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

Abramson, David Texas Instruments

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Abramson, David Texas Instruments

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Abramson, David Texas Instruments

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

Why did "the POWER_ON state" show back up?

SuggestedRemedy

Replace with "POWER_ON"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **139** *L* **51** # 25

Abramson, David Texas Instruments

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

No reason to say "Type 3 and Type 4"

SuggestedRemedy

Remove text.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **139** *L* **49** # 26

Abramson, David Texas Instruments

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

Better wording can be used now.

SuggestedRemedy

Replace "Subsequent to successful detection, PSEs shall perform classification using at least one of the following: Multiple-Event Physical Layer classification; or Multiple-Event Physical Layer classification and Data Link Layer classification."
witih: "Subsequent to successful detection, PSEs shall perform Multiple-Event Physical Layer classification and may perform Data Link Layer classification."

Proposed Response *Response Status* **O**

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

Abramson, David Texas Instruments

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.1** *P* **141** *L* **53** # 28

Abramson, David Texas Instruments

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

No reason for a stand alone sentence anymore, MARK_EV2 can be combined with all other (non-last) mark events.

SuggestedRemedy

Remove sentence and add MARK_EV2 to list of events on line 49.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8** *P* **146** *L* **10** # 29

Abramson, David Texas Instruments

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

PSE Type entry for item 14 is centered in column, should be left aligned.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

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

Abramson, David Texas Instruments

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.11** *P* **157** *L* **25** # 31

Abramson, David Texas Instruments

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

Text: PClass-2P is the class power defined in 145.2.7 and Equation (145–3), or PSE allocated power (as defined in 79.3.2.6) added to the channel power loss for a pairset. This parameter only applies to PSEs operating both pairsets and connected to a dual-signature PD that advertised a different class signature on each pairset.
2nd sentence is not correct. Pclass-2p always applies for DS PDs.

SuggestedRemedy

Remove "that advertised a different class signature on each pairset"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.14** *P* **158** *L* **20** # 32

Abramson, David Texas Instruments

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

Tpon requirement for DS PDs doesn't have a shall.

SuggestedRemedy

change: "When connected to a dual-signature PD, Tpon is applied from the completion of detection to the POWER_ON state for each pairset independently."
to: "When connected to a dual-signature PD, PSEs shall reach the POWER_ON state for a pairset within Tpon after completing detection on the same pairset."

PIC to be added if necessary.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.11** *P* **159** *L* **10** # 33

Abramson, David Texas Instruments

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

MPS requirements no longer depend on Type (Type 3 and 4 have same requirements).

SuggestedRemedy

Remove "a combination of its Type," and the comma after "Type of PD".
Sentence should read: "A PSE, depending on the connected Type of PD and whether it is connected to a single-signature PD or a dual-signature PD, shall use …"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.11** *P* **159** *L* **43** # 34
Abramson, David Texas Instruments

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

"PSE" removed by mistake.

SuggestedRemedy

Insert "PSE" after "A".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.1** *P* **91** *L* **20** # 35
Abramson, David Texas Instruments

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3** *P* **161** *L* **30** # 36
Abramson, David Texas Instruments

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

No need to reference both Type 3 and Type 4.

SuggestedRemedy

Remove "Type 3 and Type 4". Do same for lines 34, 40, and 43.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **177** *L* **4** # 37
Abramson, David Texas Instruments

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **177** *L* **22** # 38
Abramson, David Texas Instruments

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

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

SuggestedRemedy

Remove : ", with the corresponding classification signatures specified in Table 145–24 and Table 145–25"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1** *P* **178** *L* **19** # 39
Abramson, David Texas Instruments

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

class_sig_0 is not defined anywhere

SuggestedRemedy

Replace "present class_sig_0" with "present a class signature of '0'"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **192** *L* **31** # 40

Abramson, David Texas Instruments

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

typo. "For single-singature PD the.."

SuggestedRemedy

"For a single-signature PD the…"

Proposed Response *Response Status* **O**

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

Abramson, David Texas Instruments

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.3** *P* **31** *L* **38** # 42

Anslow, Pete Ciena

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

In "(see 33.2.4 and 145.2.4)"
"33.2.4" should be "33.2.3" and "and 145.2.4" should be underlined
Same issue in 30.9.1.1.4

SuggestedRemedy

Change "33.2.4" to "33.2.3" and underline "and 145.2.4".
Make the same changes in 30.9.1.1.4

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.4** *P* **32** *L* **5** # 43

Anslow, Pete Ciena

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

Space missing in "enabled.If"
"aPSEPowerPairsControlAbility" is shown as being added (underline) but the previous "aSectionSESThreshold" is not shown as being removed.
In the last sentence (on line 12 in strikethrough) "33.5.1.1.5" should be "33.5.1.1.4"

SuggestedRemedy

Change to "enabled .If"
Show "aSectionSESThreshold" in strikethrough font
In the last sentence (on line 12 in strikethrough) change "33.5.1.1.5" to "33.5.1.1.4"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.5** *P* **32** *L* **27** # 44

Anslow, Pete Ciena

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

In "33.2.6 and 145.2.6"
"33.2.6" should be "33.2.5" and "and 145.2.6" should be underlined

SuggestedRemedy

Change "33.2.6" to "33.2.5" and underline "and 145.2.6".

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.5** *P* **32** *L* **30** # 45

Anslow, Pete Ciena

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

"Figure 33-13" should be "Figure 33-9" and it should not be underlined.

SuggestedRemedy

Change "Figure 33-13" to "Figure 33-9" and remove the underline.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.5** *P* **32** *L* **37** # 46

Anslow, Pete Ciena

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

There is already a ";" at the end of the NOTE on line 41, so there is no need to add one on line 37.

SuggestedRemedy

Delete the ";" on line 37

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.6** *P* **33** *L* **4** # 47

Anslow, Pete Ciena

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

"33.2.7.1" should be "33.2.6.1" and it should not be underlined.

SuggestedRemedy

Change "33.2.7.1" to "33.2.6.1" and remove the underline.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.7** *P* **33** *L* **19** # 48

Anslow, Pete Ciena

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

"Figure 33-13" should be "Figure 33-9" and it should not be underlined.
Same issue in 30.9.1.1.8, 30.9.1.1.9, 30.9.1.1.10, and 30.9.1.1.11

SuggestedRemedy

Change "Figure 33-13" to "Figure 33-9" and remove the underline.
Make the same changes in 30.9.1.1.8, 30.9.1.1.9, 30.9.1.1.10, and 30.9.1.1.11

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.8** *P* **38** *L* **1** # 49

Anslow, Pete Ciena

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

In the editing instruction, "through 30.12.2.1.107" should be "through 30.12.2.1.10"

SuggestedRemedy

Change "through 30.12.2.1.107" to "through 30.12.2.1.10"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.8** *P* **38** *L* **14** # 50

Anslow, Pete Ciena

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

"(see 33.2.4" should be "(see 33.2.3"
Same issue in 30.12.2.1.9

SuggestedRemedy

Change "(see 33.2.4" to "(see 33.2.3"
Make the same change in 30.12.2.1.9

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.9** *P* **38** *L* **36** # 51

Anslow, Pete Ciena

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

"." missing at the end of the text before ";"

SuggestedRemedy

Add "." at the end of the text before ";"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.10** *P* **38** *L* **53** # 52

Anslow, Pete Ciena

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

"in 33.2.7" should be "in 33.2.6"

SuggestedRemedy

Change "in 33.2.7" to "in 33.2.6"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18** *P* **40** *L* **19** # 53

Anslow, Pete Ciena

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

The text "For a PSE, it is the power value that the PSE has currently allocated to the remote system." is shown in underline font, but it is already present in the base standard. The text "The PSE allocated power value is the maximum input average power that the PSE wants the PD to ever draw under this allocation if it is accepted." is present in underline font and then again in strikethrough font.

SuggestedRemedy

Remove the underline from "For a PSE, it is the power value that the PSE has currently allocated to the remote system." and the first version of "The PSE allocated power value is the maximum input average power that the PSE wants the PD to ever draw under this allocation if it is accepted." delete the second instance of this sentence in strikethrough font.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18a** *P* **40** *L* **29** # 54

Anslow, Pete Ciena

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

In the editing instruction, "Insert 30.12.2.1.18a through 30.12.2.1.18z after 30.12.3.1.18 as follows:" 30.12.2.1.18z has not been updated to account for the additional subclauses added.
"30.12.3.1.18" should be "30.12.2.1.18"
Also, the subclause numbering does not follow the rules (particularly 1b) in: http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numb

SuggestedRemedy

Change the editing instruction to "Insert 30.12.2.1.18a through 30.12.2.1.18z12 after 30.12.2.1.18 as follows:"
Also, renumber 30.12.2.1.18aa through 30.12.2.1.18al to 30.12.2.1.18z1 through 30.12.2.1.18z12.

Proposed Response *Response Status* **O**

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

Anslow, Pete Ciena

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18g** *P* **41** *L* **54** # 56

Anslow, Pete Ciena

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1.18l** *P* **43** *L* **5** # 57

Anslow, Pete Ciena

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

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 **30** *SC* **30.12.3.1.7** *P* **48** *L* **42** # 58

Anslow, Pete Ciena

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

The editing instruction says "Change 30.12.3.1.7 through 30.12.3.1.10 as follows:" but no changes to 30.12.3.1.7 are shown.

SuggestedRemedy

Either show changes to 30.12.3.1.7 or change the editing instruction to ""Change 30.12.3.1.8 through 30.12.3.1.10 as follows:"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.8** *P* **49** *L* **12** # 59

Anslow, Pete Ciena

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

"see 33.2.4" should be "see 33.2.3"
Same issue in 30.12.3.1.9
on line 14 the cross-reference to 30.9.1.1.4 should be to 30.9.1.1.3.
on line 31 the cross-reference to 30.9.1.1.3 should be to 30.9.1.1.4.

SuggestedRemedy

Change "see 33.2.4" to "see 33.2.3" on lines 12 and 29
on line 14 change the cross-reference from 30.9.1.1.4 to 30.9.1.1.3.
on line 31 change the cross-reference from 30.9.1.1.3 to 30.9.1.1.4.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.10** *P* **49** *L* **53** # 60

Anslow, Pete Ciena

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

"in 33.2.7" should be "in 33.2.6"

SuggestedRemedy

Change "in 33.2.7" to "in 33.2.6"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18a** *P* **51** *L* **14** # 61

Anslow, Pete Ciena

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

In the editing instruction, "Insert 30.12.3.1.18a through 30.12.3.1.18z after 30.12.3.1.18 as follows:" 30.12.3.1.18z has not been updated to account for the additional subclauses added.
Also, the subclause numbering does not follow the rules (particularly 1b) in: http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#numb

SuggestedRemedy

Change the editing instruction to "Insert 30.12.3.1.18a through 30.12.3.1.18z12 after 30.12.3.1.18 as follows:"
Also, renumber 30.12.3.1.18aa through 30.12.3.1.18al to 30.12.3.1.18z1 through 30.12.3.1.18z12.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18g** *P* **52** *L* **46** # 62

Anslow, Pete Ciena

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

"associated with the local system" should be "associated with the remote system"
Same issue in 30.12.3.1.18h

SuggestedRemedy

Change "associated with the local system" to "associated with the remote system"
Make the same change in 30.12.3.1.18h

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.18g** *P* **52** *L* **46** # 63

Anslow, Pete Ciena

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.1** *P* **59** *L* **11** # 64

Anslow, Pete Ciena

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

When referring to a specific clause it is "Clause xx" with a capital C. However, the term "clause" on its own (as in "This clause") has a lower case c.

SuggestedRemedy

Change "Clause" to "clause" in two places in this paragraph.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.1.1.3** *P* **62** *L* **16** # 65

Anslow, Pete Ciena

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

Comment #21 against D2.2 was ACCEPT, but was not implemented correctly.

SuggestedRemedy

After "the hexadecimal value:" in strikethrough font add " 88-CC" in strikethrough font.

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **21** *L* **31** # 66

Anslow, Pete Ciena

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

"Deletions and ions" should be "Deletions and insertions"

SuggestedRemedy

Change "Deletions and ions" to "Deletions and insertions"

Proposed Response *Response Status* **O**

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

Anslow, Pete Ciena

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.5** *P* **28** *L* **1** # 68

Anslow, Pete Ciena

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

The editing instruction "Insert new rows into Table 30-7 in the indicated object classes as follows:" does not say where the new rows should be inserted and does not mention the two new columns that have been added to the table.
The order of rows in the base version of Table 30-7 seems to be the same as the order of the related subclauses.

SuggestedRemedy

Either:
change the editing instruction to define where the new rows are placed relative to the existing rows and to describe the added columns
or:
Show the complete table as modified and show the new rows an columns in underline font.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.5** *P* **28** *L* **26** # 69

Anslow, Pete Ciena

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

"30.12.2" should be a cross-reference

SuggestedRemedy

Make "30.12.2" a cross-reference

Proposed Response *Response Status* **O**

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

Anslow, Pete Ciena

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Anslow, Pete Ciena

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

The table is missing rows for:
aLldpXdot3RemPDRequestedPowerValueModeA
aLldpXdot3RemPDRequestedPowerValueModeB
aLldpXdot3RemPSEAllocatedPowerValueAlternativeA
aLldpXdot3RemPSEAllocatedPowerValueAlternativeB

SuggestedRemedy

Add the rows

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.5** *P* **67** *L* **38** # 72

Anslow, Pete Ciena

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

The underlined "33.3.8.2" should have character tag External applied.

SuggestedRemedy

Apply character tag External.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.3** *P* **82** *L* **2** # 73

Anslow, Pete Ciena

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

There is no editing instruction for the table in 79.5.3

SuggestedRemedy

Add an editing instruction

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.8** *P* **85** *L* **9** # 74

Anslow, Pete Ciena

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

PVT34, PVT35, and PVT36 should have been deleted due to Comment #22 against D2.2 (which created PMT1, PMT2, and PMT3 instead).

SuggestedRemedy

Delete PVT34, PVT35, and PVT36

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1** *P* **87** *L* **15** # 75

Anslow, Pete Ciena

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

When referring to a specific clause it is "Clause xx" with a capital C. However, the term "clause" on its own (as in "This clause") has a lower case c.

SuggestedRemedy

Change "Clause" to "clause"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.3** *P* **196** *L* **12** # 76

Anslow, Pete Ciena

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

Comment #19 against D2.2 resulted in many trailing zeros being removed from the draft. However, some still remain.

SuggestedRemedy

Remove any remaining trailing zeros from the draft. In particular:
Table 145-33, Equation 145-33, Equation 145-35, Equation 145-36, Equation 145-37, Equation 145-38, Equation 145-39

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.9.2.1** *P* **206** *L* **23** # 77

Anslow, Pete Ciena

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

The title of Figure 145-42 is truncated

SuggestedRemedy

Widen the frame containing the Figure 145-42 title so that is not truncated.

Proposed Response *Response Status* **O**

Cl **145B** *SC* **145B** *P* **263** *L* **54** # 78

Anslow, Pete Ciena

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

The copyright_year variable in the file for Annex 145B is set to 201x rather than 2017

SuggestedRemedy

Set the variable to 2017

Proposed Response *Response Status* **O**

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

Anslow, Pete Ciena

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145** *P* **89** *L* **21** # 80

Anslow, Pete Ciena

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

Now that the new PoE variants have been moved to Clause 145, there needs to be some more instances of pointers to Clause 33 for the parts not covered in this Clause.

SuggestedRemedy

Add some more pointers to Clause 33 (as is done in 145.3.2). In particular in 145.1.3 and 145.2.1 to say where PSE types less than 3 are defined.

Proposed Response *Response Status* **O**

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

Beia, Christian STMicroelectronics

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Beia, Christian STMicroelectronics

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Beia, Christian STMicroelectronics

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

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

SuggestedRemedy

See beia_01_0317.pdf for baseline proposal

Proposed Response *Response Status* **O**

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

Beia, Christian STMicroelectronics

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

Typo

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Beia, Christian STMicroelectronics

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

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

SuggestedRemedy

change the name of state MDI_POWER1 to POWER_DELAY

Proposed Response *Response Status* **O**

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

Beia, Christian STMicroelectronics

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

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

SuggestedRemedy

change the name of state MDI_POWER2 to POWERED

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.1** *P* **184** *L* **7** # 87

Bennett, Ken Sifos Technologies, In

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

The following statement is incorrect:

"The behavior of a PD at a voltage outside of VPort_PD-2P is undefined once the PD reaches the POWER_DELAY or POWERED state, until VPD falls below VReset_PD".

Voff_PD, Voverload_PD-2P, and Vtransient_PD-2P are all examples where this is not true.

SuggestedRemedy

Remove (or revise) the sentence.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.2** *P* **184** *L* **11** # 88

Bennett, Ken Sifos Technologies, In

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

The first sentence of this section references PClass_PD and PClass_PD-2P in table 145-28, however that table no longer has them listed.

Pport_PD, Pport_PD-2P were previously used in the table as symbols to describe a PD's input average power, with corresponding maximum limits of PClass_PD, PClass_PD-2P. The elimination of the Pport variables caused PClass_PD and PClass_PD-2P to be removed from table 145-28

SuggestedRemedy

Restore the variables and the input average power sections in Table 145-28.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.4.1** *P* **187** *L* **26** # 89

Bennett, Ken Sifos Technologies, In

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

The change made to this section for draft 2.3 replaced Pport_PD(-2P) Max with PClass_PD(-2P). As a result, the peak power limit for the exception is now the same as (or less than) the peak power limit for normal operation.

Average-power-limit variables for the exception are needed for equations: Ppeak_PD = 1.05 x ____ and Ppeak_PD-2P = 1.05 x ____.

Note: If the peak power limit is instead referenced back to PClass at the PSE PI, it becomes a much more complex calculation, involving cable losses. The simple equations above inherently meet the limits at PSE PI.

SuggestedRemedy

Reinstate Pport_PD max and Pport_PD-2P max variables for this section,

-or-

Introduce new variables which describe the maximum-average-power limit as determined by the PD under the 145.3.8.2.1 exception.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.5** *P* **188** *L* **12** # 90

Bennett, Ken — Sifos Technologies, In

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

References to "Peak Transient Current" have changed to "Input Current Slew Rate" in table 145-28 and in this section.

SuggestedRemedy

Change the title to "Input Current Slew Rate".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.6** *P* **188** *L* **23** # 91

Bennett, Ken — Sifos Technologies, In

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

The sentence starting with "A single-signature PD includes CPort..." leads into a listing of PD types and Cport values that "Intrinsically meet the requirements in this subclause".

This is no longer true, because PDs can be demoted to an assigned class with different TLim and ILim characteristics.

SuggestedRemedy

Delete the text starting at line 23 ("A single signature PD includes...") and ending at line 36, just after the list of PD types and capacitances.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.9** *P* **157** *L* **13** # 92

Bullock, Chris — Cisco Systems

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

In the following sentence, "arecleared" needs to be broken into two words.

TOff starts when VPSE drops 1 V below the steady-state value after the alt_pwrd_pri and alt_pwrd_sec variables arecleared (see Figure 145-V13).

SuggestedRemedy

Replace:
arecleared
with:
are cleared

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **125** *L* **7** # 93

Bullock, Chris — Cisco Systems

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

Exit conditions from CLASS_EV1_LCE_PRI, CLASS_EV2_PRI, and CLASS_EV3_PRI use "pse_avail_pwr" where they should use "pse_avail_pwr_pri"

SuggestedRemedy

For Exit condition from CLASS_EV1_LCE_PRI to MARK_EV1_PRI, replace "pse_avail_pwr" with "pse_avail_pwr_pri"

Also for exit condition from CLASS_EV2_PRI to MARK_EV2_PRI, replace "pse_avail_pwr" with "pse_avail_pwr_pri"

Also for exit condition from CLASS_EV3_PRI to MARK_EV_LAST_PRI, replace "pse_avail_pwr" with "pse_avail_pwr_pri"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **129** *L* **7** # 94

Bullock, Chris — Cisco Systems

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

Exit conditions from CLASS_EV1_LCE_SEC, CLASS_EV2_SEC, and CLASS_EV3_SEC use "pse_avail_pwr" where they should use "pse_avail_pwr_sec"

SuggestedRemedy

For Exit condition from CLASS_EV1_LCE_SEC to MARK_EV1_SEC, replace "pse_avail_pwr" with "pse_avail_pwr_sec"

Also for exit condition from CLASS_EV2_SEC to MARK_EV2_SEC, replace "pse_avail_pwr" with "pse_avail_pwr_sec"

Also for exit condition from CLASS_EV3_SEC to MARK_EV_LAST_SEC, replace "pse_avail_pwr" with "pse_avail_pwr_sec"

Proposed Response *Response Status* **O**

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

Bullock, Chris Cisco Systems

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.1** *P* **160** *L* **26** # 96

Bullock, Chris Cisco Systems

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

Add clarity to the sentence "The PD shall be implemented to be insensitive to the polarity of the power supply" which should be applied to each mode.

SuggestedRemedy

Replace:
The PD shall be implemented to be insensitive to the polarity of the power supply

With:
The PD shall be implemented to be insensitive to the polarity of the power supply on either mode.

Proposed Response *Response Status* **O**

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

Bullock, Chris Cisco Systems

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

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

SuggestedRemedy

Replace:
"Type 3 single-signature PDs"

With:
"Single-signature Type 3 PDs"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **177** *L* **19** # 98

Bullock, Chris Cisco Systems

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

A PD is either single-signature or dual-signature, but never both. as suggested in the following statement:
"PD classification behavior:
— shall conform to the state diagram in Figure 145–26, and Figure 145–29;"

SuggestedRemedy

Replace:
"PD classification behavior:
— shall conform to the state diagram in Figure 145–26, and Figure 145–29;"

With:
"PD classification behavior:
— shall conform to the state diagram in Figure 145–26, or Figure 145–29;"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.7** *P* **169** *L* **3** # 99

Bullock, Chris Cisco Systems

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

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

SuggestedRemedy

Open-ended entry arc into IDLE_ACS state in Figure 145-28:
Replace:
(VPD < VReset) + pd_reset + !mdi_power_required
With:
(VPD < VReset_PD) + pd_reset + !mdi_power_required

Proposed Response *Response Status* **O**

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

Bullock, Chris Cisco Systems

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

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

SuggestedRemedy

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

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

Proposed Response *Response Status* **O**

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

Bullock, Chris Cisco Systems

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

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

SuggestedRemedy

Replace:
pd_current_limit

With:
pd_current_limit_mode(M)

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.4** *P* **174** *L* **44** # 102

Bullock, Chris Cisco Systems

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

A PD is either single-signature or dual-signature. Change "and" to "or" in 3 places in this section.

SuggestedRemedy

On page 174 - line 44, line 48, and line 50 (3 places):
Replace:
Figure 145-26 and Figure 145-29

With:
Figure 145-26 or Figure 145-29

Proposed Response *Response Status* **O**

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

Bullock, Chris Cisco Systems

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

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

should say:

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

SuggestedRemedy

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

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.8** *P* **217** *L* **42** # 104

Bullock, Chris Cisco Systems

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

The "local_system_change" variable should be "local_system_change_mode(M)"

SuggestedRemedy

Replace:
local_system_change

With:
local_system_change_mode(M)

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.9** *P* **219** *L* **3** # 105

Bullock, Chris Cisco Systems

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

The variable "pse_power_review" should be "pse_power_reveiw_mode(M)"

SuggestedRemedy

Replace:
pse_power_review

With:
pse_power_review_mode(M)

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.8** *P* **216** *L* **37** # 106

Bullock, Chris Cisco Systems

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

The Figure numbers for the dual-signature state diagrams are incorrect.

SuggestedRemedy

Replace:
The PSE power control state diagram (Figure 145–43) and PD power control state diagram (Figure 145–44)use "_mode(M)"

With:
The PSE power control state diagram (Figure 145–47) and PD power control state diagram (Figure 145–48)use "_mode(M)"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.9** *P* **219** *L* **8** # 107

Bullock, Chris Cisco Systems

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

The variable "pd_power_review" should be "pd_power_reveiw_mode(M)" for dual signature PDs

This should also be changed in the PD_POWER_REVIEW state of Figure 145-48

SuggestedRemedy

Replace:
pd_power_review

With:
pd_power_review_mode(M)

2 places:
variable definition section and PD_POWER_REVIEW state

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.10** *P* **221** *L* **34** # 108

Bullock, Chris — Cisco Systems

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

The assignment of "PSEAllocatedPowerValueEcho_mode(M) <= TempVar" should use the value TempVar_mode(M).

SuggestedRemedy

In the MIRROR_UPDATE state,
Replace:
PSEAllocatedPowerValueEcho_mode(M) <= TempVar

With:
PSEAllocatedPowerValueEcho_mode(M) <= TempVar_mode(M)

Proposed Response *Response Status* **O**

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

Darshan, Yair — Mirosemi

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

The text for aLldpXdot3LocPowerType definition "A GET attribute that returns a bit string indicating whether the local system is a PSE or a PD and whether it is Type 1 or Type 2. The first bit indicates Type 1 or Type 2. Type 2 will also be
indicated for Type 3 and Type 4. The attribute aLldpXdot3LocPowerTypex, if supported, provides an indication of Type 1 through Type 4. The second bit indicates PSE or PD. A PSE shall set this bit to indicate a PSE. A PD shall set this bit to indicate a PD.;"
-contain explanations for aLldpXdot3LocPowerTypex which is not belong here. It is already defined in aLldpXdot3LocPowerTypex.
-It is not clear if the rest of the text after "The attribute aLldpXdot3LocPowerTypex, if supported, provides an indication of Type 1 through Type 4." relates to aLldpXdot3LocPowerType or to aLldpXdot3LocPowerTypex

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Darshan, Yair — Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Darshan, Yair — Mirosemi

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

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

SuggestedRemedy

See darshan_01_0317.pdf

Proposed Response *Response Status* **O**

Cl **33** *SC* **33** *P* *L* # 112

Darshan, Yair Mirosemi

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

Clause 33, Figure 33-14 in IEEE802.3-2012: the upper and lower bound templates for Type 1 and Type 2 at POWER_ON state. Short circuit conditions can not start below the lower bound template and below ILIM_min up to TLIM. Currently the area between Ipeak to ILIM is marked short circuit. This is incorrect. Short circuit region starts at the lowerbound template. Up to TLIM_min, it starts at ILIM_min and above it. It is legacy error. See IEEE802.3-2012: "33.2.7.7 Output current—at short circuit condition.
A PSE may remove power from the PI if the PI current meets or exceeds the “PSE lowerbound template” in Figure 33–14. Power shall be removed from the PI of a PSE before the PI current exceeds the “PSE upperbound template” in Figure 33–14." This is clear definition for where is the short circuit region.

SuggestedRemedy

This is legacy error. We could file maintenance request or just fix it as follows: Remove the marking "short circuit" and the brown color from the current position.

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

If not resolved, add to TODO list.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **176** *L* **21** # 116

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

Add the following text at page 178 after line 43: "The PD requested Class is consist of two parts code, class_sig_A and class_sig_ as described by Table 145-24 and Table 145-25."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.8** *P* **218** *L* **39** # 117

Darshan, Yair Mirosemi

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

In the text for variable pd_dll_single_or_dual "A variable in the PD power control state diagram, defined in Figure 145-44, that indicates if
the PD is a single-signature PD or a dual-signature PD. Type 3 and Type 4 PD state diagrams do not use this variable.". Remove the text "Type 3 and Type 4 PD state diagrams do not use this variable." since this is not correct. Dual-signature PDs are Type 3 and 4.
In addition, in darshan_03_0317.pdf, it is suggested to delete this variable due to the fact that PD knows if it is single-signature or dual-signature PD so this comment may be OBE by darshan_03_0317.pdf.

SuggestedRemedy

See darshan_03_0317.pdf for proposed remedy.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.10** *P* **220** *L* **8** # 118

Darshan, Yair Mirosemi

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

TDL #268 D2.2.
in the INITIALIZE state the following text is not required anymore per comment #167 D2.2.
Figure 145-48: Remove "pd_dll_power_type<== parameter_type"

SuggestedRemedy

Remove "pd_dll_power_type<== parameter_type"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.10** *P* **202** *L* **9** # 119

Darshan, Yair Mirosemi

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

D2.3 DONE
TDL #269 D2.2.
in the INITIALIZE state the following text is not required anymore per comment #167 D2.2.
Figure 145-47: Remove "pse_dll_power_type <==pse_power_type"

SuggestedRemedy

Remove "pse_dll_power_type <==pse_power_type"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.10** *P* **220** *L* **8** # 120

Darshan, Yair Mirosemi

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

Now that Type 3 and 4 has separate clause, comment #167 from D2.2 doesn't need maintenance request for Type 3 and 4 and parts of it can be implemented in the new clause for Type 3 and 4 systems.

SuggestedRemedy

See darshan_03_0317.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.10** *P* **202** *L* **9** # 121

Darshan, Yair Mirosemi

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

D2.3 DONE
Now that Type 3 and 4 has separate clause, comment #155 from D2.2 doesn't need maintenance request for Type 3 and 4 and parts of it can be implemented in the new clause for Type 3 and 4 systems.

SuggestedRemedy

See darshan_03_0317.pdf

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.17** *P* **50** *L* **52** # 123

Darshan, Yair Mirosemi

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

D2.3 DONE The text "A GET attribute that returns the PD requested power value that was used by the remote system to compute the power value that is has currently allocated to the PD" has typo. The "..that is has.." need to be "..that has.."

SuggestedRemedy

Change to: "A GET attribute that returns the PD requested power value that was used by the remote system to compute the power value that has currently allocated to the PD"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **177** *L* **7** # 124

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 PDMaxPowerValue
variable, as defined in Table 145–22.", missing PDMaxPowerValue_mode(M).

SuggestedRemedy

Change text to: After a successful DLL classification, the assigned Class changes depending on the value of PDMaxPowerValue variable for single signature PD and PDMaxPowerValue_mode(X) variable, as defined in Table 145-22"

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

See proposed remedy in darshan_04_0317.pdf

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

See darshan_03_0317.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.12** *P* **173** *L* **1** # 127
Darshan, Yair Mirosemi

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

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

SuggestedRemedy

See darshan_04_0317.pdf

Proposed Response *Response Status* **O**

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

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

Clause 79 need to be updated.

SuggestedRemedy

See darshan_03_0317.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **151** *L* **33** # 129
Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145A** *SC* **145A.3** *P* **260** *L* **51** # 130
Darshan, Yair Mirosemi

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

We need to verify by simulations that 145A.3 test model is working.

SuggestedRemedy

Add to Ken TODO list.

Proposed Response *Response Status* **O**

Cl **145A** *SC* **145A.5** *P* *L* # 131
Darshan, Yair Mirosemi

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

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

SuggestedRemedy

Implement darshan_01_0317.pdf.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.12** *P* **174** *L* **18** # 132
Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.13** *P* **173** *L* **8** # 133
Darshan, Yair Mirosemi

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

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

SuggestedRemedy

See darshan_04_0317.pdf for additional related changes.

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

See darshan_04_0317.pdf for additional related changes.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.14** *P* **174** *L* **2** # 135

Darshan, Yair Mirosemi

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

In OFFLINE state, remove the arrow and label BEGIN.

SuggestedRemedy

1. Remove BEGIN from the relevant states.
2. If not resolved for this meeting, add to TODO list.

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

See darshan_04_0317.pdf

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.1** *P* **255** *L* **12** # 140

Darshan, Yair Mirosemi

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

33A.1 and 33A.2 was not fully implemented in D2.2.

SuggestedRemedy

Implement darshan_05_0317.pdf. If this section will be moved to clause 33, to file maintenance request.

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

Change option_classprob to option_class_prob

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.418aa** *P* **23** *L* **12** # 142

Darshan, Yair Mirosemi

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

In the text: "Type 3 PD: A PD that requests Class 1 to Class 6 during Physical Layer classification, implements
Multiple-Event classification, and accepts power on both Modes simultaneously. (See IEEE 802.3,
Clause 33)". The clause is 145 and not 33.

SuggestedRemedy

Change from clause 33 to clause 145

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.418ab** *P* **23** *L* **15** # 143

Darshan, Yair Mirosemi

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

In the text: "1.4.418ab Type 3 PSE: A PSE that supports up to Class 6 power levels, supports short MPS, and may support 4-pair power. (See IEEE 802.3, Clause 33).". The clause is 145 and not 33.

SuggestedRemedy

Change from clause 33 to clause 145

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4.418ac** *P* **23** *L* **19** # 144

Darshan, Yair Mirosemi

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

In the text: "Type 4 PD: A PD that requests Class 7 or Class 8 during Physical Layer classification, implements
Multiple-Event classification, is capable of Data Link Layer classification, and accepts power on both
Modes simultaneously. (See IEEE 802.3, Clause 33).". The clause is 145 and not 33.

SuggestedRemedy

Change from clause 33 to clause 145

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

Change from clause 33 to clause 145

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

Editor?

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.4** *P* **105** *L* **17** # 149

Darshan, Yair Mirosemi

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

option_class_probe variable description says "This variable indicates if the PSE should determine the requested Class of the PD when pse_avail_pwr is less than 3." and the point for this feature was in case of available power of class 3 or lower to use the do_class_probe function. It should be "pse_avail_pwr is less than3 or equal to 3"

SuggestedRemedy

Change from "pse_avail_pwr is less than 3. To "pse_avail_pwr is less than 3 or equal to 3."

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

Implement darshan_02_0317.pdf

Proposed Response *Response Status* **O**

Cl **145A** *SC* **145A.3** *P* **260** *L* **53** # 151

Darshan, Yair Mirosemi

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

The verification circuit and procedure need to be validated by simulation or lab tests.

SuggestedRemedy

To add to KEN TODO list.

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.9** *P* **157** *L* **13** # 153

Darshan, Yair Mirosemi

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

Typo in "TOff starts when VPSE drops 1 V below the steady-state value after the alt_pwrd_pri and alt_pwrd_sec variables are cleared (see Figure 145–13)." it is "are cleared".

SuggestedRemedy

See above.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.11** *P* **157** *L* **26** # 154

Darshan, Yair Mirosemi

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

In the text "PClass-2P is the class power defined in 145.2.7 and Equation (145–3), or PSE allocated power (as defined in 79.3.2.6) added to the channel power loss for a pairset. This parameter only applies to PSEs operating both
pairsets and connected to a dual-signature PD that advertised a different class signature on each pairset." is not accurate.
The part "This parameter only applies to PSEs operating both pairsets and connected to a dual-signature PD that advertised a different class signature on each pairset." is confusing:
a) This part is accurate "This parameter only applies to PSEs operating both pairsets and connected to a dual-signature PD"
b) This part "...that advertised a different class signature on each pairset." is incorrect. PClass-2P is applicable for all dual-signature use cases same class or different class per pairset.

SuggestedRemedy

Change from:
"PClass-2P is the class power defined in 145.2.7 and Equation (145–3), or PSE allocated power (as defined in 79.3.2.6) added to the channel power loss for a pairset. This parameter only applies to PSEs operating both pairsets and connected to a dual-signature PD that advertised a different class signature on each pairset."
To:
"PClass-2P is the class power defined in 145.2.7 and Equation (145–3), or PSE allocated power (as defined in 79.3.2.6) added to the channel power loss for a pairset. This parameter only applies to PSEs operating both pairsets and connected to a dual-signature PD."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.11** *P* **159** *L* **42** # 155

Darshan, Yair Mirosemi

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

In the text "A powering a dual-signature PD over both pairsets:" missing "PSE".

SuggestedRemedy

Change to "A PSE powering….."

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8** *P* **182** *L* **10** # 158

Darshan, Yair Mirosemi

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

Table 145-28 item 3 (Voverload-2P): The maximum value=57V is missing for both types 3 and 4.

SuggestedRemedy

Merge the maximum value of Table 145-28 item 3 (Voverload-2P) and set it to 57V.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.6** *P* **188** *L* **49** # 159

Darshan, Yair Mirosemi

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

The text in page 188 lines 49-53 addressing Table 145-29 should be located before Table 145-29

SuggestedRemedy

Move Table 145-29 after lines 49-53 in page 188.

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.2** *P* **184** *L* **11** # 164

Darshan, Yair Mirosemi

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

In the text "PClass_PD and PClass_PD-2P in Table 145–28 are determined per the assigned Class. PClass_PD values for each Class are shown in Table 145–24, PClass_PD-2P values for each Class are shown in Table 145–25." are not in Table 145-28. They are in Table 145–24 and Table 145-25. In addition some information regarding the conditions that PClass_PD and PClass_PD-2P should be met.

SuggestedRemedy

See darshan_12_0317.pdf

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

PSE State machine needs some updates.

SuggestedRemedy

See darshan_11_0317.pdf

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

See darshan_11_0317.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.4** *P* **186** *L* **39** # 167

Darshan, Yair Mirosemi

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

Proposed Remedy for comment #385 D2.2 regarding Irms. If Pclass_PD is met

SuggestedRemedy

See darshan_09_0317.pdf

Proposed Response *Response Status* **O**

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

Darshan, Yair Mirosemi

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

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

SuggestedRemedy

darshan_10_0117.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **177** *L* **32** # 169

Darshan, Yair Mirosemi

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

In Table 145-22 Replace "PDMaxPowerValue_mode(M)" with PDMaxPowerValue_mode(X)" and "Assigned Class for Mode M" with "Assigned Class for Mode X"

SuggestedRemedy

See above.

Proposed Response *Response Status* **O**

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

Jones, Chad Cisco

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Jones, Chad Cisco

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.1** *P* **140** *L* **54** # 172

Jones, Chad Cisco

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

extraneous '_' character hanging around (though I can't select it in the PDF. Surely it's some Frame error)

SuggestedRemedy

delete last character of the page.

Proposed Response *Response Status* **O**

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

Jones, Chad Cisco

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.9** *P* **157** *L* **13** # 174

Jones, Chad Cisco

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

missing a space between 'are' and 'cleared': "alt_pwrd_pri and alt_pwrd_sec variables arecleared (see Figure 145–13)"

SuggestedRemedy

change to: "alt_pwrd_pri and alt_pwrd_sec variables are cleared (see Figure 145–13)"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.11** *P* **159** *L* **42** # 175

Jones, Chad Cisco

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

"A powering a dual-signature PD over both pairsets:" a what? A PSE…

SuggestedRemedy

add PSE: "A PSE powering a dual-signature PD over both pairsets:"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.1** *P* **160** *L* **35** # 176

Jones, Chad Cisco

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

the infamous "The PD shall withstand any voltage from 0 V to 57 V at the PI indefinitely without permanent damage." There is not a range between 0V and 57V where the behavior of the PD is not specified. It makes this shall superfluous as operating indefinitely without damage is implicit.

SuggestedRemedy

DELETE THE SENTENCE

Proposed Response *Response Status* **O**

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

Jones, Chad Cisco

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Jones, Chad Cisco

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

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **177** *L* **14** # 179

Jones, Chad Cisco

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

Extra 'PDs' in the sentence: "Single-signature PDs that request Class 1 to 3 PDs optionally provide Data Link Layer classification".

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1** *P* **178** *L* **26** # 180

Jones, Chad Cisco

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

"The requested Class on a pairset is the maximum amount of power requested by the PD on that pairset." This should be normative. We are missing the shall for this restriction. (the shall on pg 177 ln 4 isn't specific enough to cover this case).

SuggestedRemedy

change to : "The requested Class on a pairset is the maximum amount of power the dual-signature PD shall draw on that pairset."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **190** *L* **46** # 181

Jones, Chad Cisco

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

"RPair_PD_max is given RPair_PD_min, defined in Equation (145–31), the highest allowable common mode effective resistance in the powered pairs of the same polarity." huh?

SuggestedRemedy

I don't know what we are trying to say here. I just know this is wrong as it makes no sense. TFTD and provide the proper verbiage.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **192** *L* **32** # 182

Jones, Chad Cisco

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

2nd and 3rd paragraph under 145.3.9, 'PD' needs to be plural and a comma is missing.

SuggestedRemedy

line 32, change "For single-signature PD" to "For single-signature PDs,"
line 36, change "For a dual-signature PD" to "For dual-signature PDs,"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **192** *L* **40** # 183

Jones, Chad Cisco

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

"A PD connected to a Type 1 or Type 2 PSE, shall in addition show the input impedance with resistive and capacitive components defined in Table 145–32." This looks like a victim of the clause split. Needs fixed to make sense.

SuggestedRemedy

Change to: "A PD connected to a Type 1 or Type 2 PSE shall present input impedance with resistive and capacitive components as defined in Table 145–32."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **192** *L* **45** # 184

Jones, Chad Cisco

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

"In absence of a long first class event the minimum TMPS_PD is higher, and the standby MPS power is also higher." grammatical errors.

SuggestedRemedy

change to: "In the absence of a long first class event, the minimum TMPS_PD is higher and the standby MPS power is also higher."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **122** *L* **14** # 185

Picard, Jean Texas Instruments

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

The exit condition from POWER_UP is incorrectly written.
!tpon_timer_done *tinrush_timer_done * pwr_app_pri *(!alt_pwrd_sec + (tinrush_timer_sec_done * pwr_app_sec))
"tinrush_timer_done" does not exist, it should have been with "_pri" suffix.

SuggestedRemedy

!tpon_timer_done *tinrush_timer_pri_done * pwr_app_pri *(!alt_pwrd_sec + (tinrush_timer_sec_done * pwr_app_sec))

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **122** *L* **31** # 186

Picard, Jean Texas Instruments

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

The following exit condition to SEMI_PWRON_PRI is incorrect:
semi_pwr_en * error_pri* !error_sec
This is a path to operation over PRI-only, the error condition should be based on a "SEC" error condition.

SuggestedRemedy

Replace with:
semi_pwr_en * error_sec* !error_pri

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **122** *L* **34** # 187

Picard, Jean Texas Instruments

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

The following exit condition to SEMI_PWRON_SEC is incorrect:
semi_pwr_en * !error_pri* error_sec
This is a path to operation over SEC-only, the error condition should be based on a "PRI" error condition.

SuggestedRemedy

Replace with:
semi_pwr_en * error_pri* !error_sec

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.2** *P* **59** *L* **11** # 188

Schindler, Fred — Seen Simply, Cisco, T

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

The overview text,
"This Clause specifies Type 1 and Type 2 devices. References to PSEs and PDs without Type qualifier refer to Type 1 and Type 2 devices. See Clause 145 for the specification of Type 3 and Type 4 devices. This Clause does not contain definitions of Type 3 or Type 4 devices."
can be improved. "A" was added before Type and the last sentence was stricken.

SuggestedRemedy

Replace the called out text with,
"This Clause specifies Type 1 and Type 2 devices. References to PSEs and PDs without a Type qualifier refer to Type 1 and Type 2 devices. See Clause 145 for the specification of Type 3 and Type 4 devices."

Proposed Response *Response Status* **O**

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

Schindler, Fred — Seen Simply, Cisco, T

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.2** *P* **65** *L* **3** # 190

Schindler, Fred — Seen Simply, Cisco, T

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

References to RFC 3621 were partial removed when moving from D2.2 to D2.3 by #148. However, some references linger and may be removed.

SuggestedRemedy

Replace "IETF RFC 3621 object reference" in Table 79-3 header with,
"Object reference"

Strike Note 2 text, and the "Note 2 and" reference in Table 79-3 item 1.

Proposed Response *Response Status* **O**

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

Schindler, Fred — Seen Simply, Cisco, T

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Schindler, Fred — Seen Simply, Cisco, T

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

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

SuggestedRemedy

The solution is provided in schindler_01_0317.pdf.

Proposed Response *Response Status* **O**

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

Schindler, Fred Seen Simply, Cisco, T

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

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

SuggestedRemedy

Correct Table numbering and related cross references.

Proposed Response *Response Status* **O**

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

Schindler, Fred Seen Simply, Cisco, T

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Schindler, Fred Seen Simply, Cisco, T

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Schindler, Fred Seen Simply, Cisco, T

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1** *P* **87** *L* **14** # 197

Schindler, Fred Seen Simply, Cisco, T

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

The overview text,
"This Clause specifies Type 3 and Type 4 devices and their interaction with Type 1 and Type 2 devices.
References to PSEs and PDs without Type qualifier refer exclusively to Type 3 and Type 4 devices. See
Clause 33 for the specification of Type 1 and Type 2 devices.

SuggestedRemedy

"This Clause specifies Type 3 and Type 4 devices and their interaction with Type 1 and Type 2 devices.
References to PSEs and PDs without a Type qualifier refer exclusively to Type 3 and Type 4 devices. See
Clause 33 for the specification of Type 1 and Type 2 devices."

Proposed Response *Response Status* **O**

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

Schindler, Fred — Seen Simply, Cisco, T

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

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

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

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

SuggestedRemedy

Replace the called out text with,

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

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

Proposed Response *Response Status* **O**

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

Schindler, Fred — Seen Simply, Cisco, T

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Schindler, Fred — Seen Simply, Cisco, T

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

This comment closes a TODO D2.2 #245. The changes made by this comment broke what was previously accepted and fixed by D2.1 #112 and D2.2 #245 and #247. The existing text,
"If a PSE that is performing detection using Alternative B (see 33.2.4, 145.2.6.6) determines that the impedance at the PI is greater than Ropen as defined in Table 33-12, it may optionally consider the link to be open circuit and omit the tdbo_timer interval."

The text is not consistent with the state diagram which always skips the timer. This compromises the detection process for end-point PSEs by causing midspan PSEs to continue detection when both PSEs interfere with each other's detection steps.

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

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

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

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

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

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

SuggestedRemedy

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

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.1** *P* **140** *L* **54** # 201

Schindler, Fred Seen Simply, Cisco, T

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

At the end of the existing text "… event counts. _" there appears to be a stray underscore.

SuggestedRemedy

Remove the underscore of this is text in the document.

Proposed Response *Response Status* **O**

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

Schindler, Fred Seen Simply, Cisco, T

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

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **151** *L* **16** # 203

Schindler, Fred Seen Simply, Cisco, T

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

Existing text,
“Common mode effective resistance is the resistance of the two wires and their components in a pair of the same polarity connected in parallel.”
Can be improved by using pairset and restructuring the sentence.

SuggestedRemedy

Replace the called out sentence with,
“Common mode resistance is the parallel resistance of all conductors and in-series components for pairs of the same polarity in both pairsets.”

Proposed Response *Response Status* **O**

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

Schindler, Fred Seen Simply, Cisco, T

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Schindler, Fred Seen Simply, Cisco, T

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.9** *P* **171** *L* **31** # 206

Schindler, Fred — Seen Simply, Cisco, T

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

The text,
"The voltage at the PD PI measured between any positive conductor and any negative conductor of
the Mode M pairs…"
can be made consistent with other 4P text by using pairset.

SuggestedRemedy

Replace "pairs" with "pairset" in the called out sentence.

Proposed Response *Response Status* **O**

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

Schindler, Fred — Seen Simply, Cisco, T

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

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

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

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

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

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

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

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

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

SuggestedRemedy

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

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

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

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

which matches the new text used in D2.3 but replaces "PD's" with "PD".

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

which does not appear in D2.3.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.3** *P* **185** *L* **37** # 208
Schindler, Fred Seen Simply, Cisco, T

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

When PDs are tested it is common practice to power them on directly with a bench power supply. This is supported by requirements that PDs accept voltages from 0 to 57V on the PI (145.3.1).

SuggestedRemedy

At the end of the section Input inrush current section add,
"PDs may be powered by bench power supplies for testing purposes when the supply current is limited to ILIM-2P provided in 145.2.8.7."

Alternatively, we could omit this text if Task Force participants feel that no current limits are required. Resolution to this comment may affect how comments related to 145.3.1 are handled.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.6** *P* **188** *L* **20** # 209
Schindler, Fred Seen Simply, Cisco, T

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

This comment closes a TODO related to D2.2 #87 and #96 for Ken and Fred.

System operation is dependent on the assigned class. ILIM exists to provide PSE current to a PD when the PSE voltage increases (see schindler_1_0915). A Type-4 PSEs provide higher power so they can charge the PD bulk capacitor faster (TLIM is 6ms for Type 4 vs 50ms for Type 2). However, if ILIM-2P is lowered when driving a PD with class < 5 then TLIM needs to increase to ensure the capacitance is charged.

SuggestedRemedy

Keep text as is. Do not change 146.3.8.6 to accommodate D2.2 #87 or #96, because changes that reduce the burden on the PSE, such as changing or reducing the current or charging time may result in failures.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **191** *L* # 210
Schindler, Fred Seen Simply, Cisco, T

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

The legacy sentence,
"Common mode resistance is the effective resistance of the two wires and their components in a pair of the same polarity connected in parallel."

can be improved.

SuggestedRemedy

Replace the called out sentence with,
"Common mode resistance is the parallel resistance of all conductors and in-series components for pairs of the same polarity in both pairsets."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.3** *P* **210** *L* **13** # 211

Schindler, Fred Seen Simply, Cisco, T

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

The existing text, "The PSE does not …" is gramatical incorrect. Similarly, "The PSE observes …" should be fixed.

SuggestedRemedy

Replace the first called out text with,
"The PSE did not .." The second called out text with, "The PSE identified ..".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.3** *P* **211** *L* **9** # 212

Schindler, Fred Seen Simply, Cisco, T

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

Existing text,
"… do_cxn_check function …" uses a function name that does not exist. See page 113.

SuggestedRemedy

Replaced the called out text with,
"… do_cxn_chk function ..".
Make the same correction on page 218 for DS.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.6** *P* **215** *L* **10** # 213

Schindler, Fred Seen Simply, Cisco, T

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

PSEs are only able to do a DLL autoclass if pd_autoclass was not done, which is incorrect. DLL autoclassifictaion may occur when every the system is autoclass capable.

SuggestedRemedy

Delete the exit condition term "*!pd_autoclass" from the transition from IDLE to MEASURE.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.3** *P* **257** *L* # 214

Schindler, Fred Seen Simply, Cisco, T

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

Existing text,
"Common mode resistance is the resistance of the two wires in a pair (including connectors), connected in parallel."

Can be improved and currently does not match text in the normative section 145.2.8.5.1 on page 151. I am confused as to whether pairs with the same polarity and in-series components of both pairsets are in parallel or whether only conductors and in-series components of a pair within pairset are in parallel.

The Task Force should discuss why duplicate text is used rather than using a reference to Clause 145 and why these formulas are not placed where they may be needed by the reader of the specification. i.e., moving the formula requires duplicate support text and leads to more problems than leaving the formua within the normative section.

Following this text, on page 258, a Figure is provide, which does not help me understand what common mode pair-to-pair resistance is. The figure does not indicate Alternatives or Modes, which may help readers understand the definition. The figure also reuses the same name for two resistances so it is not clear what the intent is.

SuggestedRemedy

Assign a TDL (not to this commenter) to improve this Annex as required by the Task Force.

This fix may be correct:
Replace the called out text with,

"Common mode resistance is the parallel resistance of all conductors and in-series

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.3** *P* **257** *L* **2** # 215

Schindler, Fred Seen Simply, Cisco, T

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

Annex associated with Clause 145 need to be renumbered.

SuggestedRemedy

Have the Editor renumber Annexes, 33A.3 to 33A.4 to indicate they are related to Clause 145.

Proposed Response *Response Status* **O**

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

Skinner, John — Sifos Technologies, In

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1.3** *P* **90** *L* **19** # 217

Stewart, Heath — Linear Tech Corp

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

Missing the.

SuggestedRemedy

Replace
V_PD is voltage
with
V_PD is the voltage

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.1.3** *P* **90** *L* **22** # 218

Stewart, Heath — Linear Tech Corp

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

Missing the.

SuggestedRemedy

Replace
V_PSE is voltage
with
V_PSE is the voltage

Proposed Response *Response Status* **O**

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

Stewart, Heath — Linear Tech Corp

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

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

SuggestedRemedy

Restore Table 145-2 from Draft 2.2

Proposed Response *Response Status* **O**

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

Stewart, Heath — Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Stewart, Heath — Linear Tech Corp

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

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

SuggestedRemedy

Restore Table 145-4 from Draft 2.2

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.1.1** *P* **100** *L* **52** # 222

Stewart, Heath Linear Tech Corp

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

The use of respectively to compare a list containing two items to a list containing three items is unclear. Split the sentence.

SuggestedRemedy

Replace
Monitoring of MPS and inrush is handled by Figure 145–17, Figure 145–18 and Figure 145–19 respectively.
With
Monitoring of MPS is handled by Figure 145-17 and Figure 145-18. Monitoring of inrush is handled by Figure 145-19.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.6** *P* **113** *L* **35** # 223

Stewart, Heath Linear Tech Corp

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

Per an open TDL and discussion in the room the following attempts to allow a limited and known set of class events to be embodied during do_class_probe and also to provide for a shorted first class event.

SuggestedRemedy

Add a sentence after "This functions discovers the requested Class of the PD by producing a number of classification events."
The classification events produced are limited to CLASS_EV1_LCE to MARK_EV3. The CLASS_EV1_LCE tlce_timer is replaced with tcle2_timer to allow abbreviated class timing duration."

Proposed Response *Response Status* **O**

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

Stewart, Heath Linear Tech Corp

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

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

SuggestedRemedy

Delete "a minimum of".

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

Proposed Response *Response Status* **O**

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

Stewart, Heath Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Stewart, Heath Linear Tech Corp

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

A Figure reference is missing.

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.4** *P* **163** *L* **8** # 227

Stewart, Heath Linear Tech Corp

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

The description of the autoclass indicator is vague.

SuggestedRemedy

Change
dropping its classification current
to
changing its class signature to class signature 0

Proposed Response *Response Status* **O**

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

Stewart, Heath Linear Tech Corp

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

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.4** *P* **175** *L* **27** # 229

Stewart, Heath Linear Tech Corp

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

Since PDs can and do present invalid signatures at given times, the following sentence cannot be true.
"A PD that presents a signature outside of Table 145–20 is non-compliant, while a PD that presents the signature of Table 145–21 is assured to fail detection."

SuggestedRemedy

Change
A PD that presents a signature outside of Table 145–20 is non-compliant, while a PD that presents the signature of Table 145–21 is assured to fail detection.
To
PD requesting power by presenting a detection signature outside of Table 145–20 is non-compliant, while a PD that presents the signature of Table 145–21 is assured to fail detection."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **177** *L* **14** # 230

Stewart, Heath Linear Tech Corp

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

While I appreciate the Editor taking artistic license and improving already perfect text, it is worth addressing the redundant nouns thus created nouns.

SuggestedRemedy

Change
PDs that request Classs 1 to 3 PDs
to
PDs that request Class 1 to 3

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **177** *L* **19** # 231

Stewart, Heath Linear Tech Corp

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

Figure reference lost during edit.

SuggestedRemedy

Add Figure 145-27 to list for first bullet.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1.1** *P* **180** *L* **21** # 232
Stewart, Heath Linear Tech Corp

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

Figure reference lost during edit.

SuggestedRemedy

Add Figure 145-27 to list after Figure 145-26.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **180** *L* **41** # 233
Stewart, Heath Linear Tech Corp

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

An extra space and "and" has been inserted.

SuggestedRemedy

Change
classification as specified in and
to
classification as specified in

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.1** *P* **184** *L* **13** # 234
Stewart, Heath Linear Tech Corp

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

It is difficult to follow the idea of PD requested Class because there are multiple ways of stating the same idea, which makes search strings difficult.

SuggestedRemedy

Change globally all occurrences of "Class reuqested by/of the PD" and "requested Class by/of the PD" to "PD requested Class"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.2.1** *P* **184** *L* **31** # 235
Stewart, Heath Linear Tech Corp

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

The text allows both PSE and PD to reclaim the IR drop in the cable.

SuggestedRemedy

Adopt hstewart_01_0317_Pcon.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.3** *P* **185** *L* **33** # 236
Stewart, Heath Linear Tech Corp

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

Change Class 0 to Class 1 since there is no Class 0 in Clause 145. Twice.

SuggestedRemedy

Change Class 0 to Class 1 on lines 32 and 36.

Proposed Response *Response Status* **O**

Cl **145A** *SC* **145A.1** *P* **259** *L* **23** # 237
Stewart, Heath Linear Tech Corp

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

These used to be two separate paragraphs

SuggestedRemedy

Separate into two paragraphs.

Proposed Response *Response Status* **O**

Cl **145A** *SC* **145A.1** *P* **259** *L* **16** # 238
Stewart, Heath Linear Tech Corp

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

Missing edit from agreed upon Draft 2.2 comments.

SuggestedRemedy

Change "shall be" to "is"

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4** *P* **22** *L* **22** # 239
Stover, David Linear Tech Corp

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

dual-signature PD refers to Clause 33, should refer to clause 145.

SuggestedRemedy

Replace "See IEEE Std 802.3, Clause 33" with "See IEEE Std 802.3, Clause 145"

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4** *P* **22** *L* **27** # 240
Stover, David Linear Tech Corp

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

IEEE 802.3 Power over Ethernet (IEEE 802.3 PoE) refers to Clause 33, should refer to clauses 33 and 145.

SuggestedRemedy

Replace "See IEEE Std 802.3, Clause 33" with "See IEEE Std 802.3, Clause 33 and Clause 145"

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4** *P* **22** *L* **41** # 241
Stover, David Linear Tech Corp

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

single-signature PD refers to Clause 33, should refer to clause 145.

SuggestedRemedy

Replace "See IEEE Std 802.3, Clause 33" with "See IEEE Std 802.3, Clause 145"

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4** *P* **23** *L* **10** # 242
Stover, David Linear Tech Corp

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

Type 3 and 4 PSE, PD refer to Clause 33, should refer to clause 145.

SuggestedRemedy

Replace "See IEEE Std 802.3, Clause 33" with "See IEEE Std 802.3, Clause 145"

Proposed Response *Response Status* **O**

Cl **25** *SC* **25.4.5** *P* **25** *L* **11** # 243
Stover, David Linear Tech Corp

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

Reference for "Type 2 or greater" PSE and PD refers to Clause 33, should refer to clauses 33 and 145.

SuggestedRemedy

Replace "See Clause 33" with "See Clause 33 and Clause 145"

Proposed Response *Response Status* **O**

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

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.1.1** *P* **100** *L* **33** # 246

Stover, David Linear Tech Corp

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

"Detection timing requirements are specified in Table 145-8." False. Detection electrical requirements are specified in Table 145-8. Detection timing requirements (tdet, tdbo) are specified in Table 145-16.

SuggestedRemedy

This paragraph seems to be about timing requirements. Then, replace aforementioned baseline with "Detection and power turn-on timing requirements are specified in Table 145-16." Strike sentence "Power turn-on timing requirements are specified in Table 145-16."

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

Accept stover_02_0117_rev04.pdf, Slide 4.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.2** *P* **101** *L* **27** # 248

Stover, David Linear Tech Corp

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

"Some states in the state diagram…to condition which action are taken within the state." Mixed form, singular/plural.

SuggestedRemedy

Replace fragment with "to condition which actions are taken within the state".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.6** *P* **113** *L* **7** # 249

Stover, David Linear Tech Corp

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

Missing a space between "defined in 145.2.7.2.This function returns…"

SuggestedRemedy

Add a space before "This"

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

TFTD, please.

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **128** *L* **8** # 254

Stover, David Linear Tech Corp

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

"IF (CC_DET != 2)"; the constant is named "CC_DET_SEQ"

SuggestedRemedy

Change "CC_DET" in ENTRY_SEC to "CC_DET_SEQ"

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **138** *L* **36** # 257

Stover, David Linear Tech Corp

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

"V_PSE is the voltage at the PSE PI as defined in 145.1.3." V_PSE may be different on each Mode of a dual-signature PD, contingent upon the PD assigned Class.

SuggestedRemedy

Change "V_PSE is the voltage at the PSE PI as defined in 145.1.3." to "V_PSE is the voltage at the PSE PI for a pairset as defined in 145.1.3."

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **139** *L* **51** # 259

Stover, David Linear Tech Corp

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

"Both pairsets attached to a dual-signature PD shall be classified by Type 3 and Type 4 PSEs that will deliver 4-pair power." I'm not sure if this is an overreaching technical requirement or poor sentence structure. I believe this requirement intends to apply to Type 3 and Type 4 PSEs, rather than anything connecting to either pairset of a dual-signature PD.

SuggestedRemedy

Replace aforementioned baseline with "Type 3 and Type 4 PSEs that will deliver 4-pair power to a dual-signature PD shall perform classification on each pairset."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **140** *L* **27** # 260

Stover, David Linear Tech Corp

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

"A PSE shall return to the IDLE state when it successfully completes detection…but fails to complete classification". Language conflicts with behavior described in PSE State Diagram. Dual-signature state machines return to their respective IDLE_* state.

SuggestedRemedy

"A PSE shall return to IDLE when it successfully completes detection of a single-signature PD, but fails to complete classification of a single-signature PD. A PSE shall return to the IDLE_* state corresponding to the appropriate Alternative when it successfully completes detection on a pairset of a dual-signature PD, but fails to complete classification on that pairset."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.1** *P* **140** *L* **40** # 261

Stover, David Linear Tech Corp

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

"Classification times… T_CLE1…" T_CLE1 no longer exists in Clause 145.

SuggestedRemedy

Strike "T_CLE1".

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.1** *P* **141** *L* **47** # 263

Stover, David Linear Tech Corp

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

As agreed, when using do_class_probe, the timing specification in states CLASS_EV1_LCE, etc, may be reduced from T_LCE to T_CLE2.

SuggestedRemedy

Beneath paragraph "In all CLASS states except CLASS_EV1_AUTO...", add a paragraph: "The timing specification for PSEs in the state DO_CLASS_PROBE may be reduced to T_CLE2 for all classification events."

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Stover, David Linear Tech Corp

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.6.1** *P* **154** *L* **23** # 266

Stover, David Linear Tech Corp

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

"T_Inrush-2p" variable name has improper capitalization.

SuggestedRemedy

Change to "T_Inrush-2P"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **193** *L* **1** # 267

Stover, David Linear Tech Corp

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

Table 145-31 allows a Class 0 to 4 PD with "long_class_event = TRUE" to present 10mA for 7ms, to indicate the PD still requires power. I believe we mean to say, Class 0 to 4 PD may draw a minimum of "10mA for 75ms" or, when long_class_event = TRUE, Class 0 to 4 PD may draw a minimum of "16mA for 7ms to 75ms" or "10mA for greater than 75ms." Otherwise, what is the point of raising Iport_MPS to 16mA for Class 5 to 8 PDs?

SuggestedRemedy

See stover_01_0317.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.6** *P* **215** *L* **40** # 268

Stover, David Linear Tech Corp

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

Autoclass baseline per stover_01_0117 was not completely implemented.

SuggestedRemedy

Figure 145-46, Modify transition logic from "REQUEST" to "IDLE": "tautoclass_timeout.done" becomes "tautoclass_timeout_done"

Proposed Response *Response Status* **O**

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

Thompson, Geoff GraCaSI S.A.

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Thompson, Geoff GraCaSI S.A.

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Thompson, Geoff GraCaSI S.A.

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

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

SuggestedRemedy

Discuss in TF

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.3** *P* **92** *L* **2** # 272

Thompson, Geoff GraCaSI S.A.

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.3** *P* **92** *L* **2** # 273

Thompson, Geoff GraCaSI S.A.

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

Same as above for subsequent figures.

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Tuenge, Jason Pacific Northwest Nati

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **150** *L* **33** # 275

Tuenge, Jason Pacific Northwest Nati

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

To align with subclause 145.1.3, and there should be a comma after "i.e.".

SuggestedRemedy

Change "the system, i.e. channel" to "the power system, i.e., channel".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **191** *L* **36** # 276

Tuenge, Jason Pacific Northwest Nati

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

To align with subclause 145.1.3, and there should be a comma after "i.e.".

SuggestedRemedy

Change "the system, i.e. channel" to "the power system, i.e., channel".

Proposed Response *Response Status* **O**

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

Tuenge, Jason Pacific Northwest Nati

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

To align with first sentence in subclause.

SuggestedRemedy

Change "System" to "Power system".

Proposed Response *Response Status* **O**

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

Tuenge, Jason Pacific Northwest Nati

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

To align with first sentence in subclause.

SuggestedRemedy

Change "System" to "Power system".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **190** *L* **40** # 279

Tuenge, Jason Pacific Northwest Nati

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

For consistency and clarity.

SuggestedRemedy

Change "section" to "subclause".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.2** *P* **161** *L* **12** # 280

Walker, Dylan Cisco

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

Table 145-19, 5th column header. The "g" has fallen off "Short/Lon" and dropped to the next line.

SuggestedRemedy

Reattach the dangling "g".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3** *P* **161** *L* **41** # 281

Walker, Dylan Cisco

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

First paragraph, second sentence has a misspelled word. "show" should be "shown".

SuggestedRemedy

Replace

"Single-signature Type 3 and Type 4 PDs shall provide the behavior of the state diagram show..."

with

"Single-signature Type 3 and Type 4 PDs shall provide the behavior of the state diagram shown..."

Proposed Response *Response Status* **O**

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

Walker, Dylan Cisco

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

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

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

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

SuggestedRemedy

Change

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

to

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.4** *P* **163** *L* **42** # 283

Walker, Dylan Cisco

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

Within the definition of present_mps, we use "PD's PI" when "PI" would suffice.

SuggestedRemedy

Change

"Controls applying the Maintain Power Signature MPS (see 145.3.9) to the PD's PI.
Values:
FALSE: The MPS is not to be applied to the PD's PI.
TRUE: The MPS is to be applied to the PD's PI."

to

"Controls applying the Maintain Power Signature MPS (see 145.3.9) to the PI.
Values:
FALSE: The MPS is not to be applied to the PI.
TRUE: The MPS is to be applied to the PI."

Proposed Response *Response Status* **O**

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

Walker, Dylan Cisco

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

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

SuggestedRemedy

Change

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

to

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

Proposed Response *Response Status* **O**

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

Walker, Dylan Cisco

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

Unnecessary comma.

SuggestedRemedy

Change

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

to

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **176** *L* **43** # 286

Walker, Dylan Cisco

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

Sentence has an unneeded "the" prior to "Physical Layer classification..."

SuggestedRemedy

Change

"A PD may be classified by the PSE based on the Physical Layer classification, Data Link Layer (DLL) classification, or a combination of both provided by the PD."

to

"A PD may be classified by the PSE based on Physical Layer classification, Data Link Layer (DLL) classification, or a combination of both provided by the PD."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **177** *L* **14** # 287

Walker, Dylan Cisco

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

First sentence has an extra "PD".

SuggestedRemedy

Change

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

to

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1** *P* **178** *L* **16** # 288

Walker, Dylan Cisco

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

The wording in this sentence feels inconsistent since every PD in this clause must support MEPLC.

Also, we can add a serial comma and remove superfluous white space in the process of improvement.

SuggestedRemedy

Change

"PDs implementing Multiple-Event Physical Layer classification shall present class_sig_A during DO_CLASS_EVENT1 and DO_CLASS_EVENT2 and class_sig_B during DO_CLASS_EVENT3, DO_CLASS_EVENT4, DO_CLASS_EVENT5 and DO_CLASS_EVENT6, as defined in Table 145–24 and Table 145–25."

to

"During Multiple-Event Physical Layer classification, a PD shall present class_sig_A during DO_CLASS_EVENT1 and DO_CLASS_EVENT2 and class_sig_B during DO_CLASS_EVENT3, DO_CLASS_EVENT4, DO_CLASS_EVENT5, and DO_CLASS_EVENT6, as defined in Table 145–24 and Table 145–25."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1** *P* **178** *L* **34** # 289

Walker, Dylan Cisco

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

In the last sentence, "PDs" should be possessive.

SuggestedRemedy

Change

"Based on the value of pse_power_level and the PDs requested Class, pd_req_class, the assigned Class is derived in the variable pse_assigned_class."

to

"Based on the value of pse_power_level and the PD's requested Class, pd_req_class, the assigned Class is derived in the variable pse_assigned_class."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1** *P* **180** *L* **13** # 290

Walker, Dylan Cisco

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

Table 145-26, "Additional information" column, "V Reset_PD" is not mentioned in 145.3.6.1.1. Instead, it's described in 145.3.8.1.

SuggestedRemedy

Change

"See 145.3.6.1.1"

to

"See 145.3.8.1"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1.1** *P* **180** *L* **20** # 291

Walker, Dylan Cisco

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

First sentence needs a comma for readability.

SuggestedRemedy

Change

"When the PD is presenting a mark event signature in a DO_MARK_EVENT state as shown in the state diagram of Figure 145–26 and Figure 145–29 the PD shall draw I Mark as defined in Table 145–26 and present a non-valid detection signature as defined in Table 145–21."

to

"When the PD is presenting a mark event signature in a DO_MARK_EVENT state as shown in the state diagram of Figure 145–26 and Figure 145–29, the PD shall draw I Mark as defined in Table 145–26 and present a non-valid detection signature as defined in Table 145–21."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1.1** *P* **180** *L* **27** # 292

Walker, Dylan Cisco

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

Since all PDs in Clause 145 must implement MEPLC, this sentence can be optimized.

SuggestedRemedy

Change

"V Mark_th is the PI voltage threshold at which the PD implementing Multiple-Event class signature transitions into, and one of the voltage thresholds to transition out of, the DO_CLASS_EVENT states as shown in Figure 145–26 and Figure 145–29."

to

"V Mark_th is the PI voltage threshold at which the PD transitions into, and one of the voltage thresholds to transition out of, the DO_CLASS_EVENT states as shown in Figure 145–26 and Figure 145–29."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1.1** *P* **180** *L* **31** # 293

Walker, Dylan Cisco

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

All PDs in Clause 145 must implement MEPLC.

SuggestedRemedy

Change

"V Reset_th is the PI voltage threshold at which the PD implementing Multiple-Event class signature transitions from a DO_MARK_EVENT state to the IDLE state as shown in Figure 145–26 and Figure 145–29."

to

"V Reset_th is the PI voltage threshold at which the PD transitions from a DO_MARK_EVENT state to the IDLE state as shown in Figure 145–26 and Figure 145–29."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.2** *P* **180** *L* **41** # 294

Walker, Dylan Cisco

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

Sentence has an out of place "and".

SuggestedRemedy

Change

"A PD implementing Autoclass shall respond to Physical Layer classification as specified in and 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."

to

"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."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.2** *P* **181** *L* **1** # 295

Walker, Dylan Cisco

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

End of the sentence has a space before the period.

SuggestedRemedy

Change

"...V PD falls below V Reset_th, unless the PD successfully negotiates a higher power level, up to the requested Physical Layer classification, through Data Link Layer classification as defined in 145.5 . ."

to

"...V PD falls below V Reset_th, unless the PD successfully negotiates a higher power level, up to the requested Physical Layer classification, through Data Link Layer classification as defined in 145.5."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.2** *P* **184** *L* **17** # 296

Walker, Dylan Cisco

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

Add a serial comma. You're welcome, Dave!

SuggestedRemedy

Change

"The maximum average power, P Class_PD or P Class_PD-2P in Table 145–24, Table 145–25 and Table 145–28 or PDMaxPowerValue in 145.5.3.3, is calculated over a 1 second interval."

to

"The maximum average power, P Class_PD or P Class_PD-2P in Table 145–24, Table 145–25, and Table 145–28 or PDMaxPowerValue in 145.5.3.3, is calculated over a 1 second interval."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.3** *P* **185** *L* **15** # 297

Walker, Dylan Cisco

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

Last sentence has a couple of commas that need to go.

SuggestedRemedy

Change

"A PD can meet this requirement by either having C Port or C Port-2P charged within T Inrush_PD max, or, by limiting the input inrush current."

to

"A PD can meet this requirement by either having C Port or C Port-2P charged within T Inrush_PD max or by limiting the input inrush current."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.3** *P* **185** *L* **21** # 298

Walker, Dylan Cisco

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

"voltages" should be singular in the note.

SuggestedRemedy

Change

"NOTE— PDs may be subjected to PSE POWER_ON current limits during inrush when the PD input voltages reaches 99% of steady state or after T Inrush_PD max."

to

"NOTE— PDs may be subjected to PSE POWER_ON current limits during inrush when the PD input voltage reaches 99% of steady state or after T Inrush_PD max."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.7** *P* **190** *L* **12** # 299

Walker, Dylan Cisco

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

This sentence doesn't read well. Taking a stab at an improvement that would also stay in sync with the 2 existing PICS entries.

SuggestedRemedy

Rephrase

"The PD shall meet V Noise_PD , the specification for ripple and noise in Table 145–28, the common-mode and/or differential pair-to-pair noise at the PD PI generated by the PD circuitry, for all operating voltages in the range of V Port_PD-2P, and over the range of input power of the device."

as

"V Noise_PD, the specification for ripple and noise in Table 145-28, shall apply to the common-mode and/or differential pair-to-pair noise at the PD PI generated by the PD circuitry. V Noise_PD shall apply for all operating voltages in the range of V Port_PD-2P, and over the range of input power of the device."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **190** *L* **41** # 300

Walker, Dylan Cisco

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

There is a comma that needs removing.

SuggestedRemedy

Change

"The contribution of PD PI pair-to-pair effective resistance unbalance to the effective system end to end resistance unbalance, is determined..."

to

"The contribution of PD PI pair-to-pair effective resistance unbalance to the effective system end to end resistance unbalance is determined..."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **192** *L* **32** # 301

Walker, Dylan Cisco

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

Sentence needs an "a". Also, "PD PI" is redundant.

SuggestedRemedy

Change

"For single-signature PD the MPS shall consist of current draw equal to or above I Port_MPS for a minimum duration of T MPS_PD measured at the PD PI followed by an optional MPS dropout for no longer than T MPDO_PD."

to

"For a single-signature PD the MPS shall consist of current draw equal to or above I Port_MPS for a minimum duration of T MPS_PD measured at the PI followed by an optional MPS dropout for no longer than T MPDO_PD."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **192** *L* **36** # 302

Walker, Dylan Cisco

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

"PD PI" is redundant.

SuggestedRemedy

Change

"For a dual-signature PD the MPS shall consist of current draw equal to or above I Port_MPS-2P on each powered pairset independently for a minimum duration of T MPS_PD measured at the PD PI followed by an optional MPS dropout for no longer than T MPDO_PD."

to

"For a dual-signature PD the MPS shall consist of current draw equal to or above I Port_MPS-2P on each powered pairset independently for a minimum duration of T MPS_PD measured at the PI followed by an optional MPS dropout for no longer than T MPDO_PD."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **192** *L* **39** # 303

Walker, Dylan Cisco

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

First sentence is redundant since the equivalent statement is made in the first paragraph of this subclause.

SuggestedRemedy

Delete

"The values of I port_MPS , I Port_MPS-2P , T MPS_PD , and T MPDO_PD are shown in Table 145–31."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **192** *L* **44** # 304

Walker, Dylan Cisco

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

"...as defined in Table 145-26..." is redundant because the same reference is made in the first paragraph, last sentence of this subclause.

SuggestedRemedy

Change

"PDs that detect a long first class event in the range of T LCE_PD , as defined in Table 145–26, may reduce T MPS_PD in order to draw a lower standby MPS power."

to

"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."

Proposed Response *Response Status* **O**

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

Walker, Dylan Cisco

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **177** *L* **19** # 306

Walker, Dylan Cisco

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

First bullet item has an unnecessary comma.

Also, the "and" should be an "or".

SuggestedRemedy

Change

"shall conform to the state diagram in Figure 145–26, and Figure 145–29;"

to

"shall conform to the state diagram in Figure 145–26 or Figure 145–29;"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1** *P* **178** *L* **40** # 307

Walker, Dylan Cisco

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

Last sentence should refer to "pse_assigned_class(M)" rather than "pd_max_power_mode(M)".

Also, "PDs" should be possessive in this case.

SuggestedRemedy

Change

"Based on the value of pse_power_level_mode(M) and the PDs requested Class, pd_req_class_mode(M), the assigned Class is derived in the variable pd_max_power_mode(M)."

to

"Based on the value of pse_power_level_mode(M) and the PD's requested Class, pd_req_class_mode(M), the assigned Class is derived in the variable pd_max_power_mode(M)."

Proposed Response *Response Status* **O**

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

Walker, Dylan Cisco

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

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

Credit to Mr. Stover for identifying this issue.

SuggestedRemedy

Change

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

to

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

Adopt yseboodt_02_0315_ipeak2punb.pdf

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4** *P* **22** *L* **22** # 310

Wendt, Matthias Philips Lighting

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

original text: "(See IEEE 802.3, Clause 33)."
Clause 33 is referred to and should be 145 for many of these definitions.

SuggestedRemedy

Update as appropriate:
- 1.4.186a
- 1.4.236a (reference both)
- 1.4.381aa
- 1.4.418aa, ab, ac, and ad

Proposed Response *Response Status* **O**

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

Wendt, Matthias Philips Lighting

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

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

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

SuggestedRemedy

Remove the "remove" editing instruction.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8** *P* **183** *L* **30** # 312

Yseboodt, Lennart Philips

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

Table 145-28, Item 13 Ripple and Noise, additional information: "See 145.3.8.7. Balanced source impedance: R_Ch".

Means... what ? 145.3.8.7 does not mention anything about balanced source impedances.

SuggestedRemedy

Strike: "Balanced source impedance: R_Ch."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.2.1** *P* **184** *L* **37** # 313

Yseboodt, Lennart Philips

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

"For Class 5 dual-signature PDs, when additional information is available to the PD regarding actual channel DC resistance between the PSE PI and the PD PI, the PD may consume greater than P Class_PD-2P but shall not consume greater than P Class-2P at the PSE PI and shall not draw current in excess of I Cable as defined in Table 145-1."

PClass-2P applies to a pairset, not the complete PSE PI.

SuggestedRemedy

"... but shall not consume greater than P Class-2P on the pairset at the PSE PI and ..."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.3** *P* **185** *L* **32** # 314

Yseboodt, Lennart Philips

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

"Input inrush currents at startup, I Inrush_PD and I Inrush_PD-2P , as defined in Table 145-28, are limited by the PSE if C Port < 180 mF for single-signature PDs assigned to Class 0 to 6, and if C Port < 360 mF for PDs assigned to Class 7 or 8."

Inrush current is limited regardless of the value of CPort. The value of CPort determines if the PD can expect to get successfully inrushed by the PSE if the PD does not implement its own current control. Also those currents arent limited to IInrush_PD, but to IInrush. Also PSEs don`t assign to Class 0.

SuggestedRemedy

Insert the following at line 9:

"A PSE limits the inrush current to IInrush and Iinrush-2P, defined in Table 145-16, which is sufficient current to charge CPort or CPort-2P to VPort_PSE-2P when:
- CPort < 180uF for single-signature PDs assigned to Class 1 through 6
- CPort < 360uF for single-signature PDs assigned to Class 7 or 8
- CPort-2P < 110uF for dual-signature PDs assigned to Class 1 through 4
- CPort-2P < 180uF for dual-signature PDs assigned to Class 5"

Delete lines 31-37 (the quoted text + its dual-sig variant).
Delete "The inrush current is limited by the PSE" on line 8.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.4.1** *P* **187** *L* **22** # 315

Yseboodt, Lennart Philips

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

The peak operating power exceptions section needs some fixing.

SuggestedRemedy

Adopt yseboodt_05_0315_peakpowerfix.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.6** *P* **188** *L* **40** # 316

Yseboodt, Lennart Philips

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

Table 145-29 has a redundant Type column.

SuggestedRemedy

Remove it.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.6** *P* **190** *L* **1** # 317

Yseboodt, Lennart Philips

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

At the end of the transient section there is a remnant from 802.3at, which seems an incredibly complex way to describe I_LIM-2P min + 5mA.

SuggestedRemedy

- Delete page 190, line 1 through 10
- Change in Figure 145-33, in TR1, "MDI I_LIM-2P" by I_LIM-2P + 5mA
- update where clause for Figure 145-33 to reflect changes

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.7** *P* **190** *L* **15** # 318

Yseboodt, Lennart Philips

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

"The PD shall meet V Noise_PD , the specification for ripple and noise in Table 145-28, the common-mode and/or differential pair-to-pair noise at the PD PI generated by the PD circuitry, for all operating voltages in the range of V Port_PD-2P , and over the range of input power of the device."

- Sentence stumbles all over itself.
- "over the range of input power" is a redundant qualifier of this requirement

SuggestedRemedy

Replace by:
"The PD shall meet V Noise_PD, the common-mode and/or differential pair-to-pair noise at the PD PI generated by the PD circuitry, as defined in Table 145-28, for all operating voltages in the range of V Port_PD-2P".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.7** *P* **190** *L* **22** # 319

Yseboodt, Lennart Philips

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

"The system designer is advised to assume the worst-case condition in which both PSE and PD generate ..."

SuggestedRemedy

Redundant words removed:
"Assume the worst-case condition in which both PSE and PD generate..."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **190** *L* **38** # 320

Yseboodt, Lennart Philips

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

There are currently no peak unbalance requirements for the PD.

SuggestedRemedy

Adopt yseboodt_08_0315_peakunbalance.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **191** *L* **20** # 321

Yseboodt, Lennart Philips

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

"Under all operating states, dual-signature PDs shall not exceed I Con-2P as defined in Equation (145-8) for longer than T CUT-2P min as defined in Table 145-16 on any pair when PD PI pairs of the same polarity are connected to all possible common source voltage in the range of V Port_PSE-2P through two common mode resistances, R source_min and R source_max, as defined in Equation (145-32) and shown in Figure 145-34."

This is a troublesome statement for a few reasons:
- dual-sig PDs are already required not to exceed PClass_PD-2P (which equates to Icon-2P) under any circumstance
- Icon-2P is a PSE parameter, unknowable to the PD
- what this really tries to do is qualify that PClass_PD-2P shall to only apply to PDs connected to a channel with acceptable unbalance.

SuggestedRemedy

Since the object of this shall (not to exceed ICon-2P) is already met, only the qualifying condition has any value in this statement.
Option 1 is the simplest. If we really want to specify unbalance requirements for single-load dual-signature PDs... option 2.
Option 3 explain that dual-sigs can only meet PClass_PD-2P, when connected through a valid channel. This is much more informative.

OPTION 1: Remove the quoted paragraph.

OPTION 2: Replace as follows:
"Dual-signature PDs shall not exceed PClass_PD-2P / VPD, as defined in Table 145-25, for longer than TCUT-2P min as defined in Table 145-16 on any pair, when pairs of the same polarity are connected through all possible common source voltage in the range of V Port_PSE-2P through two common mode resistances, R source_min and R source_max, as defined in Equation (145-32) and shown in Figure 145-34."

Option 3: Replace as follows:
"Dual-signature PDs can only meet the input average power requirement of PClass_PD-2P as defined in 145.3.8, when PD PI pairs of the same polarity are connected to all possible common source voltage in the range of V Port_PSE-2P through two common mode resistances, R source_min and R source_max, as defined in Equation (145-32) and shown in Figure 145-34."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8.10** *P* **192** *L* **19** # 322

Yseboodt, Lennart Philips

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

Note under Figure 145-34:
"NOTE 1 - R source includes resistance R con which is the connection resistance at the PD. The maximum recommended R con value is 0.02 ohm."

- Introduces a named parameter which is used only once in the entire draft: in the same note.
- I struggle with the second sentence. This connection resistance is precisely at the PI and depends on the specific connectors being used, as well as many other factors.

SuggestedRemedy

"Note 1 - Rsource includes the connector resistance at the PD PI, which is typically 20 mOhm per contact."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.9** *P* **193** *L* **10** # 323

Yseboodt, Lennart Philips

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

Table 145-31 (PD DC MPS) contains a "PD Type" column that has "3, 4" as value in every row.

SuggestedRemedy

Remove column.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.8** *P* **200** *L* **8** # 324

Yseboodt, Lennart Philips

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

"Alternative A Midspan PSEs that support 100BASE-TX shall enforce channel current unbalance less than or equal to 10.5 mA or meet 145.4.9.2."

used to be: "Alternative A Type 2 Midspan PSEs that support 100BASE-TX shall enforce channel current unbalance less than or equal to Type 1 I unb (see Table 33-18) or meet 33.4.9.2."

This changed as part of the Clause split and now is a requirement on Type 3/4 as well. TF to verify this is correct. I also changed the reference to a Type 1 parameter to an explicit value.

The description of unbalance is poorly worded, should be intra-pair unbalance.

SuggestedRemedy

Change to:
"Alternative A Midspan PSEs that support 100BASE-TX shall enforce channel intra-pair current unbalance less than or equal to 10.5 mA or meet 145.4.9.2."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3** *P* **207** *L* **27** # 325

Yseboodt, Lennart Philips

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

The variables in the DLL "Constants" subclause are not constants.
PD_DLLMAX_VALUE, PD_INITIAL_VALUE, and PSE_INITIAL_VALUE all depend on other variables (pd_max_power, pd_allocated_pwr) to get their value.
These get set after classification has completed. As such, these are not constants.

SuggestedRemedy

Adopt yseboodt_04_0317_dllconstants.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.3** *P* **211** *L* **15** # 326

Yseboodt, Lennart Philips

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

The variable pse_power_type is not used in Figures 145-43 or 145-44, nor in Table 145-39. It also no longer exist in the PSE or PD section.

SuggestedRemedy

Remove variable from 145.5.3.3.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.6** *P* **211** *L* **15** # 327

Yseboodt, Lennart Philips

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

Variable "pse_power_type" is not used anymore.

SuggestedRemedy

Remove variable "pse_power_type" on page 211, 218 and 221.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.5** *P* **211** *L* **40** # 328

Yseboodt, Lennart Philips

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

Update the description of the do_autoclass_measure function, with the updated on in the PSE section (with P_AUTOCLASS removed.).

SuggestedRemedy

Per comment.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.6** *P* **215** *L* **10** # 329

Yseboodt, Lennart Philips

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

Arc from IDLE to MEASURE includes "!pd_autoclass". This blocks a measurement with an enabled "pd_autoclass" in the PSE.

SuggestedRemedy

Remove "!pd_autoclass" from the arc from IDLE to MEASURE.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.6** *P* **215** *L* **15** # 330

Yseboodt, Lennart Philips

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

Function "do_autoclass_measurement_done" is misspelled.

SuggestedRemedy

Change to "do_autoclass_measure_done"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.5.3.6** *P* **215** *L* **46** # 331

Yseboodt, Lennart Philips

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

In Figure 145-45 inside the caption the word "DLL" is used for PSE but not for Figure 145-46 inside the PD caption.

SuggestedRemedy

Change caption to: PD DLL Autoclass control state diagram.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.6.1** *P* **224** *L* **21** # 332

Yseboodt, Lennart Philips

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

"All equipment subject to this clause shall conform to IEC 60950-1. In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1."

IEC 62368-1 is the successor to IEC 60950-1. We have put references to this IEC standard in other parts of the document, but here (in the requirement) it was omitted.

SuggestedRemedy

Replace by:
"All equipment subject to this clause shall conform to IEC 60950-1 and IEC 62368-1.
In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1 and shall be classified as Power Source Class 2 according to IEC 62368-1."

IEC 62368 defines PS2 as "PS2 is a circuit where the power source, (see Figure 36) measured according to 6.2.2:"
" - exceeds PS1 limits; and"
" - does not exceed 100 W measured after 5 s."

Right now IEC 62368-3 is out for vote and will reach 3.0 stage after April.
This standard is specific to PoE and USB powering: "Safety of electronic equipment within the field of audio/video, information technology and communication technology"
We will need to review it and possible include a shall statement for it as well.

Proposed Response *Response Status* **O**

Cl **145** *SC* **33A.3** *P* **257** *L* **8** # 333

Yseboodt, Lennart Philips

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

Equations 33A-1, 33A-2 and 33A-3 are... not equations due to a missing equal sign.

SuggestedRemedy

Suggest parameter names RPair_unb, RCh_unb, and RCh_delta as names.
Introduce names and update text to match.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145B.3** *P* **268** *L* **45** # 334

Yseboodt, Lennart Philips

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

Autoclass timing parameters in Figure 145B-15 caption are actually diagrams

SuggestedRemedy

Change to:
"Autoclass timing diagrams"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.1** *P* **91** *L* **35** # 335

Yseboodt, Lennart Philips

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

Footnote 'a' for Table 145-2 only shows Physical layer table, but is also used for DLL.

SuggestedRemedy

Add: "and Table 145-12" to the footnote text.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.4** *P* **105** *L* **15** # 336

Yseboodt, Lennart Philips

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

Variable "option_classprobe" should be "option_class_probe".

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.4** *P* **105** *L* **38** # 337

Yseboodt, Lennart Philips

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

"This optional variable..."
See comment #444 against D2.2, variables are not optional, but may indicate optional behavior.

SuggestedRemedy

Replace "optional variable" by "variable" for:
- option_vport_lim
- option_vport_lim_pri
- option_vport_lim_sec

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **106** *L* **30** # 338

Yseboodt, Lennart Philips

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

We now have a mixed use of "pd_allocated_pwr" and "pse_allocated_pwr".
Intent of classification baseline last cycle was to change all to pse_allocated_pwr.
Logic: the PD requests power (=> pd_req_pwr), the PSE allocates power (pse_allocated_pwr).

SuggestedRemedy

Global replace "pd_allocated_pwr" to "pse_allocated_pwr".
This also takes care of dual-signature.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.6** *P* **113** *L* **10** # 339

Yseboodt, Lennart Philips

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

The function do_autoclass_measure returns the variable P_AUTOCLASS, which is not used in the state diagram. This variable seems an alias for P_Autoclass, which is used in the text.

There seems no need for this function to return a variable.

SuggestedRemedy

Remove from "The function returns ..." until "do_autoclassification".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.6** *P* **113** *L* **37** # 340

Yseboodt, Lennart Philips

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

variable "pd req pwr probe" has no underscores in between words.

SuggestedRemedy

Change to "pd_req_pwr_probe".

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

The last statement is redundant to the second one.

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

Adopt yseboodt_06_0315_classification.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **121** *L* **29** # 343

Yseboodt, Lennart Philips

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

Statement "IF pd_req_pwr = 4 * pd_class_sig!=4" is missing brackets for readability + spaces.

SuggestedRemedy

Change to: "IF (pd_req_pwr = 4) * (pd_class_sig != 4)"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **121** *L* **30** # 344

Yseboodt, Lennart Philips

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

Statement "pd_req_pwr <= pd_class_sig+5" is missing spaces around +.

SuggestedRemedy

Add spaces around "+"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **122** *L* **21** # 345

Yseboodt, Lennart Philips

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

Function name "do_update_pd_allocated_pwr" is not consistent with used variable "pse_allocated_pwr".

SuggestedRemedy

Change function name to: "do_update_pse_allocated_pwr"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **122** *L* **22** # 346

Yseboodt, Lennart Philips

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

Statement "pse_power_update = False" is missing to prevent looping.

SuggestedRemedy

Add quoted statement to the POWER_UPDATE state.

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **123** *L* **38** # 348

Yseboodt, Lennart Philips

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

Statement in exit arc from IDLE_ACS to WAIT_ACS has misspelled variable name "alt_sec_pwrd" in it.
Should be "alt_pwrd_sec".

SuggestedRemedy

Change variable name "alt_sec_pwrd" to "alt_pwrd_sec".

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **123** *L* **45** # 350

Yseboodt, Lennart Philips

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

Statement in exit arc from IDLE_ACS to MEASURE_ACS has misspelled variable name "alt_sec_pwrd" in it.
Should be "alt_pwrd_sec".

SuggestedRemedy

Change variable name "alt_sec_pwrd" to "alt_pwrd_sec".

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

For the _SEC as well.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.6.6** *P* **137** *L* **1** # 352

Yseboodt, Lennart Philips

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

"Table 145-9--Valid PD detection signature electrical characteristics, measured at the PSE PI"

"Table 145-10--Invalid PD detection signature electrical characteristics"

Inconsistent table header.

SuggestedRemedy

Replace by:
"Table 145-9--Valid PD detection signature electrical characteristics, as measured at the PSE PI"

"Table 145-10--Invalid PD detection signature electrical characteristics, as measured at the PSE PI"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **137** *L* **28** # 353

Yseboodt, Lennart Philips

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

Our draft uses a mixture of "classification signature" (26x) and "class signature" (42x) to mean the same thing.
Logic: 'classification' is a collection of class events. Each class event produces a class signature.

SuggestedRemedy

Replace "classification signature" by "class signature" throughout the draft.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7** *P* **137** *L* **43** # 354

Yseboodt, Lennart Philips

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

"The PD responds to each class event with a current representing one of a limited number of classification signatures."

This seems like an ideal spot to mention what the requested Class is (we use it in the next para).

SuggestedRemedy

Append after quoted sentence:
"The class signatures generated by the PD, indicate the requested Class of the PD. See Table 145-24 for a mapping of class signature to requested Class."

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

License to harmonize remedy with darshan_xx.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.1** *P* **140** *L* **54** # 359

Yseboodt, Lennart Philips

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

Underscore after last line.

SuggestedRemedy

Fix.

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

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

SuggestedRemedy

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

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.7.1** *P* **142** *L* **25** # 361

Yseboodt, Lennart Philips

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

".. then transition to either the CLASS_RESET_PRI or CLASS_RESET_SEC.__"
It appears that there are two underscores after the period.

SuggestedRemedy

Remove underscores.

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8** *P* **146** *L* **19** # 365

Yseboodt, Lennart Philips

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

Table 145-16 violates IEEE Style Guide 13.3.1:
"The same units of measure shall be used throughout each column; ohms shall not be combined with megohms, millimeters with centimeters, or seconds with minutes."

SuggestedRemedy

Offending items:
Item 2 to be expressed in V
Item 22 to be expressed in ms

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

Per comment.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5** *P* **148** *L* **46** # 367

Yseboodt, Lennart Philips

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

"The PSE shall support the AC current waveform parameter IPeak-2P, defined in Equation (145.2.8.5.1), on each ..."
Reference is not to equation but to paragraph.

SuggestedRemedy

Change to:
"The PSE shall support the AC current waveform parameter IPeak-2P, defined in Equation (145-10), on each ..."

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

Bump 145.2.8.5.1 one level up (H4).

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

Rload = RCH_unb + RPair_PD.

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

This impossible abbreviation...

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.8.5.1** *P* **152** *L* **45** # 371

Yseboodt, Lennart Philips

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

In the evaluation method, twice a reference is made to Rload, which is undefined.

SuggestedRemedy

Change a) and f) as follows:
"a) Use R load_min and R load_max from Table 145-17 for low channel resistance conditions."
"f) Repeat steps b) through e) for R load_min and R load_max from Table 145-17 for high channel resistance conditions."

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

See 145.2.8.11

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

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

SuggestedRemedy

- Move paragraph 3 to 145.2.8.1
- Delete 145.2.8.11

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.1** *P* **160** *L* **20** # 373

Yseboodt, Lennart Philips

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

145.3.1 "PD PI" uses the term "single-signature" and "dual-signature" for the first time in the PD section, without any introduction.

SuggestedRemedy

Swap the order of 145.3.2 and 145.3.1 to solve this. This also brings it in line with the PSE structure.

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.2** *P* **161** *L* **28** # 377

Yseboodt, Lennart Philips

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

"Type 3 single-signature PDs operating up to a maximum power draw corresponding to Class 3 or less implement a minimum of Multiple-Event Physical Layer Classification and request Class 1, 2, or 3."

'a minimum of' is bizarre and stems from old text.

SuggestedRemedy

"Type 3 single-signature PDs operating up to a maximum power draw corresponding to Class 3 or less implement Multiple-Event Physical Layer Classification and request Class 1, 2, or 3."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.4** *P* **163** *L* **30** # 378

Yseboodt, Lennart Philips

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

"A control variable indicating the max power that the PD may draw from the PSE."

SuggestedRemedy

"A control variable indicating the maximum power that the PD may draw from the PSE."

Also fix for same variable in dual-sig.

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

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

SuggestedRemedy

Adopt yseboodt_07_0315_killdefault.pdf

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

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

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.7** *P* **167** *L* **54** # 382

Yseboodt, Lennart Philips

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

The Figure numbering of F 145-27 is incorrect, it belongs with F 145-26.

SuggestedRemedy

Make 145-27 => 145-26.
Idem for 145-30 => 145-29.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.7** *P* **168** *L* **32** # 383

Yseboodt, Lennart Philips

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

There is a multi-true possible out of POWER_DELAY.

SuggestedRemedy

Change arc from POWER_DELAY to POWERED to read "tpowerdly_timer_done * (VPD >= Voff_PD)"

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.7** *P* **168** *L* **41** # 384

Yseboodt, Lennart Philips

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

Variable "pd_req_pwr" does not exist for a PD, "pd_req_class" does.

SuggestedRemedy

Change all occurances of "pd_req_pwr" to "pd_req_class" in Figure 145-27.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.7** *P* **168** *L* **42** # 385

Yseboodt, Lennart Philips

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

The DLL enable state can far more compactly be folded into POWERED with an IF statement.

SuggestedRemedy

- Delete DLL_ENABLE and all in and out going connections
- Add the following to the POWERED state:
"IF (pd_req_pwr>3 + pd_dll_capable) THEN
pd_dll_enabled <= TRUE
END"

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.7** *P* **169** *L* **2** # 387

Yseboodt, Lennart Philips

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

In statement (VPD<VReset) variable VReset does not excist, VReset_PD does.

SuggestedRemedy

Change VReset to VReset_PD.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.3.7** *P* **169** *L* **12** # 388

Yseboodt, Lennart Philips

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

Global entry part to IDLE_ACS (VPD < VReset_PD) statement is not correct, should be (VPD < VOff_PD).
This also simplifies further logic.

SuggestedRemedy

- Change entry into IDLE_ACS to: "(V PD < V Off_PD) + pd_reset + !mdi_power_required"
- Remove "VPD > VPort_PD-2P" (2x) in Figure 145-28

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

SuggestedRemedy

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

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

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

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

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

SuggestedRemedy

Option 1: remove it
Option 2: move to 33.3.4

TFTD.

Proposed Response *Response Status* **O**

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

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **X**

Why do we have such a weird way to explain the signature requirement of a dual-sig PD ?
"A dual-signature PD shall present a valid detection signature, as defined in Table 145-20, on:
-- Mode A, regardless of any voltage applied to Mode B between 0V and 57V, and
-- Mode B, regardless of any voltage applied to Mode A between 0V and 57V."

SuggestedRemedy

- Replace by:
"A dual-signature PD shall present a valid detection signature, as defined in Table 145-20, on a given Mode, regardless of any voltage between 0 V and 57 V applied to the other Mode. This requirement applies to both Mode A and Mode B."

- Also add the "as defined in Table 145-20" to the single-signature para above.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6** *P* **176** *L* **41** # 393

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

The combination of the large changes in hstewart_01_0117_33_3_6_PD_Class_opt2_markup_rev2.pdf combined with changes introduced to the Clause split requires some cleanup in this section.

SuggestedRemedy

Adopt yseboodt_03_0317_pdclassification.pdf

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.6.1** *P* **178** *L* **19** # 394

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

"PDs implementing Autoclass shall present class_sig_0 during DO_CLASS_EVENT_AUTO as defined in 145.3.6.2."

Unlike class_sig_A, 'class_sig_0' is undefined.

SuggestedRemedy

Replace by: "PDs implementing Autoclass shall present class signature 0, as defined in Table 145-23, during DO_CLASS_EVENT_AUTO as defined in 145.3.6.2."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.7** *P* **181** *L* **20** # 395

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

"PDs may determine the Type of the PSE they are connected to by measuring the duration of the first class event. Such a PD may set long_class_event to TRUE if the first class event is longer than T LCE_PD min and shall set long_class_event to TRUE if the first class event is longer than T LCE_PD max. The default value for long_class_event is FALSE, which indicates the PSE is a Type 1 or Type 2 PSE. If long_class_event is TRUE this indicates the PSE is a Type 3 or Type 4 PSE."

1. We need to get rid of the notion of default values
2. Behavior does not match state diagram.

SuggestedRemedy

Do:
- Replace the 1 to last sentence by:
"If long_class_event is FALSE, this indicates the PSE is a Type 1 or Type 2 PSE."
- Add "long_class_event <= FALSE" to the DO_DETECTION state in Figure 145-26 and 145-29.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.8** *P* **182** *L* **1** # 396

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

Editing mistake: in implementing comment #451 against D2.2, I removed PPort_PD from Table 145-28.
Comment #451 has this in the suggested remedy, but the response didn't.
PPort_PD is needed, because right now there is no power limit requirement on PDs.

SuggestedRemedy

Re-instate PPort_PD and PPort_PD-2P as they were in D2.2

Proposed Response *Response Status* **O**

Cl **30** *SC* **33.9.1.1.7** *P* **33** *L* **20** # 397

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

aPSEInvalidSignatureCounter: This counter is incremented when the PSE state diagram (Figure 33-13) enters the state SIGNATURE_INVALID.
The new state diagram does not support this as it doesn`t have this state.

SuggestedRemedy

Option 1: Change text to read:
"This counter is incremented when the Type 1 and Type 2 PSE state diagram (Figure 33-13) enters the state SIGNATURE_INVALID. This counter is not defined for Type 3 and Type 4 PSEs".

Option 2: It gets complicated to handle all the edge cases where one might encounter an invalid detection. Add TDL for someone who cares to pick this up.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.9.1.1.9** *P* **33** *L* **36** # 398

Yseboodt, Lennart Philips

Comment Type **T** *Comment Status* **X**

aPSEOverLoadCounter: This counter is incremented when the PSE state diagram (Figure 33-13) enters the state ERROR_DELAY_OVER.

We`re still fixing problems inherited from 802.3at. This state doesn`t exist in 802.3at PSE state diagram, but did exist in 802.3af. The .at project forgot to update Clause 30 for this one.

SuggestedRemedy

Since the distinction between SHORT and OVERLOAD cannot be made by the current state diagrams, propose to:
- Change text of 30.9.1.1.9 aPSEOverLoadCounter to read:
"This counter is incremented when the PSE state diagram (Figure 33-13, Figure 145-13, Figure 145-15, and 145-16) enters the state ERROR_DELAY, ERROR_DELAY_PRI, or ERROR_DELAY_SEC."
- Delete 30.9.1.1.10 aPSEShortCounter

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.2.1** *P* **40** *L* **32** # 399

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **X**

COMMENTLABEL: mode_Alt_shared

For dual-signature power allocation Clause 30 objects we used the names aLldpXdot3LocPDRequestedPowerValueModeA, aLldpXdot3LocPSEAllocatedPowerValueAlternativeA, ... an so forth.

For PDRequested... we used ModeA/ModeB at the end which seems logical.
Problem is that these variables are defined both for the PSE and the PD.
When used in a PSE context, "Mode" makes no sense and vica versa for the PD.

SuggestedRemedy

This comment not to be OBE to darshan_03, they are to be implemented together.
Remove "Mode" and "Alternative" from Clause 30 object names from 30.12.2.1.18a through .18d and the same in the remote section.
Also update naming to reflect this throughout the draft.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.8** *P* **49** *L* **14** # 400

Wendt, Matthias Philips Lighting

Comment Type **ER** *Comment Status* **X**

original text: "For a PD this attribute contains the value of the aPSEPowerPairsControlAbility attribute (see 30.9.1.1.4) on the given port... "
aPSEPowerPairsControlAbility is in to 30.9.1.1.3

SuggestedRemedy

For a PD this attribute contains the value of the aPSEPowerPairsControlAbility attribute (see 30.9.1.1.3) on the given port...

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.12.3.1.9** *P* **49** *L* **31** # 401

Wendt, Matthias Philips Lighting

Comment Type **ER** *Comment Status* **X**

original text: "For a PD this attribute contains a value derived from the aPSEPowerPairs attribute (see 30.9.1.1.3) on the given port... "
aPSEPowerPairs relates to 30.9.1.1.4

SuggestedRemedy

For a PD this attribute contains a value derived from the aPSEPowerPairs attribute (see 30.9.1.1.4) on the given port...

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A** *P* **255** *L* **1** # 402

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **X**

The NEW material into Annex 33A is about unbalance on the PD side.

Propose to make Annex 145A the "unbalance" annex, so we can leave 33A alone.
145A then covers both the PSE and the PD.

SuggestedRemedy

- Retitle 145A to "Resistance and current unbalance"
- Take the existing subclauses (145A.1 through 145A.3), bump them down to 3rd level and insert then under a new 145A.2 "PSE Unbalance".
- Create a new 145.3 "PD Unbalance"
- Copy 33A.3 into a new 145A.1 (common to both PSE and PD)
- Move 33A.4 to 145A.3 to become 145A.3.1
- Take Annex 33A out of the draft, thereby discarding all the changes we did to it in 802.3bt.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.5** *P* **67** *L* **16** # 403

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

"For Type 3 and Type 4 devices, the value should be (PD requested power value Mode A + PD requested power value Mode B)."

This construct, which is repeated in the Mode A and Mode B fields, as well as in the PSE allocated power fields, is problematic.

SuggestedRemedy

Adopt yseboodt_01_0317_lldp1fix.pdf

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6a** *P* **68** *L* **23** # 404

Wendt, Matthias Philips Lighting

Comment Type **E** *Comment Status* **X**

original text: "... the PD requested power field defined in Table 79.3.2.5 is the sum"
The table reference is wrong, should be Table 79-5.

SuggestedRemedy

Replace Table 79.3.2.5 by Table 79-5.
Probably OBE by yseboodt_01_0317_lldp1fix.pdf

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6b** *P* **68** *L* **46** # 405

Wendt, Matthias Philips Lighting

Comment Type **E** *Comment Status* **X**

original text: "... the PSE allocated power value field defined in Table 79.3.2.5 is the sum of ... "
The table reference is wrong, should be Table 79-6.

SuggestedRemedy

Replace Table 79.3.2.5 by Table 79-6.
Probably OBE by yseboodt_01_0317_lldp1fix.pdf

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6d.1** *P* **70** *L* **44** # 406

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

The Power Classx field in Table 79-6a allows a Type 3/4 PD to identify itself as a Class 0 device. This class is not allowed.
Freeing this value up, also allows us to use it to indicate that the PD is a dual-signature PD, more consistent with the other fields.

SuggestedRemedy

Change field Power Classx as follow:
Bit combo "0000" becomes "Dual-signature PD"
Bit combo "1111" becomes Reserved/Ignore

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.8.1** *P* **74** *L* **1** # 407

Yseboodt, Lennart Philips

Comment Type **TR** *Comment Status* **X**

"V Port_PD-2P expressed in units of 1 mV
Valid values for these bits are 1 through 65000 a"

TDL: Clarify the meaning of the voltage field when measurement source = "Port total".

The only sensible meaning for this combination is the max() of the voltage of both pairsets.

SuggestedRemedy

Append after "1mV" the following:
"When the Measurement source is set to 'Port total' this field contains the measurement of the pairset with the highest voltage".

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **1** *L* **1** # 408

Yseboodt, Lennart Philips

Comment Type **ER** *Comment Status* **X**

As you may have noticed I have titled our new Clause 145 "Power over Ethernet".
Note: I have intentionally labelled this comment "FM" to keep it together with the next comment, even though it really is a page 87.

SuggestedRemedy

TF to confirm they are happy with the title by accepting this comment.

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **1** *L* **1** # 409

Yseboodt, Lennart Philips

Comment Type **E** *Comment Status* **X**

The title for our P802.3bt amendment is:
"Draft Standard for Ethernet Amendment: Physical Layer and Management Parameters for DTE Power via MDI over 4-Pair"

SuggestedRemedy

Depending on the outcome of the previous comment, propose to change this to:
"Draft Standard for Ethernet Amendment: Power over Ethernet over 4-pair".

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **12** *L* **22** # 410

Wendt, Matthias Philips Lighting

Comment Type **ER** *Comment Status* **X**

original text: "This amendment includes changes to IEEE Std 802.3-2015 and replaces Clause 33."
No it doesn`t.

SuggestedRemedy

Replace by:
This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 145, Annex 145A, and Annex 145B.

Proposed Response *Response Status* **O**

Cl **33A,1** *SC* **33A,1** *P* **255** *L* **30** # 411

Zimmerman, George CME Consulting/Aqua

Comment Type **ER** *Comment Status* **X**

"as defined in Table 33-12" - several issues - should be an external reference, but also should be Table 33-11, according to IEEE Std. 802.3-2015. Annex 33A contains numerous stylistic edits when it should just be what was in 802.3-2015. Unless justified by a maintenance request, and some may be, I haven't checked, these should not be in the draft, but in a new annex.

SuggestedRemedy

Revert annex 33A to 802.3-2015 except where justified by maintenance requests. Commenter volunteers to coordinate maintenance requests for defects related to annex 33a, such as changing "Compliance to the above requirements" to "Verification of these guidelines" (line 41). [Note - all my other comments on Annex 33A.1 and 33A.2 are OBE if this is accepted and can be considered withdrawn, if I am not present during comment resolution]

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.1** *P* **255** *L* **31** # 412

Zimmerman, George CME Consulting/Aqua

Comment Type **ER** *Comment Status* **X**

V port_PSE-2P isn't in clause 33 (none of the dash 2P variables are).

SuggestedRemedy

Change all "dash 2P" to reflect proper values referenced in Clause 33

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.1** *P* **255** *L* **38** # 413

Zimmerman, George CME Consulting/Aqua

Comment Type **ER** *Comment Status* **X**

Table 33-17 shoudl be marked external and is the wrong reference for where VPort_PSE is defined in 802.3-2015 (should be 33-11)

SuggestedRemedy

Change reference to external and make it Table 33-11.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.1** *P* **255** *L* **42** # 414

Zimmerman, George CME Consulting/Aqua

Comment Type **ER** *Comment Status* **X**

Table 33-12 reference should be 33-11, and marked external

SuggestedRemedy

See comment

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.2** *P* **256** *L* **29** # 415

Zimmerman, George CME Consulting/Aqua

Comment Type **E** *Comment Status* **X**

There is no Z_emi in figure 33A-1. there are two Zo_emi's indicated. One is a circuit element and one appears to be an impedance looking into a combination of circuit elements.

SuggestedRemedy

Change Zo_emi to Z_emi on the one indicated as a circuit element.

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.2** *P* **256** *L* **41** # 416

Zimmerman, George CME Consulting/Aqua

Comment Type **ER** *Comment Status* **X**

PClass_PD is in Table 33-18, not 33-30 (there is no 33-30), and the reference should be marked external

SuggestedRemedy

See comment

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.2** *P* **256** *L* **41** # 417

Zimmerman, George CME Consulting/Aqua

Comment Type **T** *Comment Status* **X**

Comment on line 46 begs solution. Reverting to existing text does no harm, except that Pport isn't a variable and isn't in Table 33-18, and leaves the reader guessing. Same change appears needed on line 51 as well for PClass_PD. See proposed resolution for best guess.

SuggestedRemedy

Change PClass_PD to Pport_PD: L41: Delete "PClass_PD as defined in Table 33-30" and replace with "max load of Pport_PD = PPort_PD max as defined by maximum class supported in Table 33–18". L51: Change "less than PClass_PD" to "less than PPort_PD max"

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.3** *P* **257** *L* **1** # 418

Zimmerman, George CME Consulting/Aqua

Comment Type **ER** *Comment Status* **X**

33A.3 is already in the text of clause 33. It applies as well to clause 145, but should be in an informative annex.

SuggestedRemedy

Insert 33A.3 text as new informative annex 145C. (this doesn't relate to PSE PI pair-to-pair resistance/current unbalance so it doesn't fit in 145A).

Proposed Response *Response Status* **O**

Cl **33A** *SC* **33A.4** *P* **257** *L* **16** # 419

Zimmerman, George CME Consulting/Aqua

Comment Type **TR** *Comment Status* **X**

New section 33A.4 does not apply to clause 33 systems.

SuggestedRemedy

Insert 33A.4 text as text in 145A, immediately before 145A.2, since this relates directly to pair-to-pair resistance/currrent unbalance.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.4** *P* **175** *L* **5** # 420

Zimmerman, George CME Consulting/Aqua

Comment Type **TR** *Comment Status* **X**

" A PD may indicate the ability to accept power on both pairsets using TLV variable PD 4PID in Table 79–6b" is inappropriate for Type 3 PDs, and is unrelated to the detection signatures in this section, and is already defined in Clause 79. All type 3 PDs have the ability to accept power on 4 pairs, and this sentence suggests otherwise. Clause 33 PDs wishing to indicate 4PID can use the new clause 79.3.2.6d.2 values without it.

SuggestedRemedy

Delete this sentence. Append "A PD may indicate the ability to accept power on both pairsets from a Clause 145 PSE using TLV variable PD 4PID, see 79.3.2.6d.2." to the NOTE in 33.3.1 stating: "NOTE—PDs that implement only Mode A or Mode B are specifically not allowed by this standard. PDs that simultaneously require power from both Mode A and Mode B are specifically not allowed by this standard."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.3.4** *P* **175** *L* **6** # 421

Zimmerman, George CME Consulting/Aqua

Comment Type **TR** *Comment Status* **X**

"or by presenting a valid detection signature on the unpowered pairset, when it is powered over only one pairset." – this restates the requirements for single and dual signature PDs above, in a way that seems to make it optionally controllable, is confusing, unnecessary, and contradictory to the single-sig requirement above. All Clause 145 PDs have the ability to accept power on both pairsets. This is inappropriate for putting in clause 33 because it directly contradicts an existing requirement.

SuggestedRemedy

Delete "or by presenting..." through end of sentence ("only one pairset.").

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.2.6d.2** *P* **70** *L* **49** # 422

Zimmerman, George CME Consulting/Aqua

Comment Type **T** *Comment Status* **X**

(PD 4PID field description) "This field shall be set according to Table 79-6b when the power type is PD." – the text is where explanation is supposed to be. The table additionally is vague, "PD supports (does not support) powering in both Modes" can be interpreted either as the intended "both modes simultaneously" or that either mode may (or may not – which would be noncompliant) is allowed.

SuggestedRemedy

P70 L49 Insert after "… 79-6b when the power type is PD":
"indicating support or lack of support for 4 pair powering". (continuing sentence, with existing period).
Change P71 L20 entries in table 79-6b bit 3 to read "both Modes simultaneously.".

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4.1.1.2** *P* **195** *L* **11** # 423

Zimmerman, George CME Consulting/Aqua

Comment Type **E** *Comment Status* **X**

References to clause 33 PI and PD in 14.3.1.1, 25.4.6, and 40.6.1.1 need to be updated to include Clause 145 references.

SuggestedRemedy

Include clauses 14.3.1.1, 25.4.6 and 40.6.1.1 and insert clause 145 refrerences parallel to clause 33.

Proposed Response *Response Status* **O**

Cl **33** *SC* **33** *P* **59** *L* **4** # 424

Zimmerman, George CME Consulting/Aqua

Comment Type **T** *Comment Status* **X**

the move to clause 145 inadvertantly removed clause 33 support for 2.5G/5G/10GBASE-T PHYs added by 802.3bt. It is not clear this was intended. Task force to discuss.

SuggestedRemedy

Reinstate clause 33 changes specifically related to 2.5G/5G/10GBASE-T support.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.4** *P* **194** *L* **1** # 425

Zimmerman, George — CME Consulting/Aqua

Comment Type **E** *Comment Status* **X**

With the exception of adding new phy speeds and requirements related to them, very little is added here that isn't in clause 33.4. If previous comment is accepted to put 2.5G/5G/10GBASE-T support back into clause 33, this clause would be better written to reference 33.4 and add the few requirements specific to Type 3 and Type 4 systems.

SuggestedRemedy

See comment. If 2.5G/5G/10G is NOT put back into clause 33, then consider this withdrawn. Otherwise, Insert after line 9 (end of 145.4 opening): "The Additional electrical specifications contained in 33.4 for Type 2 devices apply to clause 145 Type 3 and Type 4 PSE and PDs, with IEC 62368-1 is specified in addition to IEC 60950-1 in all instances, and the additions and exceptions specified in this clause. Where there are different requirements specified for Type 1 and Type 2 devices in Clause 33, Type 2 requirements apply. Replace 145.4.1 with "In addition to the requirements in 33.4.1 the following requirements apply: (1) In a multiport system, the implementer should maintain DC isolation through the termination circuitry to eliminate cross-port leakage currents. (2)An environment B PSE that supports 4-pair power shall switch the more negative conductor. It is allowed to switch both conductors. " Replace 33.4.2 with "In addition to the requirements of 33.4.2,The PSE PI shall withstand without damage the application of short circuits of any wire to any other wire within the cable for an indefinite period of time. The magnitude of the current through such a short circuit:
— shall not exceed IPSEUT-Type3-2P, as defined in Equation (145–19), for Type 3 PSEs
— shall not exceed IPSEUT-Type4-2P, as defined in Equation (145–20), for Type 4 PSEs."

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.4** *P* **107** *L* **52** # 426

Zimmerman, George — CME Consulting/Aqua

Comment Type **E** *Comment Status* **X**

font problem, cross ref to Table 145-7, occurs on p 108 L 11 and L21 also.

SuggestedRemedy

fix font

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.4** *P* **110** *L* **22** # 427

Zimmerman, George — CME Consulting/Aqua

Comment Type **E** *Comment Status* **X**

pse avail pwr, pse avail pwr pri, and pse avail pwr sec are missing underscores between the word-fragments.

SuggestedRemedy

change pse avail pwr, pse avail pwr pri, and pse avail pwr sec to pse_avail_pwr, pse_avail_pwr_pri, and pse_avail_pwr_sec.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.6** *P* **113** *L* **11** # 428

Zimmerman, George — CME Consulting/Aqua

Comment Type **TR** *Comment Status* **X**

Is the variable P_AUTOCLASS (all caps), or P(sub)Autoclass? If it is P_AUTOCLASS, this isn't used anywhere. Same problem exists in 145.5.3.5 on P211, L40. The editorial style is that of a value, not a variable (all caps). Suspect the desired variable is P(sub)Autoclass.

SuggestedRemedy

Change: "P_AUTOCLASS: The maximum power measured by the PSE, PAutoclass." to "P(sub)Autoclass: The maximum power measured by the PSE." also same change P211 L40

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **117** *L* **8** # 429

Zimmerman, George — CME Consulting/Aqua

Comment Type **T** *Comment Status* **X**

valid_sig_pri<= FALSE, valid_sig_sec<=FALSE - these don't appear to be used anywhere. It looks like everywhere in the state diag this has been replaced by checking sig_pri and sig_sec. Is the intent was to reset sig_pri and sig_sec so they don't read valid?

SuggestedRemedy

Change to sig_pri<=invalid, sig_sec <=invalid and delete variables valid_sig_pri and valid_seg_sec on P115, L31 and L45

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **119** *L* **27** # 430

Zimmerman, George CME Consulting/Aqua

Comment Type **TR** *Comment Status* **X**

"(sig_type = invalid) +(sig_type = single) *((sig_pri = invalid) +(sig_sec = invalid)) +(sig_type = dual) *(sig_pri = invalid) *(sig_sec = invalid)" This branch should also be taken when open_circuits are detected. Otherwise there is no way out of CXN_CHK_DETECT_EVAL for single-sig with one open circuit, or dual-sig with both open circuits.

SuggestedRemedy

Change "sig_pri = invalid" to "sig_pri != valid" and likewise for sig_sec = invalid.

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **121** *L* **29** # 431

Zimmerman, George CME Consulting/Aqua

Comment Type **E** *Comment Status* **X**

"pd_req_pwr = 4 * pd_class_sig≠4" pretty much everywhere else there is a logic expression involving tests for equality, parentheses are used. Also, spacing is off (there are no spaces around not-equal)

SuggestedRemedy

change to (pd_req_pwr = 4) * (pd_class_sig ≠ 4)

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **125** *L* **17** # 432

Zimmerman, George CME Consulting/Aqua

Comment Type **E** *Comment Status* **X**

"tcle2_timer_pri_done *
pd_class_sig_pri = temp_var_pri *
!class_4PID_mult_events_pri *
pse_avail_pwr_pri = 4" missing parentheses around "(pd_class_sig_pri = temp_var_pri)" makes this unclear and inconsistent

SuggestedRemedy

put parentheses consistently around logical equalities/inequalities in branch equations

Proposed Response *Response Status* **O**

Cl **145** *SC* **145.2.5.7** *P* **125** *L* **12** # 433

Zimmerman, George CME Consulting/Aqua

Comment Type **E** *Comment Status* **X**

"tcle2_timer_pri_done *□
pd_class_sig_pri = temp_var_pri *□
(class_4PID_mult_events_pri +□
pse_avail_pwr > 4)" missing parentheses around "(pd_class_sig_pri = temp_var_pri)" makes this unclear and inconsistent - this is very unclear when the expressions are more than 2 lines. There are numerous instances in this diagram of both using parens for equalities/inequalities in branch logic and not using them. Recommend using them always for equalities & inequalities.

SuggestedRemedy

put parentheses consistently around logical equalities/inequalities in all branch equations on P125 and P129 (they are the only ones that seem to suffer from this problem.)

Proposed Response *Response Status* **O**