PD mode (X)"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.7.2** *P* **233** *L* **29** # 79

Darshan, Yair Mirosemi

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

In the text" pd_dll_ready_mode(X) An implementation-specific control variable that indicates that the PD has initialized Data Link Layer classification for mode(X). This variable maps into the aLldpXdot3LocReady attribute (30.12.2.1.20)." there are few updates need to be made:
1) the aLldpXdot3LocReady need to be "aLldpXdot3LocReadyA and aLldpXdot3LocReadyB" (they are already used in the DLL state machine and exist in the variable list.
2) The aLldpXdot3LocReadyA and aLldpXdot3LocReadyB are not defined in clause 30.
3) The aLldpXdot3LocReadyA, aLldpXdot3LocReadyB are not included in Table 30-7.
4. The link for 30.12.2.1.20 is correct for aLldpXdot3LocReady which is used for single-signature DLL and is incorrect for the dual-signature PD.

SuggestedRemedy

Adopt darshan_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.7.5** *P* **234** *L* **51** # 80

Darshan, Yair Mirosemi

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

The changes for the title of figure 145-46 was not implemented per darshan_03_0317Rev007F.pdf

SuggestedRemedy

Change from "Figure 145–46—Dual-signature PD power control state diagram"
To "Figure 145–46—Dual-signature PD power control state diagram mode(X)"

Proposed Response *Response Status* **O**

Cl **145A** *SC* **145A.3** *P* **266** *L* **23** # 81

Darshan, Yair Mirosemi

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

In the text "Current unbalance requirements (RPSE_min, RPSE_max and ICon-2P_unb) of a PSE is met with Rload_max and Rload_min as specified in Table 145–17." we have few issues:
1. Rload_max and Rload_min are specified in Equation 145-16, Eququation 145-17 and Table 145–17 and not just Table 145-17.
2. Rpese_min and Rpse_max is not met with Rload_max and Rload_min. They need to conform only to Equation 145-15. Only Icon-2P_unb need to be met with Rload_max and Rload_min.
3. Current unbalance requirements are plural and yet there is "is met with ..." which is wrong.

SuggestedRemedy

Change from "Current unbalance requirements (RPSE_min, RPSE_max and ICon-2P-unb) of a PSE is met with Rload_max and Rload_min as specified in Table 145–17."
To "Current unbalance requirements (RPSE_min, RPSE_max and ICon-2P-unb) of a PSE is met with Rload_max and Rload_min as specified in Equation 145-16, Eququation 145-17 and Table 145–17."

Proposed Response *Response Status* **O**

Cl **145A** *SC* **145A.3** *P* **266** *L* **34** # 82

Darshan, Yair Mirosemi

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

In the text "Figure 145–22 illustrates the relationship between effective resistances at the PSE PI as specified by Equation (145–15) and Rload_min and Rload_max as specified in Table 145–17.": Rload_max and Rload_min are specified in Equation 145-16, Eququation 145-17 and Table 145–17 and not just Table 145-17.

SuggestedRemedy

Change from "Current unbalance requirements (RPSE_min, RPSE_max and ICon-2P-unb) of a PSE is met with Rload_max and Rload_min as specified in Table 145–17."
To " ICon-2P-unb is met with Rload_max and Rload_min as specified in Equation 145-16, Eququation 145-17 and Table 145–17."

Proposed Response *Response Status* **O**

Cl **145A** *SC* **145A.3.2** *P* **267** *L* **27** # 83
Darshan, Yair Mirosemi

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

TODO#151, #130 We need to verify by simulations that 145A.3.2 test model is working.

SuggestedRemedy

It is KEN TODO. If not implemented yet, keep in TODO.

Proposed Response *Response Status* **O**

Cl **145A** *SC* **145A.4** *P* **268** *L* **16** # 84
Darshan, Yair Mirosemi

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

The title of subclause 145A.4 was not implemented per the baseline darshan_01_0317Rev008.

SuggestedRemedy

Change from "145A.4 PD resistance and current unbalance" To "145A.4 PD PI resistance and current unbalance"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145** *P* *L* # 85
Darshan, Yair Mirosemi

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

To make sure that clause 145 contains the information required for backwards compatability so Type 3 and 4 PSEs to support Type 1 and 2 PDs and for Type3 and 4 PDs to be supported by Type 1 and 2 PSEs.

SuggestedRemedy

If not ready to the meeting add to TO DO list

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1.3** *P* **102** *L* **13** # 86
Johnson, Peter Sifos Technologies

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

The sentence "The supported value of RCh depends on the PSE Type and is defined in Table 145–1." is not really true any more. Both types in the table have the same Rch.

SuggestedRemedy

Replace with "RCh is defined in Table 145-1."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.1** *P* **103** *L* **20** # 87
Johnson, Peter Sifos Technologies

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

"A PSEs can.." - typo

SuggestedRemedy

"A PSE can…"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.1** *P* **103** *L* **24** # 88
Johnson, Peter Sifos Technologies

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

The sentence "The PD may then operate in a reduced power mode." would make more sense with a qualifier.

SuggestedRemedy

Change to "Depending upon the PSE capability, a PD may need to operate in a reduced power mode."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **151** *L* **51** # 89

Johnson, Peter — Sifos Technologies

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

Improve clarity: "PSEs that will deliver 4-pair power to a dual-signature PD shall perform classification on each pairset"

SuggestedRemedy

Change to "PSEs that will deliver 4-pair power to a dual-signature PD shall perform physical layer classification on each pairset."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.1** *P* **152** *L* **53** # 90

Johnson, Peter — Sifos Technologies

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

The sentence, "PSEs that require more class events for mutual identification, or to discover the PD requested Class, than the
available power allows may issue a class reset event after performing mutual identification or classification.", uses an undefined phrase "class reset event" and also would be better placed as the 2nd sentence after Table 145-13 because the sentence preceding it would then describe the core issue of not furnishing more events than the Class they support.

SuggestedRemedy

Move sentence to line 23 of page 153. Re-phrase as "PSEs that must issue more class events that the class they are capable of supporting in order to determine the PD class may (shall?) utilize the CLASS_RESET state to reset mutual identification at the PD."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.1** *P* **154** *L* **20** # 91

Johnson, Peter — Sifos Technologies

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

The following sentence is a bit awkward and imprecise and could be improved. "A PSE connected to a dual-signature PD, implementing 4PID based on classification and enabled for only one class event, shall issue an initial three classification events to determine the Type of the connected PD, then transition to either the CLASS_RESET_PRI or CLASS_RESET_SEC."

SuggestedRemedy

Replace with: "A PSE restricted to Class 3 power on a pairset that uses multi-event classification to determine Dual Signature PD Type, shall transition to the CLASS_RESET state corresponding to that pairset if Dual Signature PD requires more than Class 3 power on that pairset." This should cover Type-2 through Type-4 PD cases in the state machine.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **137** *L* **28** # 92

Johnson, Peter — Sifos Technologies

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

Typo - State variable pse_avail_pwr_pri_pri has extra "_pri"

SuggestedRemedy

Remove second "_pri"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **2** # 93

Johnson, Peter — Sifos Technologies

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

Table 145-17 no longer has Rload_* values but is titled "Rload_max and Rload_min requirements".

SuggestedRemedy

Re-title table to "Rload_max and Rload_min components"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **34** # 94

Johnson, Peter — Sifos Technologies

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

In keeping with fact that Table 145-17 does not have Rload_* values, insert phrase to explain this on line 34.

SuggestedRemedy

Modify sentence to "Table 145–17 specifies the values of resistance used in computing Rload_min and Rload_max according to…."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **46** # 95

Johnson, Peter — Sifos Technologies

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

This paragraph (starting with "ICon-2P-unb and Equation (145–15) are specified for…") needs some help. It is not very clear and is grammatically flawed.

SuggestedRemedy

Replace with: "The values for Icon_2p_unb and the relationship between RPSE-max and RPSE_min (Equation 145-15) are valid given that Rchan-2P ranges from 0.2 ohms to 12.5 ohms and that the PD meets requirements of 145.3.8.10. In cases where Rchan-2P is less than 0.2 ohms or Rchan is less than 0.1 ohm, PSE compliance with Icon-2P-unb can be evaluated using Rload_min and Rload_max both reduced by 0.5 X Rchan-2P. This compliance will require a reduction in the ratio of RPSE_max to RPSE_min presented by Equation 145-15.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.6.1** *P* **165** *L* **33** # 96

Johnson, Peter — Sifos Technologies

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

There is an inconsistency in the three minimum inrush current requirements a), b), and c) and Table 145-16. Conditions a) and b) specify "minimum Iinrush-2P" requirements with actual values while Table 145-16 is blank for minimum Inrush-2P given Single Signature PD. Are these figures really applicable to Iinrush-2P or are they applicable to Iinrush? Item c) says refer to Table 145-16 for minimum Iinrush-2P, but again, those boxes are blank for Single Signature.

SuggestedRemedy

Resolve if 5mA and 60mA are really applicable to Iinrush or Iinrush-2P. For condition c), replace with "…above 30V, the minimum Iinrush and Dual Signature Iinrush-2P reqiurements are as specified in Table 145-16."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.6.1** *P* **165** *L* **44** # 97

Johnson, Peter — Sifos Technologies

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

The first paragraph of 145.2.8.6.1 describes a Type-4 PSE that is allowed to provide minimum Iinrush below what is specified in Table 145-16. It then stipulates "Such a PSE that implements a minimum Iinrush lower than defined in Table 145–16 shall successfully power up a single-signature PD comprised of a parallel combination of 360 µF and a Class 2 load within TInrush-2P min...". This description does not jive with Figure 145-23 that was altered to allow that some PD's start inrush at some time after power is applied. The Tinrush-2P min requirement presumably only works for PD's that draw inrush starting with the power-up.

SuggestedRemedy

I do no know how to resolve this since specifying that a PSE has the full Tinrush-2P min period to power a PD is contrary to the overall inrush specification. PD's must be designed to charge with Iinrush min in a time period Tinrush-2P min less any delay time in the PD's start of inrush. This minimum inrush exception would present an interop risk it seems.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.8** *P* **168** *L* **27** # 98

Johnson, Peter — Sifos Technologies

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

This is purely a "for the record" comment. The final two paragraphs in 145.2.8.8 are, at face value, contradictory. The first of these states that Tlim-2P governs "short circuit" shutdown timing and notes that port voltage may drop below Vport_PSE-2P. The last sentence then says the PSE may ignore Tlim-2P timing if the voltage drops below Vport_PSE-2P.

SuggestedRemedy

My solution would be to remove the final sentence and I also wonder if it has the same relevancy now that Type-3 and 4 are a different clause in the standard. (The sentence was added at the beginning of the 802.3bt project.)

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.6** *P* **198** *L* **39** # 99

Johnson, Peter — Sifos Technologies

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

The sentence "Table 145–29 defines two PSE transient conditions and PD Types to which these apply" did not keep up with the fact that Table 145-29 no longer has PD Types in it.

SuggestedRemedy

Change to "Table 145–29 defines two PSE output voltage transients and associated channel resistance conditions."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1** *P* **99** *L* **17** # 100

Jones, Chad — Cisco

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

the text "This clause specifies Type 3 and Type 4 devices and their interaction with Type 1 and Type 2 devices." makes it sound like we are only specifying Type 3 and 4 interaction to Type 1,2.

SuggestedRemedy

change to: "This clause specifies Type 3 and Type 4 devices, including their interaction with Type 1 and Type 2 devices."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.1** *P* **103** *L* **20** # 101

Jones, Chad — Cisco

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

the sentence: "A PSEs can be categorized as either a Type 1, Type 2, Type 3 or Type 4 PSE." improper tense.

SuggestedRemedy

change to: "A PSE can be categorized as either a Type 1, Type 2, Type 3 or Type 4 PSE."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.4** *P* **186** *L* **18** # 102

Jones, Chad — Cisco

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

the text "PD requesting power by presenting a detection signature outside of Table 145–20 is non-compliant," needs 'A' at the beginning

SuggestedRemedy

change to: "A PD requesting power by presenting a detection signature outside of Table 145–20 is non-compliant,"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **150** *L* **43** # 103

Jones, Chad — Cisco

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

The text "If the PD connected to the PSE performs Autoclass (see 145.2.7.2 and 145.3.6.2), the PSE may set its minimum supported output power based on PAutoclass," - possessive. Thought we were trying to clear this up.

SuggestedRemedy

change to: "If the PD connected to the PSE performs Autoclass (see 145.2.7.2 and 145.3.6.2), the PSE may set THE minimum supported output power based on PAutoclass,"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **187** *L* **45** # 104

Jones, Chad Cisco

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

poor form on grammar: "Additionally, classification is 45 used by the PSE and the PD to mutually identify the Type of the device they are connected to." Dangling preposition.

SuggestedRemedy

change to: "Additionally, classification is used by the PSE and the PD to mutually identify the Type of the device to which they are connected."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.4** *P* **159** *L* **28** # 105

Jones, Chad Cisco

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

I received this email on 4/20/17: Please review the text for any explicit or implicit guarantees made within the document, especially those that are safety-related. Avoid making guarantees if there is a possibility of unforeseen situations or circumstances altering an outcome. For example, words such as "ensure," "guarantee," "maximize," minimize," etc., should be modified, if they are inaccurate. Substitutions might include "reduce" or "improve." For example, "to ensure safety" might be changed to "to improve safety" or "to prevent" might be changed to "to reduce.".
The next several comments will be the result of my search of the document for these terms. I will preface these comments with #ABSOLUTE.
the text: "should be limited to rare circumstances such as those involving switchover of backup"
power supplies to ensure system robustness"

SuggestedRemedy

change to: "should be limited to rare circumstances such as those involving switchover of backup
power supplies to improve system robustness"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **162** *L* **15** # 106

Jones, Chad Cisco

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

#ABSOLUTE
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.

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **201** *L* **39** # 107

Jones, Chad Cisco

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

#ABSOLUTE RPD_min, RPD_max ensures that along with any other parts of the system, i.e., channel (cables and connectors) and the PSE, the maximum pair current including unbalance does not exceed ICon-2P-unb as defined in Table 145–16 during normal operating conditions. See Annex 145A.

SuggestedRemedy

change to: RPD_min and RPD_max, along with any other parts of the system, i.e., channel (cables and connectors) and the PSE, bounds the current such that the maximum pair current including unbalance does not exceed ICon-2P-unb as defined in Table 145–16 during normal operating conditions. See Annex 145A.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.9.1.7** *P* **215** *L* **41** # 108

Jones, Chad Cisco

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

#ABSOLUTE To ensure the total alien NEXT
loss and alien FEXT loss coupled between link segments is limited, multiple disturber alien near-end crosstalk (MDANEXT) loss and multiple disturber alien FEXT (MDAFEXT) loss is specified.

SuggestedRemedy

change to: To bound the total alien NEXT
loss and alien FEXT loss coupled between link segments, multiple disturber alien near-end crosstalk (MDANEXT) loss and multiple disturber alien FEXT (MDAFEXT) loss is specified.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1.7** *P* **69** *L* # 109

Jones, Chad Cisco

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

#ABSOLUTE To ensure the total alien NEXT
loss and alien FEXT loss coupled between link segments is limited, multiple disturber alien near-end crosstalk (MDANEXT) loss and multiple disturber alien FEXT (MDAFEXT) loss is specified.

SuggestedRemedy

change to: To bound the total alien NEXT
loss and alien FEXT loss coupled between link segments, multiple disturber alien near-end crosstalk (MDANEXT) loss and multiple disturber alien FEXT (MDAFEXT) loss is specified.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.4** *P* **187** *L* **21** # 110

Lukacs, Miklos Silicon Labs

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

The Voffset and Vpd=2.7V markers are shifted to the left on figure 33-34.

SuggestedRemedy

Shift Voffset and Vpd=2.7V markers to the right, correct position

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.6** *P* **145** *L* **33** # 111

Lukacs, Miklos Silicon Labs

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

The text is incomplete:
"A PSE detecting an invalid PD signature on either Alternative may perform detection on the other Alternative, and if valid may perform classification on that pairset."

SuggestedRemedy

Change the text to:
"A PSE detecting an invalid PD signature on either Alternative may perform detection on the other Alternative, and if the PD signature is valid then the PSE may perform classification on that pairset."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1** *P* **67** *L* **5** # 112

Maguire, Valerie Siemon

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

At best, "telecom outlet" is a misused reference for the work area outlet - it is not typically a generic term for any connector in a channel or link segment. Since TIA and ISO/IEC have specific rules about the work area outlet and applications-specific electrical components, this term causes confusion and should be removed from the document. Apply change to clause 145.4.9.1 if allowed as part of this ballot cycle.

SuggestedRemedy

Replace all occurances of "connector or telecom outlet Midspan PSE" with "connector Midspan PSE".

Replace all occurances of '“Connector” or “telecom outlet” Midspan PSE' with '“Connector” Midspan PSE.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1** *P* **67** *L* **11** # 113

Maguire, Valerie Siemon

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

It is confusing that the work area or equipment cord variants are listed under the clause titled, “Connector” or “telecom outlet” Midspan PSE device transmission requirements". Apply change to clause 145.4.9.1 if allowed as part of this ballot cycle.

SuggestedRemedy

Option 1: List only the 5 connector variants in clause 33.4.9.1 and move the 5 equipment variants to clause 33.4.9.1.4

Option 2: Move lines 11 - 23 (The sentence starting with, "There are 10 variants" and the list of the 10 variants) to clause 33.4.9.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1** *P* **67** *L* **16** # 114

Maguire, Valerie Siemon

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

Typo - "of" instead of "or"

SuggestedRemedy

Replace "work area of equipment" with "work area or equipment"

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1** *P* **66** *L* **7** # 115

Maguire, Valerie Siemon

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

An explanation of Connector Midspan PSE and how it is implemented within a link segment is needed. Possible misuse of quotes, too. Apply change to clause 145.4.9.1 if allowed as part of this ballot cycle.

SuggestedRemedy

Replace, "The Midspan PSE equipment to be inserted as “connector” or “telecom outlet” shall meet the following transmission parameters."

with, "A connector Midspan PSE replaces one of the connectors in the link segment and shall meet the following transmission parameters."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1** *P* **67** *L* **14** # 116

Maguire, Valerie Siemon

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

An assembly of cable with a plug on one or both ends is usually referred to as a "cord". It is not necessary to specifically call the assembly an "equipment cord" or "work area cord". Apply change to clause 145.4.9.1 if allowed as part of this ballot cycle.

SuggestedRemedy

Replace all occurances of "work area or equipment cable Midspan PSE" with "cord Midspan PSE".

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1** *P* **67** *L* **5** # 117

Maguire, Valerie Siemon

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

Quotes are not needed around the words "connector" or "telecom outlet" since this is actual naming convention of the component as used in the document. Apply change to clause 145.4.9.1 if allowed as part of this ballot cycle.

SuggestedRemedy

Delete quotes around "Connector" and "telecom outlet".

(Hopefully, telecom outlet has been removed as a result of an earlier Maguire comment).

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1.4** *P* **68** *L* **45** # 118

Maguire, Valerie Siemon

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

Hierarchically, this clause should be the same level as 33.4.9.1 “Connector” or “telecom outlet” Midspan PSE device transmission requirements. It should not be a subclause of 33.4.9.1. It is also missing the information about transmission requirements in the heading. Apply change to clause 145.4.9.1.4 if allowed as part of this ballot cycle.

SuggestedRemedy

Replace, "33.4.9.1.4 Work area or equipment cable Midspan PSE"

with, "33.4.9.2 Work area or equipment cable Midspan PSE device transmission requirements"

Re-number transmission parameter subclauses accordingly.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1.4** *P* **68** *L* **47** # 119

Maguire, Valerie Siemon

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

An explanation of Cord Midspan PSE and how it is implemented within a link segment is needed. This sentence can be merged with the one below regarding transmission performance to correct the misuse of the word "cable". It is not necessary to introduce the term "jumper" here since there are no longer any external transmission references. Clarify that the subject pairs are those transmiting and recieving data, not power. Apply change to clause 145.4.9.4 if allowed as part of this ballot cycle.

SuggestedRemedy

Use revision marks as necessary to show the following text in underline and all old text in strikethrough.

Replace, "Replacing the work area or equipment cable with a cable that includes a Midspan PSE should not alter the requirements of the cable. This cable shall meet the requirements of this clause and the specifications for a (jumper) cord as specified for insertion loss, NEXT, and return loss for the transmit and receive pairs, as shown in Table 33–20a."

with, "A cord Midspan PSE replaces an equipment or work area cord in a link segment and shall meet or exceed the insertion loss, NEXT, and return loss values specified Table 33–20a for all data transmitting pairs."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.4.9.1.4** *P* **69** *L* **4** # 120

Maguire, Valerie Siemon

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

In Table 33-20a, the reference Midspan PSE assembly is a cord, not a cable or cabling. Apply change to Table 145-15 if allowed as part of this ballot cycle.

SuggestedRemedy

Replace, "Table 33–20a—Cable specifications for use with Midspan PSEs"

with, "Table 33–20a—Cord specifications for use with Midspan PSEs"

Replace, "Cabling specification"

with, "Cord specification"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **16** # 121

Peker, Arkadiy Mirosemi

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

In the text "Accessible external conductors are specified in subclause 6.2.1 b) of IEC 60950-1 and IEC 62368-1.", standard specifies IEC 60950-1 subclause 6.2.1b but does not specify similar IEC62368-1 subclause.
For consistency, we should add subclause of IEC62368-1

SuggestedRemedy

Adopt Arkadiy_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **16** # 122

Peker, Arkadiy Mirosemi

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

In the text "Accessible external conductors are specified in subclause 6.2.1 b) of IEC 60950-1 and IEC 62368-1.", the 802.3bt requires to meet both standards IEC60950-1 (which will be withdrawn by the end of 2018) and IEC 62368-1. From a safety point of view, device or system need to satisfy just one of this standard. Therefore, we should change AND to OR.

SuggestedRemedy

Adopt Arkadiy_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **18** # 123

Peker, Arkadiy Mirosemi

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

In the text "This electrical isolation shall withstand at least one of the following electrical strength tests:", there is an ambiguity in current IEEE 802.3bt requirements for electrical isolation.
Customers may argue (and we have many such cases) that a product meet UL/IEC electrical isolation requirements but does not meet IEEE802.3. Customers believes that IEEE802.3 requirements are more stringent than UL/IEC and does not allow to remove protective components as it allowed in IEC 60950-1 5.2.2 Note 4 as follows:
“NOTE 4 Components providing a d.c. path in parallel with the insulation to be tested, such as discharge resistor for filter capacitors, voltage limiting devices or surge suppressors, should be disconnected.”
The requirements which allow to remove components as in Note 4 should be added to IEEE specs or at least IEEE802.3bt should have clear referal on this subject to IEC60950 or IEC62368.

SuggestedRemedy

Adopt Arkadiy_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **27** # 124

Peker, Arkadiy Mirosemi

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

IIEEE802.3bt has following compliance criteria for the electrical stength test: "There shall be no insulation breakdown, as defined in subclause 5.2.2 of IEC 60950-1 and IEC 62368-1, during the test. The resistance after the test shall be at least 2 M ohm, measured at 500 V dc". This compliance criteria aplies for a) and b) and c) electrical test procedures. However a) and b) compliance requirements are different than for c) impulse test.
Requirements a) and b) compliance criteria per paragraph 5.2.2 IEC60950:
"There shall not be insulation breakdown during test. Insulation breakdown is considered to have occurred when the current that flows as a result of the application of the test voltage rapidly increases in an uncontrolled manner, that is the insulation does not restrict the flow of current".

For requirements c): per paragraph 6.2.23 IEC60950-1:
"For impulse tests, damage to insulation is verified in one of two ways, as follows:
– during the application of the impulses, by observation of oscillograms. Surge suppressor operation or breakdown through insulation is judged from the shape of an oscillogram.
– after application of all the impulses, by an insulation resistance test. Disconnection of surge suppressors is permitted while insulation resistance is being measured. The test voltage is 500 V d.c. or, if surge suppressors are left in place, a d.c. test voltage that is 10 % less than the surge suppressor operating or striking voltage. The insulation resistance shall not be less than 2 MΩ."

Therefore IEEE requirements that” The resistance after the test shall be at least 2 Mohm , measured at 500 V dc” referring just to impulse test c) and not to steady stay tests a) and b). Therefore compliance critea should be removed at all from IEEE802.3bt or it need to be specify correctly for case a) and b) and separately to case c) according to requirements of IEC60950 or IEC62368.

SuggestedRemedy

Adopt Arkadiy_01_0517.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **27** # 125

Peker, Arkadiy Mirosemi

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

The text " There shall be no insulation breakdown, as defined in subclause 5.2.2 of IEC 60950-1 and IEC 62368-1, during the test. The resistance after the test shall be at least 2 M ohm, measured at 500 V dc." specifies IEC 60950-1 subclause 5.2.2 but does not specify similar IEC62368-1 subclause. For consistency , we should add subclause 5.4.9.2 of IEC62368-1.
Therefore in IEEE 802.3bt text can be change from "IEC60950-1 and IEC62368-1: to "IEC60950-1 or IEC62368-1".
See arkadiy_01_0517.pdf for more issues about this text.

SuggestedRemedy

Adopt arkadiy_01_0517.pdf.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.3** *P* **159** *L* **24** # 126

Picard, Jean Texas Instruments

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

The following sentence does not make sense. In reality the PSE cannot really short the PI voltage, all it can do is temporarily turn off its port (it's only a low side switch after all, with a 0.1uF cap).

"The minimum PD input capacitance CPort min or CPort-2P min defined in Table 145–28, allows a PD to operate for input voltage transients which cause VPD to drop as low as 0 V, lasting less than 30 µs as specified in 145.3.8.6."

SuggestedRemedy

Use similar wording to the "at" standard, removing "which cause VPD to drop as low as 0 V".
The wording becomes this:

"The minimum PD input capacitance CPort min or CPort-2P min defined in Table 145–28, allows a PD to operate for input voltage transients lasting less than 30 µs as specified in 145.3.8.6"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.6** *P* **198** *L* **24** # 127

Picard, Jean Texas Instruments

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

"A PD shall continue to operate without interruption in the presence of transients at the PSE PI as defined in 145.2.8.3."

This sentence does not make sense, since it refers to a transient to 0V at the PI. In reality the PSE cannot really short the PI voltage, all it can do is temporarily turn off its port (it's only a low side switch after all, with a 0.1uF cap).
Also, if the voltage at the PI goes down to 0V or not at PSE PI is purely dependent on the PD configuration (load current, type of input bridge, etc), and should not be part of the requirement.

SuggestedRemedy

Replace with:
"A PD shall continue to operate without interruption while there is loss of power at PSE PI for up to 30 µs"

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.236a** *P* **24** *L* **24** # 128

Schindler, Fred Seen Simply, Cisco, T

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

The existing text,
"A system consisting of one PSE and one PD that provides power across balanced twisted-pair cabling."
is incorrect. Since the first release of clause 33 a valid system configuration has been,

Switch====endpoint-PSE====Midspan-PSE====PD

Sections in Clauses 33 and 145 provide requirements for this configuration. The solution for this concern also removes uncertainty about which device is doing the powering.

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **14** *SC* **14.4.416** *P* **24** *L* **50** # 129

Schindler, Fred — Seen Simply, Cisco, T

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

This comment closes a TODO related to D2.3 #91 and #209 for Fred and Yair, located on page 198 145.3.8.6 L22. This work is also related to schindler_1_0915 that was updated by D1.7 #94.

The PD was addressed in my TODO provided for D2.3. This comment is related but is determining whether PSEs charge the PD bulk capacitance to a level that keeps the PSE current below ILIM-2P. The PD is a passive participant when the PSE drops and raises its VPSE. Therefore, the PSE needs to provide ILIM for a TLIM that charges the PD capacitance to its operating value. A class-4 PD is designed to work with the existing IEEE 802.3-2015 requirements.

SPICE simulations of the two PD tests in 145.3.8.6 show the systems interoperate correctly. The proposed solution clarifies PSE Type definitions to make TLIM-2P dependent on the PSE Type.

--------- details ----

Most people responding to a preview of this comment interpret the IEEE PSE Type definitions, which take the form “A PSE that supports …” (see Type definitions in 1.4.41x) as, “this PSE is capable of supporting class-x” while I interpreted the text as “this PSE is supporting class-x”. If a PSE assigns class-4 then the PSE is only supporting the assigned class. Therefore, a Type 3 and Type 4 PSE providing this power level fits the definition of Type-2 PSE using my interpretation. Note how the text is interpreted depends on the time when the definition is tested,
- currently supports (when it is driving the PD), which is my view;
- capable of supporting (before it is driving the PD), which is the view of others.

Type-2 and Type-3 PSEs provide a TLIM-2P of 10 ms and an ILIM-2P of at least 0.684A to a class-4 PD, which supports interoperation. A Type-4 PSE has a TLIM-2P of 6 ms. SPICE simulations show that when this PSE supplies 2x ILIM-2P to the class-4 PD with the maximum capacitance that it takes less than 6 ms to reach a PD operating point , which results in less than 2x ILIM-2P current demand.

Note that Type-4 PSEs need to support ILIM-2P on both pairsets to support interoperation with class-4 PDs, which is already a requirement for the PSE.

SuggestedRemedy

For Type-3 and Type-4 PSE definitions starting on page 24, replace “… that supports …” with “… that is capable of supporting …”.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2** *P* **75** *L* **47** # 130

Schindler, Fred — Seen Simply, Cisco, T

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

Added text,
“Type 1 and Type 2 devices shall not support the Type 3 and Type 4 extension.”

Incorrectly blocks legacy types from using TLVs, Power status, System setup, PSE maximum available power, Autoclass, and Power done. The existing text does indicate what legacy Types are required to place in all Type 3 and Type 4 extension fields.

SuggestedRemedy

Strike the called-out text.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.5** *P* **79** *L* **16** # 131

Schindler, Fred — Seen Simply, Cisco, T

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

The text,
“The PD requested power value field shall contain the PD’s requested power value defined in Table 79–5, for Type 1, Type 2, and single-signature Type 3 and Type 4 PDs. The fields for PD requested power value shall be set to the sum of PD requested power value Mode A and PD requested power value Mode B in Table 79–6a, for Type 3 and Type 4 dual-signature PDs.”

Incorrectly reference the field of Table 79-5, which is PD requested power value. The fix removes PD’s and replaces it with PD.

SuggestedRemedy

Replace the called out text with,
“The PD requested power value field shall contain the PD requested power value defined in Table 79–5, for Type 1, Type 2, and single-signature Type 3 and Type 4 PDs. The fields for PD requested power value shall be set to the sum of PD requested power value Mode A and PD requested power value Mode B in Table 79–6a, for Type 3 and Type 4 dual-signature PDs.”

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6** *P* **79** *L* **46** # 132

Schindler, Fred Seen Simply, Cisco, T

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

The text,
"The PSE allocated power value field shall contain the PSE's allocated power value defined in Table 79–6 for PSEs connected to single-signature PDs and Type 1 and Type 2 PDs."

Incorrectly reference the field of Table 7-6, which should be PSE allocated power value.

SuggestedRemedy

Replace the called out text with,
"The PSE allocated power value field shall contain the PSE allocated power value defined in Table 79–6 for PSEs connected to single-signature PDs and Type 1 and Type 2 PDs."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6** *P* **79** *L* **49** # 133

Schindler, Fred Seen Simply, Cisco, T

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

The text,
"The sum of the PSE allocated power value Alternative A field and the PSE allocated power value Alternative B field shall be provided in the PSE allocated power value field for a dual-signature PD for Type 3 and Type 4 PSEs. The sum of the PSE allocated power value Alternative A field and the PSE allocated power value Alternative B field may be provided in the PSE allocated power value field for a dual-signature PD for Type 1 and Type 2 PSEs."
should include a reference to the defining table, and the sentence can be reordered to improve clarity.

SuggestedRemedy

Replace the called-out text with,
"The sum of the PSE allocated power value Alternative A field and the PSE allocated power value Alternative B field shall be provided in the PSE allocated power value field defined in Table 79-6 for Type 3 and Type 4 PSEs connected to a dual-signature PD. The sum of the PSE allocated power value Alternative A field and the PSE allocated power value Alternative B field may be provided in the PSE allocated power value field defined in Table 79-6 for Type 1 and Type 2 PSEs connected to a dual-signature PD."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6c** *P* **81** *L* **42** # 134

Schindler, Fred Seen Simply, Cisco, T

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

The existing text,
"When the power typex is PD this field shall be set to the requested Class of the dual-signature PD for Mode A during Physical Layer Classification as defined in 145.3.6. When the power typex is PSE and the PSE is connected to a dual-signature PD, this field shall be set to the PSEs assigned Class for Alternative A as defined in 145.2.7."

May lead to miss interpretation because it assumes the reader will infer "this field" is the field being covered by the section header and not the field just called out. The solution replaces "this field" with "the Dual-signature power Classx Mode A field".

This same issue exists for 79.3.2.6c.3 p81 L49 and on 79.3.2.6c.4 p81 L53.

SuggestedRemedy

Replace the first called-out text with,
"When the power typex is PD the Dual-signature power Classx Mode A field shall be set to the requested Class of the dual-signature PD for Mode A during Physical Layer Classification as defined in 145.3.6. When the power typex is PSE and the PSE is connected to a dual-signature PD, the Dual-signature power Classx Mode A field shall be set to the PSEs assigned Class for Alternative A as defined in 145.2.7."

For 79.3.2.6c.4 p81 L49, replace the similar text with,
"When the power typex is PD the Dual-signature power Classx Mode B field shall be set to the requested Class of the dual-signature PD for Mode B during Physical Layer Classification as defined in 145.3.6. When the power typex is PSE and the PSE is connected to a dual-signature PD, the Dual-signature power Classx Mode B field shall be set to the PSEs assigned Class for Alternative B as defined in 145.2.7."

For 79.3.2.6c.4 p81 L53, replace the similar text with,
"When the power typex is for a single-signature PD or Type 1 and Type 2 PD the Power Classx field shall be set to the requested Class of the PD during Physical Layer Classification as defined in 145.3.6. When the power type is PSE Power Classx field shall be set to the PSEs assigned Class as defined in 145.2.7. PSEs connected to a dual-signature PD and dual-signature PDs set Power Classx field to the power class indicated by the total power indicated by Power Classx Mode A and Power Classx Mode B.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6c** *P* **82** *L* **15** # 135

Schindler, Fred — Seen Simply, Cisco, T

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

Changes made during D2.3 to address comment #406 change LLDP behavior requirements because Table 79-6c codes changed. Draft 2.4 does not appear to follow the #406 comment response. Comment #406 incorrectly raises concerns about Class 0 values. Class 0 may be reported by legacy Types. The changes made conflict with what text requirements on page 81 lines 42 and 49, for the Dual-signature-PD TLVs.

Page 81, Lines 42 and 49 both indicate,
"PSEs connected to a Type 1, Type 2 or single-signature PD set this field to value 0."

Requirements for the TLV covered by Table 79-6d result in system single and dual signature details so duplicating this in Table 79-6c is redundant. Table 79-6c provides class details for the system. The TLV processing code may also infer PD single and dual status from which field, covered by Table 79-6c, is made 0.

SuggestedRemedy

On page 82, L14 and L23
replace "111 = Single-signature PD" with "111 = Reserved/Ignore"

On page 82, L32
replace "111 = Dual-signature PD" with "111 = Reserved/Ignore"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.1.1** *P* **112** *L* **51** # 136

Schindler, Fred — Seen Simply, Cisco, T

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

The existing text,
"Monitoring of MPS is handled by Figure 145–17 and Figure 145–18. Monitoring of inrush is handled by Figure 145–19."

uses the word "handled" and should be improved.

SuggestedRemedy

Replace the called-out text with,
"The state diagram in Figure 145–17 and Figure 145–18 monitors MPS. The state diagram in Figure 145–19 monitors inrush."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.6** *P* **126** *L* **42** # 137

Schindler, Fred — Seen Simply, Cisco, T

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

Fix typo "classtiming"

SuggestedRemedy

Use "class timing".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.1** *P* **152** *L* **44** # 138

Schindler, Fred — Seen Simply, Cisco, T

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

The construct of using a bulleted "— shall" for setting requirements is only used in clause 145 (IEEE 802.3-2015 was scanned to confirm this). The approach taken in clause 145 is also not used consistently. For example, on page 152, line 43,

"Type 3 PSEs
— shall provide a maximum of four class events and four mark events for single-signature PDs.
— shall provide a maximum of three class events and three mark events on each pairset for dual-signature PDs."

Where does the sentence start? I see a period after "PDs." but the next bullet is not capitalized.

The construct changes within the Clause. For example, on page 205, line 30,
"The PSE PI shall withstand without damage the application of short circuits of any conductor to any other conductor 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"

Note that this list starts using a colon, and does not have a period. Style guides (Diana Hacker) indicate, "A colon must be preceded by a full independent clause."

The IEEE style guide for 2014, indicates the following when using a list,
"… Closing punctuation should be omitted or phrases. Punctuation should be used for sentences. Lists shall be preceded by an introductory sentence explaining the relevance of the list. …" This guide also includes the following example,

"The following is an example of a properly formatted dashed list:
-- Begin with a capital letter.
-- Include final punctuation for all items in the list if one items in the list is a complete sentence.
-- If at least one of the items in the dashed list is a complete sentence then add ending punctuation to all of the items in the list."

p152 L44 4x shall
p170 L19 11x shall, and bulleted mays
p 171 L1 2x shall, 1x may
p 205 L34 2x shall

SuggestedRemedy

This was briefly discussed with our esteemed Editor to help craft a solution. The Task Force should also get the advice of senior IEEE contributors to craft a final solution for D3.x. A TODO should be assigned for the changes required and this comment shall remain open, to help stimulate the improvements, until the IEEE 802.3 main Editor has provide direction and it has been implemented.

The preferred choice is to restore text and move away from bullets.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **162** *L* **15** # 139

Schindler, Fred — Seen Simply, Cisco, T

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

Two sentences in this draft use "ensures", which will be altered by IEEE editorial staff to remove the word ensures (p162 L15 and p201 L29). A solution is proposed so that the Task Force can amend or adopted to get the text they prefer. A related comment was made in D2.3 #202 but was not fixed in the adopted darshan_01_0317Rev008.pdf.

The existing text, p162 L15
"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 existing text, p201 L29,
"RPD_min, RPD_max ensures that along with any other parts of the system, i.e., channel (cables and connectors) and the PSE, the maximum pair current including unbalance does not exceed ICon-2P-unb as defined in Table 145–16 during normal operating conditions. See Annex 145A."

SuggestedRemedy

Replace the called out text p162 with,
"The PSE PI pair-to-pair effective resistance unbalance determined by RPSE_max and RPSE_min, in conjunction with other parts of the system, i.e., channel (cables and connectors that meet Rch_unb_min and Rch_unb_max requirements per Table 145-17) and a PD that meets 145.3.8.10 requirements, limit the current on the pairset with the highest current including unbalance, and does not exceed ICon-2P-unb as defined in Table 145–16 during normal operating conditions."

Replace the called out text p201 with,
"The PD PI pair-to-pair effective resistance unbalance determined by RPD_min, and RPD_max in conjunction with other parts of the system, i.e., channel (cables and connectors that meet Rch_unb_min and Rch_unb_max requirements per Table 145-17) and a PSE that meets 145.2.8.5.1 requirements, limit the current on the pairset with the highest current including unbalance, and does not exceed ICon-2P-unb as defined in Table 145–16 during normal operating conditions. See Annex 145A."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.2** *P* **172** *L* **28** # 140

Schindler, Fred Seen Simply, Cisco, T

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

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

This text does not cover PD connections that exist with Type 3 and 4 PSEs. The VPSE voltage for Type 3 and 4 PSEs normally has the negative polarity on the hot-swap switch path and the positive polarity is unswitched. Therefore, PDs will be exposed to the positive polarity on both Modes and will have a negative polarity on one mode when one Mode has been powered on.

SuggestedRemedy

Replace the called-out text with,

"The PD shall withstand any voltage from 0 V to 57 V applied to Mode A, Mode B, both simultaneously, and Mode-A and Mode-B positive pairs and either Mode negative pair, indefinitely without permanent damage."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3** *P* **173** *L* **3** # 141

Schindler, Fred Seen Simply, Cisco, T

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

Existing text,
"A parameter that ends with the suffix "_mode(X)" may have different values for Mode A and Mode B."

does not completely express the concern that this is a local variable that does not need to be the same for all uses of the suffix. This is cleared up on line 17.

SuggestedRemedy

Option-1:
Strike the called-out sentence.

Option-2:
Replace the called-out sentence with,
"A parameter that ends with the suffix "_mode(X)" may have different values for Mode A and Mode B in separate state diagrams."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8** *P* **194** *L* **26** # 142

Schindler, Fred Seen Simply, Cisco, T

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

Under the same operating conditions Single-signature (SS) and Dual-signature (DS) systems should provide the same power levels. On line 12, a class-4 SS provides at least 28.3 W, while on line 26 a class-4 DS provides at least 28.4 W. One line 13, a class-5 SS provides at least 42 W, while on line 27 a class-5 DS provides at least 37.2 W (this is the average power not the peak power). The math works for the SS data.

SuggestedRemedy

Replace the Table item 11 for Class 4, which is "28.4" with "28.3".

Replace the Table item 11 for Class 5, which is "37.2" with "42".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.7** *P* **200** *L* **13** # 143

Schindler, Fred Seen Simply, Cisco, T

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

A D2.4 text adjustment changed normative text to a Note,
"NOTE—The worst-case condition is when both PSE and PD generate the maximum noise allowed by Table 145–16 and Table 145–28, which may cause a higher noise level to appear at the PI than the standalone case as specified by this clause."

, which de-emphasized information that the reader should "pay special attention too". The wording is also suboptimal.

SuggestedRemedy

Change the note to normative text,

"Note that the worst-case condition occurs when both PSE and PD generate the maximum noise allowed by Table 145–16 and Table 145–28, which may cause a higher noise level to appear at the PI than the standalone case as specified by this clause."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **201** *L* **8** # 144

Schindler, Fred — Seen Simply, Cisco, T

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

Modified text,

"Single-signature PDs shall not exceed ICon-2P-unb for longer than TCUT-2P min and 5 % duty cycle, and shall not exceed IPeak-2P-unb, as defined in Table 145–16 on any pair when PD PI pairs of the same polarity … "

Incorrectly reference the source of IPeak-2P-unb, which is not in the reference table.

SuggestedRemedy

Replace the called out text with,

"Single-signature PDs shall not exceed ICon-2P-unb for longer than TCUT-2P min and 5 % duty cycle, and shall not exceed IPeak-2P-unb, as defined in Equation (145-12) on any pair when PD PI pairs of the same polarity … "

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.2** *P* **218** *L* **41** # 145

Schindler, Fred — Seen Simply, Cisco, T

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

Three attributes are listed in green font that should be located in clause 30 of our amended document.

page 218
aLldpXdot3LocReady

page 227
aLldpXdot3LocReadyA
aLldpXdot3LocReadyB

A solution is provide below and should be reviewed by participants to improve the text before submission.

SuggestedRemedy

Related cross references to these variables also need to be fixed.

Add the following text in the appropriate place in Clause 30.

30.xxx aLldpXdot3LocReady
ATTRIBUTE
APPROPRIATE SYNTAX:
An ENUMBERATED VALUE that has one of the following entries:
pReadyPSE PSE
pReadyPD PD
BEHAVIOUR DEFINED AS:
A read-only implementation-specific value used to indicate whether the Data Link Layer classification has been initialized by the by the local system.;

30.xxx aLldpXdot3LocReadyA
ATTRIBUTE
APPROPRIATE SYNTAX:
An ENUMBERATED VALUE that has one of the following entries:
pReadyPSE PSE
pReadyPD PD
BEHAVIOUR DEFINED AS:
A read-only implementation-specific value used to indicate whether the Data Link Layer classification has been initialized by the by the local system for Alternative A for a PSE, or for Mode A for a PD.;

30.xxx aLldpXdot3LocReadyB
ATTRIBUTE
APPROPRIATE SYNTAX:

An ENUMBERATED VALUE that has one of the following entries:
pReadyPSE PSE
pReadyPD PD
BEHAVIOUR DEFINED AS:
A read-only implementation-specific value used to indicate whether the Data Link Layer classification has been initialized by the by the local system for Alternative B for a PSE, or for Mode B for a PD.;

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.2** *P* **219** *L* **1** # 146
Schindler, Fred Seen Simply, Cisco, T

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

Table 145-39 is split over two pages and this needs to be made clear on the second page.

SuggestedRemedy

Modify the second table heading to add "(continued)" at the end of the title.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.4** *P* **236** *L* **28** # 147
Schindler, Fred Seen Simply, Cisco, T

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

Legacy text and new text use the sentence,
"The state diagrams describe the behavior above.",
which is overly broad and can be made more specific by point to the appropriate state diagrams.

SuggestedRemedy

For the referenced text on page 235, Line 28, replace with,
"The state diagrams in Figures 145-41 and Figure 145-43 describe the behavior above."

For the referenced text on page 236, Line 50, replace with,
"The state diagrams in Figures 145-45 and Figure 145-46 describe the behavior above."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6** *P* **79** *L* **50** # 148
Stewart, Heath Analog Devices

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

Awkward and backwards. Implies requirement is on PD when I think it is on PSE.
The sum of the PSE allocated power value Alternative A field and the PSE allocated power value Alternative B field shall be provided in the PSE allocated power value field for a dual-signature PD for Type 3 and Type 4 PSEs.

SuggestedRemedy

Change
for a dual-signature PD for Type 3 and Type 4 PSEs
To
for Type 3 and Type 4 PSEs connected to dual-signature PDs

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6** *P* **79** *L* **51** # 149
Stewart, Heath Analog Devices

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

This appears to create a requirement on existing Type 1 and Type 2 PSEs.

SuggestedRemedy

Delete
The sum of the PSE allocated power value Alternative A field and the PSE allocated power value Alternative B field may be provided in the PSE allocated power value field for a dual-signature PD for Type 1 and Type 2 PSEs.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6b** *P* **81** *L* **21** # 150
Stewart, Heath Analog Devices

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

Typo in shall
A PSE providing power to a Type 1, Type 2, and single-signature Type 3 and Type 4 PD, place 0 in the "PSE allocated power value Alternative A" and "PSE allocated power value Alternative B" fields.

SuggestedRemedy

Change place to places

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6b** *P* **81** *L* **24** # 151

Stewart, Heath Analog Devices

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

Redundant shall. The previous shall covers this already as shown below.
A PSE providing power to a Type 1, Type 2, and single-signature Type 3 and Type 4 PD, place 0 in the “PSE allocated power value Alternative A” and “PSE allocated power value Alternative B” fields.

SuggestedRemedy

Delete
The fields for PSE allocated power value Alternative A and PSE allocated power value Alternative B in Table 79–6b shall be set to value 0, for PSEs supporting single-signature PDs.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.1** *P* **103** *L* **24** # 152

Stewart, Heath Analog Devices

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

The referenced sentences use of "then" does not make sense.

SuggestedRemedy

Replace
Type 1, Type 2, Type 3, and Type 4 PSEs interoperate with Type 1, Type 2, Type 3, and Type 4 PDs, subject to power limitations. See 145.2.7. The PD may then operate in a reduced power mode.
With
Type 1, Type 2, Type 3, and Type 4 PSEs interoperate with Type 1, Type 2, Type 3, and Type 4 PDs, subject to power limitations. See 145.2.7. When power limitations are present, the PD may then operate in a reduced power mode.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.1** *P* **103** *L* **26** # 153

Stewart, Heath Analog Devices

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

Need to add Type 3 and Type 4 for clarity

SuggestedRemedy

Replace
Table 145–2 summarizes the supported parameters of PSEs.
With
Table 145–2 summarizes the supported parameters of Type 3 and Type 4 PSEs.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.1** *P* **171** *L* **25** # 154

Stewart, Heath Analog Devices

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

The notion of construction is odd. We have already created the idea of configuration in the PSE section and can reuse it here.

SuggestedRemedy

Change
PDs can be constructed as single-signature or dual-signature
To
PDs can be of either single-signature construction or dual-signature construction

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.2** *P* **172** *L* **24** # 155

Stewart, Heath Analog Devices

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

The referenced sentences use of "in that case" does not make sense.

SuggestedRemedy

Change
The PD may operate in a reduced power mode in that case.
To
When power limitations are present, the PD may then operate in a reduced power mode.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.10** *P* **202** *L* **33** # 156

Stewart, Heath — Analog Devices

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

"measured at the PD PI" was originally inserted due to repeated attempts to deflate the MPS requirement. This phrase was specifically introduced to ensure that the MPS requirements were _explicitly_ referenced to the PD PI. Obviously the entire standard is enforced at the PD PI, however we strongly feel the standard will be weakened by accepting the removal of the "measured at the PD PI" in these two instances (lines 33, 36).
Example for line 33
For single-signature PDs the MPS shall consist of current draw equal to or above IPort_MPS for a minimum duration of TMPS_PD followed by an optional MPS dropout for no longer than TMPDO_PD.

SuggestedRemedy

Revoke removal of "measured at the PD PI" on lines 33 and 36 just prior to "followed by an optional MPS dropout".

Proposed Response *Response Status* **O**

Cl **33C** *SC* **33C.1.2** *P* **333** *L* **18** # 157

Stewart, Heath — Analog Devices

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

The term "quasi-simultaneous" has been introduced. This is a very odd term and should be abolished. What was meant here?

SuggestedRemedy

Remove quasi and figure out why this label is here…

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1.3** *P* **102** *L* **22** # 158

Stover, David — Analog Devices

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

TODO 2.3: "Update VPSE, VPD, and PI definitions to include 2-pair and 4-pair. Remove 'at the XXX PI' from our draft."

SuggestedRemedy

See stover_01_0417.pdf

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.254** *P* **24** *L* **33** # 159

Stover, David — Analog Devices

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

TODO 2.3: "Fix connection check, definitions, etc. for endspan/midspan conflicts."

SuggestedRemedy

See stover_02_0417.pdf

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **1** *L* **1** # 160

Stover, David — Analog Devices

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

Adopted comment remedy against D2.3 (#27): "Replace "4-pairs" with "4 pairs". Editor to implement rules in comment through entire draft" This rule was not applied to similar matches (e.g., "2-pair", "2-pairs", "4-pairs").

SuggestedRemedy

Replace "4-pair" with "4 pair", "2-pair" with "2 pair", "2-pairs" with "2 pairs".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.6** *P* **125** *L* **43** # 161

Stover, David — Analog Devices

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

"The tlce_- timer…" "to allow abbreviated classtiming duration." Timer name broken across lines; missing a space between words.

SuggestedRemedy

Join "tlce_timer" on a single line. Add a space between "classtiming".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.6** *P* **126** *L* **23** # 162

Stover, David Analog Devices

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

"When a PD requests a higher class than a PSE can support". I believe this is an instance where Class needs proper case.

SuggestedRemedy

"When a PD requests a higher Class than PSE can support." Fix here and on P127, L2 (pse_req_pwr_sec).

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.6** *P* **126** *L* **33** # 163

Stover, David Analog Devices

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

"pse_allocated_pwr_pri: this variable…" Per convention, proper case following semicolon.

SuggestedRemedy

"pse_allocated_pwr_pri: This variable…" Fix here and on P127, L12 (pse_allocated_pwr_sec); P128, L7 (do_update_pse_allocated_pwr); P128, L21 (do_update_pse_allocated_pwr_pri); P128, L32 (do_update_pse_allocated_pwr_sec).

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **133** *L* **34** # 164

Stover, David Analog Devices

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

"pse_allocated_pwr" assignment is split over 2 lines in state MARK_EV_LAST.

SuggestedRemedy

Extend width of state box to fit assignment on a single line.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **135** *L* **42** # 165

Stover, David Analog Devices

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

Change against D2.3 removed clearing of "pd_autoclass" from "IDLE_ACS". Now, Figure 145-14 is broken such that DLL-based Autoclass requests will never be serviced (IDLE_ACS to MEASURE_ACS is gated by "!pd_autoclass").

SuggestedRemedy

Replace transition logic from IDLE_ACS to MEASURE_ACS with "MirroredPDAutoclassRequest".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.2** *P* **173** *L* **26** # 166

Stover, David Analog Devices

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

"pd_req_class A constant indicatingthe PD requested Class." Missing a space.

SuggestedRemedy

"pd_req_class A constant indicating the PD requested Class."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **187** *L* **52** # 167

Stover, David Analog Devices

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

"The PD shall draw no more power…than defined for the requested class in Table…" Proper case.

SuggestedRemedy

"…than defined for the requested Class in Table…"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.6.1** *P* **165** *L* **46** # 168

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: channel resistance

SuggestedRemedy

Proposed text for P802.3bt/D2.5: link section resistance

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.6.1** *P* **166** *L* **2** # 169

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: channel resistance

SuggestedRemedy

Proposed text for P802.3bt/D2.5: link section resistance

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.2.1** *P* **196** *L* **3** # 170

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: "...PD regarding actual channel DC resistance between the PSE PI and the PD PI, the PD may consume greater..."

SuggestedRemedy

Proposed text for P802.3bt/D2.5: "...PD regarding actual link section DC resistance, the PD may consume greater..."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.2.1** *P* **196** *L* **3** # 171

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: "...PD regarding actual channel DC resistance between the PSE PI and the PD PI, the PD may consume greater..."

SuggestedRemedy

Proposed text for P802.3bt/D2.5: "...PD regarding actual link section DC resistance, the PD may consume greater..."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.2.1** *P* **196** *L* **8** # 172

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: "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..."

SuggestedRemedy

Proposed text for P802.3bt/D2.5: "For Class 5 dual-signature PDs, when additional information is available to the PD regarding actual link section DC resistance, the PD may consume..."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.4.1** *P* **198** *L* **4** # 173

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: " ...PD regarding actual channel DC resistance between the PSE PI and the PD PI, in any..."

SuggestedRemedy

Proposed text for P802.3bt/D2.5: "...PD regarding actual link section DC resistance, in any..."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **201** *L* **34** # 174

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: (The current text does not specify the endpoints of the "channel".) "...Table 145–16, the channel resistance, and influence of RPD_min and RPD_max as function of system end-to-end unbalance). Common mode effective resistance..."

SuggestedRemedy

Proposed text for P802.3bt/D2.5: (The solution provided assumes "channel" = link section.) "...Table 145–16, the link section resistance, and influence of RPD_min and RPD_max as function of system end-to-end unbalance). Common mode effective resistance..."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **201** *L* **39** # 175

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: RPD_min, RPD_max ensures that along with any other parts of the system, i.e., channel (cables and connectors) and the PSE,

SuggestedRemedy

Proposed text for P802.3bt/D2.5: RPD_min, RPD_max ensures that along with any other parts of the system, i.e., the link section and the PSE,

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.8** *P* **210** *L* **16** # 176

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: "...100BASE-TX shall enforce channel intra-pair current unbalance (see 145A.1)..."

SuggestedRemedy

Proposed text for P802.3bt/D2.5: "...100BASE-TX shall enforce link section intra-pair current unbalance (see 145A.1)..."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.9** *P* **211** *L* **4** # 177

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: (Text and figure are unnecessary and confusing)

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Delete cl. 145.4.9 and Figure 145-38

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.9** *P* **212** *L* **51** # 178

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: ...cabling channel shall...

SuggestedRemedy

Proposed text for P802.3bt/D2.5: ...cabling "channel" shall...

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.9** *P* **213** *L* **1** # 179

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: The requirements for the two pair Category 5 channel are found in 25.4.9. (Not true, it is the "link segment" which is defined)

SuggestedRemedy

Proposed text for P802.3bt/D2.5: The requirements for the two pair Category 5 link segment for 100BASE-Tx are found in 25.4.9. Specification of 4-pair cabling is beyond the scope of cl. 25.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.A.2** *P* **265** *L* **24** # 180

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Pair-to-pair channel resistance unbalance requirement for 4-pair operation

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Pair-to-pair link section resistance unbalance requirement for 4-pair operation

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.A.2** *P* **265** *L* **27** # 181

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Operation using 4-pair requires the specification of resistance unbalance between each two pairs of the channel, not greater than 100 mΩ or resistance unbalance of 7 % whichever is a greater unbalance. Resistance unbalance between the channel pairs is a measure of the difference of resistance of the common mode pairs of conductors used for power delivery. Channel pair-to-pair resistance unbalance is defined by Equation (145A–2):

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Operation using 4-pair requires the specification of resistance unbalance between each two pairs of the link section, not greater than 100 mΩ or resistance unbalance of 7 % whichever is a greater unbalance. Resistance unbalance between the link section pairs is a measure of the difference of resistance of the common mode pairs of conductors used for power delivery. Link section pair-to-pair resistance unbalance is defined by Equation (145A–2):

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.A.2** *P* **265** *L* **36** # 182

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Channel pair-to-pair resistance difference is defined by Equation (145A–3):

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Link section pair-to-pair resistance difference is defined by Equation (145A–3):

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.A.2** *P* **265** *L* **42** # 183

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: is the sum of channel pair components with the highest common mode resistance

SuggestedRemedy

Proposed text for P802.3bt/D2.5: is the sum of link section pair components with the highest common mode resistance

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.A.2** *P* **265** *L* **44** # 184

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: is the sum of channel pair components with the lowest common mode resistance

SuggestedRemedy

Proposed text for P802.3bt/D2.5: is the sum of link section pair components with the lowest common mode resistance

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.A.2** *P* **265** *L* **47** # 185

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Channel common mode resistance is the resistance of the two conductors (including connectors) in a pair, connected in parallel. (Note that this is precisely INCORRECT according to the definitions in cabling standards.)

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Link section common mode resistance is the resistance of the two conductors (including connectors) in a pair, connected in parallel.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.A.2** *P* **266** *L* **2** # 186

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Channel and Rch

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Change Channel to Link Section and Rch to RLS. Change alignment of both PI s so that conductors stop at the PI not through.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.A.3** *P* **266** *L* **26** # 187

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: ...channel (cables and connectors)... (This is at odds w/ the definition in cabling standards. BTW, the proper term for “cables and connectors” is “cabling”)

SuggestedRemedy

Proposed text for P802.3bt/D2.5: ...link section...

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.A.3** *P* **267** *L* **3** # 188

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Compliant load (PD + Channel)

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Compliant load (Link Section + PD)

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.A.3** *P* **267** *L* **10** # 189

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: This measurement illustration is has problems for the following reasons: 1) The device on the right in a circle is not defined and by the implication of having a different shape is not just a resistance load. 2) There is no PI defined in this diagram. (I gather that there is only one but I am not sure) 3) The right end of the “End to end pair-to-pair resistance” is not defined. Since it is not defined as the PD PI, I assume that it is buried in the PD (which one has to assume is a 3rd party device without test points as indicated in the diagram).

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Just provide a diagram of a test network to be used as a load at the PSE PI and a table of values for the test sequence that needs to be stepped through to perform the test.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5** *P* **161** *L* **48** # 190

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Rchan-2P is the channel DC loop resistance per pairset as defined 145.1.3

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Rchan-2p is the link section DC loop resistance per pairset as defined 145.1.3

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **162** *L* **16** # 191

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: ...along with any other parts of the system, i.e., channel (cables and connectors) and the PD,

SuggestedRemedy

Proposed text for P802.3bt/D2.5: ...along with the other parts of the system, i.e., the cabling and the PD,

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **162** *L* **19** # 192

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: ICon-2P-unb applies for channel common mode pair resistances

SuggestedRemedy

Proposed text for P802.3bt/D2.5: ICon-2P-unb applies for link section common mode pair resistances

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **162** *L* **27** # 193

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: ...under worst case conditions of channel pair to pair unbalance and PD PI pair to pair unbalance.

SuggestedRemedy

Proposed text for P802.3bt/D2.5: ...under worst case conditions of link section pair to pair unbalance and PD PI pair to pair unbalance.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **6** # 194

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Low channel resistance conditions. All resistances within 1% range.

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Low link section resistance conditions. All resistances within 1% range.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **13** # 195

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: High channel resistance conditions. All resistances within 1% range.

SuggestedRemedy

Proposed text for P802.3bt/D2.5: High link section resistance conditions. All resistances within 1% range.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **26** # 196

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: ...common mode channel resistances in the powered pairs of the same polarity from the PSE PI to the PD PI per the model...

SuggestedRemedy

Proposed text for P802.3bt/D2.5: ...common mode link section resistances in the powered pairs of the same polarity per the model... (The current text is actually OK because the span of the channel is specified. I would prefer to use link section here for consistency.)

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **31** # 197

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: ...described in Figure 145–22 and as defined by the pair-to-pair channel resistance unbalance requirement for...

SuggestedRemedy

Proposed text for P802.3bt/D2.5: ...described in Figure 145–22 and as defined by the link section pair-to-pair resistance unbalance requirement for...

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **45** # 198

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: ICon-2P-unb and Equation (145–15) are specified for total channel common mode pair resistance RChan-2P from 0.2 Ω to 12.5 Ω and worst case unbalance contribution by a PD. (I don't understand what "total channel common mode pair resistance" is in this context. What are the measurement end points for this "total channel" and what is the relevance to the specification at hand? We have no control of "total channel common mode pair resistance" other than by the independent specification of each of the 3 elements, PSE, Link Section and PD. Derivations of how we came to the values of each have no place in the specifications of each of the two separate devices.)

SuggestedRemedy

Proposed text for P802.3bt/D2.5: If we are to include these derivations they should be in an informative annex.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **164** *L* **3** # 199

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Channel

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Link Section

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **164** *L* **10** # 200

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: The box on the far right in the figure is undefined. Is it a PD? Is it a PD minus some of its resistance? Is it a PD minus all of its resistence? Is it something else? A test device perhaps. Where is it defined?

SuggestedRemedy

Proposed text for P802.3bt/D2.5: ????

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **164** *L* **17** # 201

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: "End-to-end pair-to-pair resistance" The "ends" as used in this evaluation are not defined, not defined as being accessible and under normal circumstances don't even come from the same vendor. Therefore I don't have a clue how to do this "evaluation"

SuggestedRemedy

Proposed text for P802.3bt/D2.5: ????

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* *L* # 202

Thompson, Geoff GraCaSI S.A.

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

Draft D1.8 is prepared for Task Force Review.

SuggestedRemedy

Ignore this comment, comment text can not be deleted on input sheet.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1.3** *P* **101** *L* **31** # 203

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Channel pairset maximum DC loop resistance (RCh, Ω)

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Link section pairset maximum DC loop resistance (RLS, Ω)

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1.3.2** *P* **102** *L* **42** # 204

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: 145.1.3.2 Channel requirements

SuggestedRemedy

Proposed text for P802.3bt/D2.5: 145.1.3.2 Link section requirements

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1.3.2** *P* **102** *L* **44** # 205

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Within Clause 145 and its annexes, “channel”, as defined in 1.4.134, refers to the electrical path on which the power is transferred, i.e., the link section.

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Within Clause 145 and its annexes, the term link section refers to the point-to-point medium connection between two and only two active Power Interfaces (PIs).

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1.3.2** *P* **102** *L* **47** # 206

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Link sections for all Types shall comply with the resistance unbalance requirements for twisted-pair cabling as specified in ISO/IEC 11801:2002 and ANSI/TIA-568-C.2. Refer to Annex 33A for more information including 4-pair operation channel requirements for pair-to-pair resistance unbalance.

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Link sections for all Types shall comply with the resistance unbalance requirements for twisted-pair cabling as specified in ISO/IEC 11801:2002 and ANSI/TIA-568-C.2. Refer to Annex 33A for more information including the requirements for 4-pair operation pair-to-pair resistance unbalance.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **150** *L* **20** # 207

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: There are 4 uses of the term “channel” in the following lines: 20, 36, 46, 48.

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Replace each instance of “channel” with “link section”.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.1** *P* **154** *L* **3** # 208

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: NOTE—In a properly operating system, the port may or may not discharge to the VMark range due to the combination of channel and PD capacitance and PD current loading.

SuggestedRemedy

Proposed text for P802.3bt/D2.5: NOTE—In a properly operating system, the port may or may not discharge to the VMark range due to the combination of the overall channel and PD capacitance and PD current loading.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.2** *P* **155** *L* **13** # 209

Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: ...allocate enough power to cope with increases in channel resistance due to temperature increase.

SuggestedRemedy

Proposed text for P802.3bt/D2.5: ...allocate enough power to cope with increases in the overall channel resistance due to temperature increase.

Proposed Response *Response Status* **O**

Cl **145** SC **145.2.8.5** P **161** L **22** # 210
Thompson, Geoff GraCaSI S.A.

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

Current text in P802.3bt/D2.4: Rchan is the channel loop resistance as defined 145.1.3

SuggestedRemedy

Proposed text for P802.3bt/D2.5: Rchan is the link section loop resistance as defined 145.1.3

Proposed Response *Response Status* **O**

Cl **00** SC **0** P L # 211
Tremblay, David Hewlett Packard Enter

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

TODO 1-6 Topics:

Figure out how other clauses link to DTE/PoE.
How to address use of DTE in clause 145.

SuggestedRemedy

See tremblay_01_0517

Proposed Response *Response Status* **O**

Cl **30** SC **30.12.2.1.18z4** P **50** L **10** # 212
Tuenge, Jason Pacific Northwest Nati

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

For an accuracy of 2^-n bits, an effective resolution of at least 2^-n is required; however, 2^-n resolution does not ensure accuracy of 2^-n. Significant bits ("SigBits") seems better suited than "Accuracy" in "aLldpXdot3LocMeasVoltageAccuracy." Also, accuracy is typically specified as ± the sum of a percentage (of reading or scale) and a fixed tolerance. It isn't clear how this relates to the "number of accurate bits" (or bits of accuracy).

SuggestedRemedy

Change "aLldpXdot3LocMeasVoltageAccuracy" to "aLldpXdot3LocMeasVoltageSigBits" and change "accurate bits" to "useful significant bits" (see Table 79-7b). Also clarify how accuracy and resolution are calculated from significant bits. This would help to ensure a truly effective resolution is reported, and encourage harmonization of accuracy claims. For example, should 7-bit resolution mean 8% accuracy relative to reading or full scale? Is more information required to express accuracy as ±(X%+Y)?

Proposed Response *Response Status* **O**

Cl **30** SC **30.12.2.1.18z5** P **50** L **20** # 213
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Current as for Voltage above.

SuggestedRemedy

Same change for Current as for Voltage above.

Proposed Response *Response Status* **O**

Cl **30** SC **30.12.2.1.18z6** P **50** L **29** # 214
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Power as for Voltage above.

SuggestedRemedy

Same change for Power as for Voltage above.

Proposed Response *Response Status* **O**

Cl **30** SC **30.12.2.1.18z7** P **50** L **38** # 215
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Energy as for Voltage above.

SuggestedRemedy

Same change for Energy as for Voltage above.

Proposed Response *Response Status* **O**

Cl **30** SC **30.12.2.1.18z8** P **50** L **47** # 216
Tuenge, Jason Pacific Northwest Nati

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

No units are specified for aLldpXdot3LocVoltageMeasurement.

SuggestedRemedy

Add reference to Table 79–7b—Measurements.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18z9** *P* **51** *L* **4** # 217
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Current as for Voltage above.

SuggestedRemedy

Same change for Current as for Voltage above.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18z10** *P* **51** *L* **13** # 218
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Power as for Voltage above. Compare with aLldpXdot3LocPDRequestedPowerValue, aLldpXdot3LocPSEAllocatedPowerValue, etc.

SuggestedRemedy

Same change for Power as for Voltage above.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18z11** *P* **51** *L* **22** # 219
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Energy as for Voltage above.

SuggestedRemedy

Same change for Energy as for Voltage above.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18z4** *P* **61** *L* **1** # 220
Tuenge, Jason Pacific Northwest Nati

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

See related comments regarding Local subclause 30.12.2.1.18z4 above.

SuggestedRemedy

See related changes proposed for Local subclause 30.12.2.1.18z4 above.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18z5** *P* **61** *L* **12** # 221
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Current as for Voltage above.

SuggestedRemedy

Same change for Current as for Voltage above.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18z6** *P* **61** *L* **22** # 222
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Power as for Voltage above.

SuggestedRemedy

Same change for Power as for Voltage above.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18z7** *P* **61** *L* **32** # 223
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Energy as for Voltage above.

SuggestedRemedy

Same change for Energy as for Voltage above.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18z8** *P* **61** *L* **42** # 224
Tuenge, Jason Pacific Northwest Nati

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

No units are specified for aLldpXdot3RemVoltageMeasurement.

SuggestedRemedy

Add reference to Table 79–7b—Measurements.

Proposed Response *Response Status* **O**

Cl **30** SC **30.12.3.1.18z9** P **61** L **51** # 225
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Current as for Voltage above.

SuggestedRemedy

Same change for Current as for Voltage above.

Proposed Response *Response Status* **O**

Cl **30** SC **30.12.3.1.18z10** P **62** L **7** # 226
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Power as for Voltage above.

SuggestedRemedy

Same change for Power as for Voltage above.

Proposed Response *Response Status* **O**

Cl **30** SC **30.12.3.1.18z11** P **62** L **16** # 227
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Energy as for Voltage above.

SuggestedRemedy

Same change for Energy as for Voltage above.

Proposed Response *Response Status* **O**

Cl **Table** SC **Table 79–7b** P **86** L **50** # 228
Tuenge, Jason Pacific Northwest Nati

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

See related comments regarding subclause 30.12.2.1.18z4 above. Also clarify that the integer (rather than each bit) should be 1 to 16.

SuggestedRemedy

Change "Voltage accuracy" to "Voltage resolution." Also change "these bits" to "this integer."

Proposed Response *Response Status* **O**

Cl **Table** SC **Table 79–7b** P **86** L **52** # 229
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Current as for Voltage above.

SuggestedRemedy

Same change for Current as for Voltage above.

Proposed Response *Response Status* **O**

Cl **Table** SC **Table 79–7b** P **87** L **5** # 230
Tuenge, Jason Pacific Northwest Nati

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

Same comment for Power as for Voltage above.

SuggestedRemedy

Same change for Power as for Voltage above.

Proposed Response *Response Status* **O**

Cl **Table** *SC* **Table 79–7b** *P* **87** *L* **8** # 231

Tuenge, Jason Pacific Northwest Nati

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

See related comments regarding subclause 30.12.2.1.18z7 above. Also clarify that the integer (rather than each bit) should be 1 to 32.

SuggestedRemedy

Same change for Energy as for Voltage above.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.2** *P* **172** *L* **16** # 232

Walker, Dylan Cisco

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

"The PD shall be implemented to be insensitive to the polarity of the power supply on either Mode."

This shall shall not contain the word "either" and shall be more specific. More seriously, "either" could be construed as "one or the other", and polarity insensitivity cannot assume any polarity on the other Mode.

SuggestedRemedy

Change:
"The PD shall be implemented to be insensitive to the polarity of the power supply on either Mode."

To:
"The PD shall be implemented to be insensitive to the polarity of the power supply on each mode regardless of the polarity of the power supply on the other mode."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.1.1** *P* **112** *L* **37** # 233

Walker, Dylan Cisco

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

alt_pri can be assigned in TEST_MODE. Also, the shall is relocated within its sentence to strengthen it and for readability. The sentences before and after are also modified to flow better.

(D2.3 TODO - Comment #247)

SuggestedRemedy

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

To:
"In the state diagram, each Alternative serves a distinct role during 4-pair operation. In any implementation, the roles of the Alternatives shall be established in IDLE or TEST_MODE and be maintained in every other state. In the state diagram, the roles of the Alternatives are named Primary Alternative and Secondary Alternative."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.1.1** *P* **112** *L* **41** # 234

Walker, Dylan Cisco

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

Since another comment seeks to remove the explicit ping pong behavior from the SD, a note to provide a hint to the reader that Alternative role reversal is probably a good idea (without going into the gory details) seems appropriate.

(D2.3 TODO - Comment #247)

SuggestedRemedy

Insert:
"NOTE—During 4-pair operation, it may be necessary to swap the roles of Alternative A and Alternative B in IDLE in order to detect a PD."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.4** *P* **114** *L* **20** # 235

Walker, Dylan Cisco

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

Stating that the other Alternative is assigned the Secondary Alternative role is redundant for 4-pair operation and misleading for 2-pair operation, where the only active Alternative is still granted the role of Primary despite a nonexistent Secondary.

(D2.3 TODO - Comment #247)

SuggestedRemedy

Change:
"A variable used to select which Alternative assumes the role of Primary in the state diagram."
"a: Alternative A is assigned Primary, and Alternative B is assigned Secondary."
"b: Alternative B is assigned Primary, and Alternative A is assigned Secondary."

To:
"A variable used to select which Alternative assumes the role of Primary Alternative in the state diagram."
"a: Alternative A is assigned Primary Alternative. When operating over 4 pairs, Alternative B is assigned Secondary Alternative."
"b: Alternative B is assigned Primary Alternative. When operating over 4 pairs, Alternative A is assigned Secondary Alternative."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.4** *P* **119** *L* **4** # 236

Walker, Dylan Cisco

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

Via other comments, alt_pri assignment is clarified/corrected and the ping pong behavior is covered by a note, so explicitly showing alternation is no longer required.

(D2.3 TODO - Comment #247)

SuggestedRemedy

Delete "pingpong_en" variable.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **129** *L* **13** # 237

Walker, Dylan Cisco

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

Via other comments, alt_pri assignment is clarified/corrected and the ping pong behavior is covered by a note, so explicitly showing alternation is no longer required.

(D2.3 TODO - Comment #247)

SuggestedRemedy

In IDLE:

Change:
"IF(pingpong_en) THEN
IF(alt_pri=a) THEN
alt_pri <= b
ELSE
alt_pri <=a
END
END"

To:
"alt_pri <= user defined
END"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **130** *L* **6** # 238

Walker, Dylan Cisco

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

alt_pri should be user defined in TEST_MODE.

(D2.3 TODO - Comment #247)

SuggestedRemedy

In TEST_MODE:

Change:
"alt_pri <= a"

To:
"alt_pri <= user defined"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.6.1** *P* **238** *L* **19** # 239
Walker, Dylan Cisco

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

To be consistent with other references to safety standards in our standard, we should provide the option to conform to IEC 62368-1, but it's jumping the gun to require IEC 62368-1 compliance.

(D2.3 TODO - Comment #332)

SuggestedRemedy

See "Walker_1_0517_rev_4.pdf"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **16** # 240
Walker, Dylan Cisco

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

Need to add the pertinent subclause for IEC 62368-1.

(D2.3 TODO - Comment #332)

SuggestedRemedy

See "Walker_1_0517_rev_4.pdf"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **20** # 241
Walker, Dylan Cisco

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

It's jumping the gun to require IEC 62368-1 compliance. Also, need to add the pertinent subclause for IEC 62368-1.

(D2.3 TODO - Comment #332)

SuggestedRemedy

See "Walker_1_0517_rev_4.pdf"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **22** # 242
Walker, Dylan Cisco

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

It's jumping the gun to require IEC 62368-1 compliance. Also, need to add the pertinent subclause for IEC 62368-1.

(D2.3 TODO - Comment #332)

SuggestedRemedy

See "Walker_1_0517_rev_4.pdf"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **23** # 243
Walker, Dylan Cisco

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

It's jumping the gun to require IEC 62368-1 compliance. Also, need to add the pertinent subclause for IEC 62368-1.

(D2.3 TODO - Comment #332)

SuggestedRemedy

See "Walker_1_0517_rev_4.pdf"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1** *P* **204** *L* **27** # 244
Walker, Dylan Cisco

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

It's jumping the gun to require IEC 62368-1 compliance. Also, need to add the pertinent subclause for IEC 62368-1.

(D2.3 TODO - Comment #332)

SuggestedRemedy

See "Walker_1_0517_rev_4.pdf"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1.1.2** *P* **205** *L* **19** # 245

Walker, Dylan Cisco

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

"Guidance on these requirements may be found in Section 6 of IEC 60950-1 and IEC 62368-1, as well as any local and national codes related to safety."

Sentence can be slightly modified to clarify that the reference to "Section 6" only applies to IEC 60950-1.

(D2.3 TODO - Comment #332)

SuggestedRemedy

See "Walker_1_0517_rev_4.pdf"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.7.3.8** *P* **262** *L* **19** # 246

Walker, Dylan Cisco

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

PICS ES1 needs to be updated to include the option for IEC 62368-1 conformance.

(D2.3 TODO - Comment #332)

SuggestedRemedy

See "Walker_1_0517_rev_4.pdf"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.7.3.8** *P* **262** *L* **38** # 247

Walker, Dylan Cisco

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

PICS PSEES1 needs to be updated to include the option for Power Source Class 2 in accordance with IEC 62368-1.

(D2.3 TODO - Comment #332)

SuggestedRemedy

See "Walker_1_0517_rev_4.pdf"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.6.1** *P* **145** *L* **37** # 248

Walker, Dylan Cisco

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

The possible outcomes of Connection Check need to be clarified since the function can return invalid in a general sense.

(D2.3 TODO - Comments #271, #255, and #308)

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* **O**

Cl **1** *SC* **1.4.254** *P* **24** *L* **33** # 249

Walker, Dylan Cisco

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

A link section connects a single PSE to a single PD in a valid PoE system.

(D2.3 TODO - Comments #271, #255, and #308)

SuggestedRemedy

Change:
"The portion of the link segment from a PSE to the PD."

To:
"The portion of the link segment from the PSE to the PD."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1.3** *P* **101** *L* **21** # 250

Walker, Dylan Cisco

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

"A power system consists of a single PSE, a single PD, and the link section connecting them."

This point needs to be further emphasized.

(D2.3 TODO - Comments #271, #255, and #308)

SuggestedRemedy

Change:
"A power system consists of a single PSE, a single PD, and the link section connecting them."

To:
"A valid power system consists only of a single PSE, a single PD, and the link section connecting them."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.6** *P* **125** *L* **27** # 251

Walker, Dylan Cisco

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

Function "do_cxn_chk" is not alphabetized correctly.

SuggestedRemedy

Please relocate to page 127 before function "do_detect_pri".

Proposed Response *Response Status* **O**

Cl **1** *SC* **1** *P* **24** *L* **3** # 252

Yseboodt, Lennart Philips

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

Editor's Note: The following clause 1.3 is a place holder for new content. If no new references are added prior to entering sponsor ballot, this clause will be deleted from the ballot draft.

SuggestedRemedy

A reference has been added. Remove this Editor's Note.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145** *P* **99** *L* **1** # 253

Yseboodt, Lennart Philips

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

We have 77 occurances of 'class event' and 7 occurances of 'classification event'.

SuggestedRemedy

Replace 'classification event' by 'class event'.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1** *P* **99** *L* **17** # 254

Yseboodt, Lennart Philips

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

"This clause specifies Type 3 and Type 4 devices and their interaction with Type 1 and Type 2 devices."

Could be read as though only the interaction is specified.

SuggestedRemedy

"This clause specifies Type 3 and Type 4 devices as well as their interaction with Type 1 and Type 2 devices."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1.3** *P* **101** *L* **21** # 255

Yseboodt, Lennart Philips

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

"PSEs and PDs may be of a Type defined in Clause 33, Clause 145, or a combination of both."

Could be interpreted to mean a device can be multiple Types, which is not what is meant here.

SuggestedRemedy

"The PSE and PD can be of a Type defined in Clause 33 or Clause 145 in any combination."

(this was tricky to formulate as intended, please check)

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.1** *P* **103** *L* **23** # 256

Yseboodt, Lennart Philips

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

"Type 1, Type 2, Type 3, and Type 4 PSEs interoperate with Type 1, Type 2, Type 3, and Type 4 PDs, subject to power limitations. See 145.2.7. The PD may then operate in a reduced power mode."

SuggestedRemedy

Remove the last two sentences.

Why ? While they are not wrong, they raise questions that at this point in the text are unneeded.
Questions that are then not answered unless we read through 145.2.7.
The main statement is that PSEs and PDs will interoperate. Let's leave the power demotion stuff for the classification section.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.1** *P* **103** *L* **41** # 257

Yseboodt, Lennart Philips

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

Missing space before 'and' in footnote a of Table 145-2.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.3** *P* **108** *L* **1** # 258

Yseboodt, Lennart Philips

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

Figure 145-8 is clipped at the top.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.3** *P* **108** *L* **1** # 259

Yseboodt, Lennart Philips

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

Editor blindly executed comment #272 which produced the following gem in Figures 145-8 and up:
"Non-PSE Powering Equipement".

SuggestedRemedy

Change all occurences to "Non-powering equipment".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145** *P* **112** *L* **1** # 260

Yseboodt, Lennart Philips

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

The following redundant references to Type still exist in Clause 145:
- page 112, subclause 145.2.5.1.1 title "Type 3 and Type 4 specific overview and timing"
- page 122, subclause 145.2.5.5 title "Type 3 and Type 4 timers"
- page 176, subclause 145.3.3.6 title "Type 3 and Type 4 single-signature functions"
- page 271, subclause 145B.1 title "Type 3 and Type 4 CC_DET_SEQ timing diagrams"

SuggestedRemedy

Remove "Type 3 and Type 4".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **129** *L* **31** # 261

Yseboodt, Lennart Philips

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

See: http://www.ieee802.org/3/bt/public/mar17/yseboodt_09_0317_startdetectfix.pdf

This was a late submission in March, which was presented.
We did forget to adopt it, as such it didn`t make into the draft.

SuggestedRemedy

Adopt http://www.ieee802.org/3/bt/public/mar17/yseboodt_09_0317_startdetectfix.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **132** *L* **43** # 262

Yseboodt, Lennart Philips

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

State 'CLASS_EV3' to 'MARK_EV3' transition incorrectly implemented from baseline.
Parens are in the wrong place.

SuggestedRemedy

Change to:
tcle3_timer_done *
(pse_alternative = both) *
(pd_class_sig != 4) *
((pse_avail_pwr >= pd_class_sig + 5) +
(pse_avail_pwr > 5))

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **150** *L* **8** # 263

Wendt, Matthias Philips Lighting

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

original text: "The minimum power output a PSE supports for the PD's assigned Class, when powering a single-signature PD, or supplying power in 2-pair mode, is defined by Equation (145-2)."

Inconsistent with the same sentence for dual-signature below, which doesn`t mention the 'assigned class' tidbit.

SuggestedRemedy

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

Append sentence to the previous paragraph (line 6):
"The minimum power output a PSE supports depends on the assigned Class."

Finally, change the sentence on line 24 to match:
"The minimum output power a PSE supports on a pairset when powering a dual-signature PD is defined by Equation (145?3)."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.1** *P* **158** *L* **51** # 264

Wendt, Matthias Philips Lighting

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

"... shall be met with a load step of (IHold max _ VPort_PSE-
2P min) to the maximum power per the PSEÕs assigned Class É."

Linebreak in VPort_PSE-2P min.

SuggestedRemedy

Add non-breaking hyphen.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **1** # 265

Wendt, Matthias Philips Lighting

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

original text: " Table 145-17 Rload_max and Rload_min requirements"
This table is no longer about Rload (which is now in Equation 145-16 and 17).

SuggestedRemedy

Change title to: "Table 145-17 Unbalance load resistances"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **163** *L* **38** # 266

Wendt, Matthias Philips Lighting

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

original text: "Rload_min = RPair_PD_min + RChunb_min"
in equation 145-16 and 145-17 RPair_PD_min/max is used but Table 145-17 lists RPD_min/max.

SuggestedRemedy

Change to: Rload_min = RPD_min + RChunb_min, and same fix for Eq. 145-17
Also, there is a missing where subclause below the equation. Add it.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **164** *L* **24** # 267

Wendt, Matthias Philips Lighting

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

original text: "a) Use Rload_min and Rload_max from Table 145-17 for low channel resistance conditions."
evaluation note referees in a) to Table 145-17 where as there only the requirements for the calculation are listed.

SuggestedRemedy

Change to: a) Use Rload_min and Rload_max from equations 145-16 and 145-17 for low channel resistance conditions.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.6** *P* **164** *L* **35** # 268

Yseboodt, Lennart Philips

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

"POWER_UP occurs on each pairset between the transition to the POWER_UP state on that pairset and the expiration of T Inrush-2P . PSEs that have assigned Class 5 to 8 to a single-signature PD shall reach the POWER_ON state on both pairsets within T Inrush-2P max, starting with the first pairset transitioning into the POWER_UP state, and where the second pairset transitions to POWER_UP anytime within this time period."

Liberally mixes 'POWER_UP' and 'the POWER_UP state'.
Didn't we decide to use the state name, but not 'state'.

The very first use of POWER_UP (also in the subclause title) is the odd duck as it doesn't point to the actual state.

SuggestedRemedy

"Power up occurs on each pairset between the transition to POWER_UP on that pairset and the expiration of T Inrush-2P . PSEs that have assigned Class 5 to 8 to a single-signature PD shall reach POWER_ON on both pairsets within T Inrush-2P max, starting with the first pairset transitioning into POWER_UP, and where the second pairset transitions to POWER_UP anytime within this time period."

Change subclause title to "Output current during power up".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.1** *P* **171** *L* **32** # 269

Yseboodt, Lennart Philips

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

Table 145-18 uses the header "Single- or dual- signature"

SuggestedRemedy

Replace by "PD signature" which matches subclause title 145.3.5

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.1** *P* **172** *L* **2** # 270

Yseboodt, Lennart Philips

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

"Single-signature PDs that request Class 3 or less implement Multiple-Event Physical Layer Classification and may implement Data Link Layer classification (see 145.5).

Single-signature PDs that request Class 4 or greater implement both Multiple-Event Physical Layer classification (see 145.3.6.1) and Data Link Layer classification (see 145.5). Such Type 3 PDs request Class 4, 5, or 6, while Type 4 PDs request Class 7 or 8.

Dual-signature PDs implement Multiple-Event Physical Layer classification and Data Link Layer Classification (see 145.5). Type 3 dual-signature PDs request Class 1, 2, 3, or 4 on each pairset, while Type 4 dual-signature PDs request Class 5 on at least one pairset."

The origin of all of this text used to be to describe whether PDs supported Single or Multiple event, and whether they support DLL or not.
ALL of this text is redundant to the Table in the same section, with the exception that that PDs support Multiple Event Physical layer. But that is true for all Types described here, and as such doesn`t need stating here.

SuggestedRemedy

Remove quoted text.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.2** *P* **172** *L* **24** # 271

Yseboodt, Lennart Philips

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

"PDs interoperate with Type 1, Type 2, Type 3, and Type 4 PSEs, subject to power limitations. See 145.3.6. The PD may operate in a reduced power mode in that case."

Is typeset in Note style.
Last sentence needs a bit more flesh.

SuggestedRemedy

- Change to regular text.
- Replace last sentence by:
"PDs connected to a PSE that cannot supply the requested amount of power can choose to operate in a reduced power mode."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.4** *P* **175** *L* **39** # 272

Yseboodt, Lennart Philips

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

Redundant empty line after 'present_class_sig_B'

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.7** *P* **179** *L* **35** # 273

Yseboodt, Lennart Philips

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

In state 'POWERED' there is a spelling mistake, dll_enable.

Why does this mistake keep popping up ?
dll_enabled is a control variable, set by the state machine.
But it reads like a status variable.
It actually makes more sense to call it 'dll_enable', this better reflects what it does.

SuggestedRemedy

Global S&R:

pd_dll_enabled => pd_dll_enable
pse_dll_enabled => pse_dll_enable

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.5** *P* **187** *L* **29** # 274

Yseboodt, Lennart Philips

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

"A single-signature PD shall present a valid detection signature, as defined in Table 145-20, on a given Mode when no voltage or current is applied to the other Mode, and shall present an invalid detection signature on that Mode when any voltage between 10.1 V and 57 V is applied to the other Mode. These requirements apply to both Mode A and Mode B."

This requirement (which defines what a single-sig PD is) applies only when voltages above 10.1V are applied to the 'corruptor' pairset.
During connection check however, only voltages BELOW 10.1V may be used to corrupt detection.

The lowest possible corruptor voltage that is guaranteed to create an invalid detection signature is 2.7V + 1V = 3.7V.

If we extend the range down to 3.7V, we make the requirement correct.
The way this is written, it specifies a PD to show a valid detection signature. This says the PD would need to pass detection (not connection check) which can't be fooled by the presence of a single corruptor voltage on the other pairset.

SuggestedRemedy

"A single-signature PD shall present a valid detection signature, as defined in Table 145-20, on a given Mode when no voltage or current is applied to the other Mode, and shall present an invalid detection signature on that Mode when any voltage between 3.7 V and 57 V is applied to the other Mode. These requirements apply to both Mode A and Mode B."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **188** *L* **10** # 275

Yseboodt, Lennart Philips

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

"Single-signature PDs that request Class 4 or higher and dual-signature PDs the request Class 4 or higher on at least one of its Modes shall provide DLL classification."

Type 'the => that'

SuggestedRemedy

"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* **O**

Cl **145** *SC* **145.3.6** *P* **188** *L* **22** # 276

Yseboodt, Lennart Philips

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

Swap the first two rows (header rows) of Table 145-22, same for 145-12.

SuggestedRemedy

Per comment.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1** *P* **189** *L* **9** # 277

Yseboodt, Lennart Philips

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

"DO_CLASS_-EVENT_AUTO"

Spurious '-'.

SuggestedRemedy

"DO_CLASS_EVENT_AUTO"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.2** *P* **191** *L* **39** # 278

Yseboodt, Lennart Philips

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

"A PD implementing Autoclass shall respond to Physical Layer classification as specified in 145.3.6.1 with the exception that the PD shall change its current during the first class event to class signature '0' no earlier than T ACS min and no later than T ACS max, as defined in Table 145-27."

No PD is exempt from 145.3.6.1, so it is redundant to spend a shall to affirm this is also the case for an Autoclass PD.

SuggestedRemedy

Replace by:
"A PD that implements Autoclass shall change its current during the first class event to class signature '0' no earlier than T ACS min and no later than T ACS max, as defined in Table 145-27."

In the next sentence, replace "A PD implementing Autoclass" by "A PD that implements Autoclass".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.1** *P* **195** *L* **31** # 279

Yseboodt, Lennart Philips

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

"The behavior of a PD is undefined if V PD falls below V Off_PD once a PD has reached the POWER_DELAY or POWERED state, until V PD falls below V Reset_PD."

May be a bit too liberal...

SuggestedRemedy

Adopt yseboodt_02_0517_nopower.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.3** *P* **196** *L* **38** # 280

Yseboodt, Lennart Philips

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

"A PSE limits the inrush current to I Inrush and I Inrush-2P , defined in Table 145-16, which is sufficient current to charge C Port or C Port-2P to V Port_PSE-2P when:
-- C Port < 180 mF for single-signature PDs assigned to Class 1 through 6
-- C Port < 360 mF for single-signature PDs assigned to Class 7 or 8
-- C Port < 110 mF for dual-signature PDs assigned to Class 1 through 4
-- C Port < 180 mF for dual-signature PDs assigned to Class 5"

Last two lines need to say CPort-2P.

SuggestedRemedy

Change CPort to CPort-2P for the last two lines in the list.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.4.1** *P* **198** *L* **12** # 281

Yseboodt, Lennart Philips

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

"Operating under 145.3.8.4.1 conditions is allowed if P Peak_PD and P Peak_PD-2P requirements are met and the total input power is less than or equal to P Class or P Class-2P at the PSE PI respectively when calculated over a 1 second interval."

Text self-references and this is the second time we repeat that peak power is included in the total 'budget' for input power.
I tried rewriting this, but always get into a corner where I need to use the word 'must'. Clearly indicates this text needs to be a shall, but we already have that.

Also, 'calculated over a 1 second interval' means the calculation takes 1 second. Not what is meant.

SuggestedRemedy

Remove quoted text.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.6** *P* **199** *L* **24** # 282

Yseboodt, Lennart Philips

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

In the transient section Figure 145-31 has the Y axis labeled as "Power", but then proceeds to show current levels.
Upon reflection, the information in this Figure is provided in the text (minus a missing requirement).

SuggestedRemedy

Adopt yseboodt_01_0517_transients.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.8** *P* **200** *L* **17** # 283

Yseboodt, Lennart Philips

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

"Following a valid detection and a rising voltage transition from V valid to V Class_PD , the PD Physical Layer class signature shall be valid within T Class_PD as specified in Table 145-28 and remain valid for the duration of the classification period."

The 'classification period' is ill defined. And sure enough, this comes straight out of 802.3af, where there was no mark and this statement made sense.

SuggestedRemedy

"Following a valid detection and a rising voltage transition from V valid or VMark_PD to V Class_PD , the PD Physical Layer class signature shall be valid within T Class_PD as specified in Table 145-28 and remain valid for the duration of the class event."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **201** *L* **24** # 284

Yseboodt, Lennart Philips

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

Equation 145-28 and 145-29 do not have a variable list below.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **202** *L* **42** # 285

Yseboodt, Lennart Philips

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

"PDs that detect a long first class event in the range of T LCE_PD may reduce T MPS_PD in order to draw a lower standby MPS power."

Reduce it compared to what? This may be interpreted as reducing it below what it allowed by the table.

SuggestedRemedy

"PDs that detect a long first class event in the range of T LCE_PD may use the shorter T MPS_PD in order to draw a lower standby MPS power."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3** *P* **219** *L* **31** # 286

Yseboodt, Lennart Philips

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

During the splitting of the DLL variable sections, several subclauses became empty.

SuggestedRemedy

Delete:
- 145.5.3.3.1
- 145.5.3.3.3
- 145.5.3.6.1
- 145.5.3.6.3

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.4.5** *P* **227** *L* **18** # 287

Yseboodt, Lennart Philips

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

Drawing goof in Figure 145-44 at the bottom of the REQUEST state.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.7** *P* **240** *L* **4** # 288
Yseboodt, Lennart Philips

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

Remove the Editor's Note warning us not to comment against the PICS.

SuggestedRemedy

Per comment.

Proposed Response *Response Status* **O**

Cl **145A** *SC* **145A** *P* **265** *L* **1** # 289
Yseboodt, Lennart Philips

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

TODO Lennart: introduce Annex that shows an overview of ALL PSEs and PDs.

I can't believe I agreed to do this...

SuggestedRemedy

Adopt yseboodt_03_0517_overviewannex.pdf

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9** *P* **34** *L* **48** # 290
Yseboodt, Lennart Philips

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

"Editor's Note: 30.9 through 30.12 is included for the convenience of the reader and shall be removed prior to sponsor ballot."

The time has probably come...

SuggestedRemedy

Remove unmodified subclauses from Clause 30 and remove this note.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.21** *P* **51** *L* **43** # 291
Yseboodt, Lennart Philips

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

The managed object aLldpXdot3LocReducedOperationPowerValue in 30.12.2.1.21 does not have a corresponding field in the PoE LLDPDU.
It does not appear in Clause 79 of 802.3-2015.
There is also no remote variant of this object.

After consulting with Mr. Law, the correct course of action is to remove this object.

SuggestedRemedy

- Delete the Editor's Note on line 6, page 52
- Delete 30.12.2.1.21
- Delete the object in Table 30-7

Proposed Response *Response Status* **O**

Cl **79** *SC* **79** *P* **73** *L* **4** # 292
Yseboodt, Lennart Philips

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

"Editor's Note: Portions of Clause 79 are included for the convenience of the reader and shall be removed prior to sponsor ballot if they have not been modified."

The time has probably come...

SuggestedRemedy

Remove unmodified subclauses from Clause 79 and remove this note.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2** *P* **75** *L* **48** # 293

Yseboodt, Lennart Philips

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

"Type 1 and Type 2 devices shall not support the Type 3 and Type 4 extension."

This requirement was added last cycle.
It is unclear what the purpose is.
An obvious side-effect is that T1/2 PDs cannot use LLDP to indicate they support 4-pair, which was the whole point of the PD 4PID bit.
It also precludes T1/2 PDs to make use of the new LLDP features (Autoclass, shutdown, ...).

SuggestedRemedy

Remove quoted text.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.5** *P* **79** *L* **16** # 294

Yseboodt, Lennart Philips

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

"The PD requested power value field shall contain the PD's requested power value defined in Table 79-5, for Type 1, Type 2, and single-signature Type 3 and Type 4 PDs. The fields for PD requested power value shall be set to the sum of PD requested power value Mode A and PD requested power value Mode B in Table 79- 6a, for Type 3 and Type 4 dual-signature PDs."

This makes use of this field mandatory for Type 1 PDs, which was not the intention.
We really only need to specify what dual-sigs need to do.

SuggestedRemedy

"The PD requested power value field shall contain the PD's requested power value defined in Table 79-5."
Append after:
"Dual-signature Type 3 and Type 4 PDs shall use the sum of the PD requested power value Mode A and Mode B fields as the value for this field."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.5** *P* **79** *L* **40** # 295

Yseboodt, Lennart Philips

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

D2.4: "PD requested power value" is the maximum input average power (see 33.3.8.2 and 145.3.8.2) the PD may draw.
D2.3: "PD requested power value" is the maximum input average power (see 33.3.8.2 and 145.3.8.2) the PD wants to draw.

This was changed as part of the many changes to dual-sig LLDP and was overlooked during review.
The current version imposes a requirement on the PD power consumption, something that does not belong in Clause 79.
'wants to' gives personality to the PD (<= just for Fred!)

SuggestedRemedy

Replace by:
"PD requested power value" is the maximum input average power (see 33.3.8.2 and 145.3.8.2) the PD intends to draw.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6** *P* **79** *L* **46** # 296

Yseboodt, Lennart Philips

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

"The PSE allocated power value field shall contain the PSE's allocated power value defined in Table 79-6 for PSEs connected to single-signature PDs and Type 1 and Type 2 PDs."

Similar issue as for the PD requested power.

SuggestedRemedy

"The PSE allocated power value field shall contain the PSE's allocated power value defined in Table 79-6."
Append after:
"Type 3 and Type 4 PSEs connected to a dual-signature PD shall use the sum of the PSE allocated power value Alternative A and Alternative B fields as the value for this field."

Delete (line 49-54):
"The sum of the PSE allocated power value Alternative A field and the PSE allocated power value Alternative B field shall be provided in the PSE allocated power value field for a dual-signature PD for Type 3 and Type 4 PSEs. The sum of the PSE allocated power value Alternative A field and the PSE allocated power value Alternative B field may be provided in the PSE allocated power value field for a dual- signature PD for Type 1 and Type 2 PSEs."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6a** *P* **80** *L* **30** # 297

Yseboodt, Lennart Philips

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

"If Mode (X) is non-active while the other mode is active, the inactive PD requested power value Mode (X) field value shall be set to 0."

What is this trying to do ? The PD may wish to ask for power on an unpowered Mode...

SuggestedRemedy

Strike sentence.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6a** *P* **80** *L* **33** # 298

Yseboodt, Lennart Philips

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

"The fields for PD requested power value Mode A and PD requested power value Mode B in Table 79-6a shall be set to value 0, for Type 3 and Type 4 single-signature PDs."

Reword, shorter.

SuggestedRemedy

"Single-signature PDs shall set the PD requested power value Mode A and Mode B fields to 0."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6a** *P* **80** *L* **46** # 299

Yseboodt, Lennart Philips

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

""Dual-signature PD requested power value Mode A" and "Dual-signature PD requested power value Mode B" are the maximum input average power levels (see 145.3.8.2) the PD may draw for the respective pairset."

This semi-requirement does not belong here in Clause 79. Word in similar manner as for single-signature.

SuggestedRemedy

""Dual-signature PD requested power value Mode A" and "Dual-signature PD requested power value Mode B" are the maximum input average power levels (see 145.3.8.2) the PD intends to draw for the respective pairset."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6c.4** *P* **82** *L* **5** # 300

Yseboodt, Lennart Philips

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

There is a stray reserved bit in the Power status field (bit 10).

SuggestedRemedy

Move the PSE power pairs field down by 1 bit to merge the reserved bits.
Also, fix the incorrect bit header for "PSE power pairsx" for Value/Meaning.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6d** *P* **83** *L* **30** # 301

Yseboodt, Lennart Philips

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

There are two stray bits in 79-6d.

SuggestedRemedy

Per convention in 79, reserved bits should be the high bits.
'Push down' all fields such that the two reserved bits are 7:6.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6g** *P* **85** *L* **3** # 302

Yseboodt, Lennart Philips

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

We can add a time delay field to the request power down LLDP field that makes the PSE turn the PD back on after this delay.

SuggestedRemedy

Adopt yseboodt_04_0517_powerdowndelay.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.4** *P* **207** *L* **33** # 303

Zimmerman, George CME Consulting/Aqua

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

Table 145-34 is inconsistent with new table 33-19b and has incorrect bandwidths for 5G and 10GBASE-T.

SuggestedRemedy

Change upper frequency for 5G to 250 MHz and 10G to 500 MHz

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.1.1** *P* **112** *L* **51** # 304

Zimmerman, George CME Consulting/Aqua

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

"Monitoring of MPS is handled by Figure… Monitoring of inrush is handled by…" nothing is handled by a figure. The figures describe state diagrams.

SuggestedRemedy

Change "is handled by" to "is described by the state diagrams in" (for MPS) and "is described by the state diagram in" (for inrush)

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.6.5** *P* **148** *L* **42** # 305

Zimmerman, George CME Consulting/Aqua

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

#ABSOLUTE "NOTE—Detection and rejection criteria for Clause 145 remain unchanged from Clause 33, therefore ensuring interoperability with Clause 33 devices (see also 145.2.6.4)." we cannot guarantee interoperability - we strive for it, and we are doing this for the purpose of interoperability.

SuggestedRemedy

Change ", therefore ensuring" to "for the purpose of"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **150** *L* **19** # 306

Zimmerman, George CME Consulting/Aqua

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

"on the pairset" is incorrect, VPSE is applied "across the pairset" - also on p 150 L34, P160 L19, P161 L6, P161 L21, and P169 L18 (note - this phrase is new text in this context in all places)

SuggestedRemedy

change "on " to "across " in the indicated instances.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **152** *L* **24** # 307

Zimmerman, George CME Consulting/Aqua

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

Parallel text - "A PSE shall return to IDLE if it fails... PD. A PSE shall return to the IDLE state..." return to "IDLE" or to "IDLE state."

SuggestedRemedy

Change "IDLE state" to "IDLE"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.4** *P* **186** *L* **19** # 308

Zimmerman, George CME Consulting/Aqua

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

"PD requesting power…" the "A" ("A PD requesting…") was inadvertently struck out

SuggestedRemedy

Change to read "A PD requesting…"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.7** *P* **210** *L* **7** # 309

Zimmerman, George CME Consulting/Aqua

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

"shall meet the return loss requirements as specified in 14.3.1.3.4 for a 10 Mb/s PHY, in ANSI X3.263:1995 for a 100 Mb/s PHY, and 40.8.3.1 for a 1000 Mb/s PHY." doesn't include references and requirements for higher speed PHYs (2.5G, 5G, 10G).

SuggestedRemedy

Change "and 40.8.3.1 for a 1000 Mb/s PHY." to read, "in 40.8.3.1 for a 1000 Mb/s PHY, 126.8.2.2 for a 2.5 Gb/s or 5 Gb/s PHY, and 55.8.2.1 for a 10 Gb/s PHY."

Proposed Response *Response Status* **O**

Cl **145** *SC* *P* **166** *L* **24** # 310

Lukacs, Miklos Silicon Labs

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

The 8.2ms tick mark on the PSE upperbound template in Figure 145-24 and 145-25 coincides with Tlim_2p_min on the lowerbound template.

SuggestedRemedy

Move awy the 8.2ms and Tlim_2p_min tick marks horizontally.

Proposed Response *Response Status* **O**