

IEEE P802.3at D0.2 DTE Power via MDI Enhancements comments

Cl 00 SC P L # 38
Diab, Wael Broadcom

Comment Type ER Comment Status A

Please make the pdf pages match the draft pages. This will reduce confusion from commenters in TF and WG reviews

SuggestedRemedy

When creating the book for the draft you can have Frame autonumber and you can select the frontmatter chapter to be in roman vs. regular numbers for rest of draft

Response Response Status C

ACCEPT.

Wael to help Matt with this for the next draft.

Cl 33 SC 2.2a P8 L 24 # 50
Diab, Wael Broadcom

Comment Type ER Comment Status R

Is there a reason why we are using a as heading as opposed to a new level or renumbering the subsections

SuggestedRemedy

rename to 33.2.2.1

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

See 57.

Cl 33 SC 2.2a P8 L 19 # 51
Diab, Wael Broadcom

Comment Type E Comment Status A

ambiguous text

SuggestedRemedy

Replace: NOTE-A Type 2 PSE satisfies all requirements of a Type 1 PSE, whereas a Type 1 PSE does not necessarily meet the requirements of a Type 2 PSE.

with:

NOTE-A Type 2 PSE is a superset of a Type 1 PSE. A Type 1 PSE may or may not meet the requirements of a Type 2 PSE.

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace: "NOTE-A Type 2 PSE is a superset of a Type 1 PSE."

Cl 33 SC 2.7 P16 L 25 # 52
Diab, Wael Broadcom

Comment Type T Comment Status A

The title of HW classification is confusing

HWvsL1

SuggestedRemedy

Some of the Layer 2 functions may also be implemented in HW. I would suggest something like Layer 1 vs. Layer 2 designation

Response Response Status C

ACCEPT IN PRINCIPLE.

Use the terms 'Physical Layer classification' and 'Data Link Layer classification'

See 55, 52, 54, 65, 224

Cl 33 SC 2.7 P16 L 27 # 53
Diab, Wael Broadcom

Comment Type E Comment Status A

Delete the following text ""such as load management to be implemented.""

SuggestedRemedy

It does not add any value and classification may be implemented for other reasons that are strictly not load management. Further a non-classifying PSE may also do load management

Response Response Status C

ACCEPT IN PRINCIPLE.

IEEE P802.3at D0.2 DTE Power via MDI Enhancements comments

CI 33 SC 2.7 P16 L 29 # 54
 Diab, Wael Broadcom
 Comment Type T Comment Status A HWvsL1
 Designation of HW for Layer 1 functionality is ambiguous
 SuggestedRemedy
 Replace HW with Layer 1
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Use the terms 'Physical Layer classification' and 'Data Link Layer classification'
 See 55, 52, 54, 65, 224

CI 00 SC P L # 55
 Diab, Wael Broadcom
 Comment Type TR Comment Status A HWvsL1
 Please replace HW Classification with Layer 1 classification as some parts of Link Layer may be performed in HW
 SuggestedRemedy
 See comment
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Use the terms 'Physical Layer classification' and 'Data Link Layer classification'
 See 55, 52, 54, 65, 224

CI 00 SC P L # 57
 Diab, Wael Broadcom
 Comment Type ER Comment Status R
 Please avoid using subsections with alphanumeric designations.
 SuggestedRemedy
 Please either renumber the sections or use a new level
 Response Response Status C
 REJECT.
 This comment was WITHDRAWN by the commenter.
 The alphanumeric numbering scheme is consistent with the IEEE Style Guide.
 See 50

CI 33 SC 2.7a.1 P20 L 5 # 61
 Diab, Wael Broadcom
 Comment Type TR Comment Status A
 This seems like an example of a packet exchange, I think what is needed is a state diagram
 SuggestedRemedy
 Please remove this diagram or rename it as an example of packet exchange between the PSE and PD.
 Please add a state diagram with variables and conditions that can capture the process. I would suggest that this be part of the work that the L2 ad-hoc we assigned in Geneva generate and review so we can accept as a baseline
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Resolved by 80

IEEE P802.3at D0.2 DTE Power via MDI Enhancements comments

Cl 33 SC 3.4 P36 L3 # 65
 Diab, Wael Broadcom
 Comment Type T Comment Status A HWvsL1
 Hardware classification is an ambiguous term
 SuggestedRemedy
 Please use the term Layer 1
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Use the terms 'Physical Layer classification' and 'Data Link Layer classification'
 See 55, 52, 54, 65, 224

Cl 33 SC 2.7.1 P17 L2 # 72
 Darshan, Yair Microsemi Corporation
 Comment Type T Comment Status A
 Draft D0.8
 Type 2 PSE implementing only type 2 hardware classification is simultaneously indicate its presence and identify Type 2 PD's power requirements.
 SuggestedRemedy
 Replace ""may"" with ""shall""
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Remove may from the sentence and use editorial license to make sentence grammatically correct.

Cl 33 SC 2.7.2 P18 L28 # 77
 Darshan, Yair Microsemi Corporation
 Comment Type TR Comment Status R
 Draft D0.8:
 If PSEs PI voltage must enter to Reset range then PD may lost its indication data
 SuggestedRemedy
 PSE shall maintain 7V minimum across the PI after classification phase is done and prior to power up.
 PDs should maintain PSE indication data until PD reach to steady state operating mode. Other equivalent and implementation independent solutions are OK too.
 (The previous text force using sme kind of memory in PD until PD gets to steady state)
 Response Response Status C
 REJECT.
 This comment was WITHDRAWN by the commenter.
 -

Cl 33 SC 2.7a P20 L1 # 80
 Barrass, Hugh Cisco
 Comment Type TR Comment Status A
 It does not make sense to include the L2 management function in the PSE and PD subclauses. These subclauses describe the hardware behavior of PSE & PD devices, the management behavior is defined in subclause 33.6. Moving the L2 manageemnt description to subclause 33.6 will also remove the unnecessary and confusing repetition of the definition.
 SuggestedRemedy
 Remove subclauses 33.2.7a and 33.3.4a; move L2 management definition to subclause 33.6.
 See attached file for proposed changes. Note that the changes satisfy this and many other comments. The FrameMake source is available on request.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Editor to incorporate Hugh's text as an addition to 33.6 and recirculate with next draft. Also, add note before section stating that text has not been accepted by 75% of TF.

IEEE P802.3at D0.2 DTE Power via MDI Enhancements comments

Cl 33 SC 2.7a P20 L9 # 81
Barrass, Hugh Cisco

Comment Type TR Comment Status A

The diagram shown is useful but does not meet the requirements of a state machine description.

SuggestedRemedy

Remove subclauses 33.2.7a and 33.3.4a; move L2 management definition to subclause 33.6.

See attached file for proposed changes. Note that the changes satisfy this and many other comments. The FrameMake source is available on request.

Response Response Status C

ACCEPT IN PRINCIPLE.

See 80

Cl 33 SC 6.1 P54 L15 # 82
Barrass, Hugh Cisco

Comment Type TR Comment Status A

There is no management register to indicate the support or to control the use of 2-stage hardware classification.

SuggestedRemedy

Add definitions for register 11 and 12.

See attached file for proposed changes. Note that the changes satisfy this and many other comments. The FrameMake source is available on request.

Response Response Status C

ACCEPT IN PRINCIPLE.

See 80

Cl 33 SC 2.1 P6 L20 # 97
Jetzt, John Avaya

Comment Type T Comment Status A

Figure 33-4a, Alternatives A and B.
The Powered End Station should be illustrated to draw power from either set of pairs.

SuggestedRemedy

Connect PD to center-taps of all four pairs.

Response Response Status C

ACCEPT.

Cl 33 SC 2.2 P7 L50 # 113
Jones, Chad Cisco

Comment Type T Comment Status A

It does not seem appropriate to delete this text yet. The TF agreed to work out a 2P system first then do the 4P. I'm not sure that only deleting this line is enough to allow 4P.

SuggestedRemedy

Undelete the line and we will revisit after 2P is complete.

Response Response Status C

ACCEPT IN PRINCIPLE.

resolved by 48

Cl 33 SC 2.5.1 P15 L41 # 114
Jones, Chad Cisco

Comment Type E Comment Status A

""the polarity of Vdetect shall match the polarity of Vport as defined in 33.2.1""

This should be 33.2.2. We must have missed this in AF.

SuggestedRemedy

Change the referred clause to 33.2.2

Response Response Status C

ACCEPT.

Cl 33 SC 1.3 P3 L5 # 119
Jones, Chad Cisco

Comment Type T Comment Status A

This drawing needs fixed to include the 1000Mb midspan.

SuggestedRemedy

Add a box coming up from the medium to the PSE to show that the 1000Mb Midspan touches both the medium and the PI.

Response Response Status C

ACCEPT IN PRINCIPLE.

Resolved by 235

IEEE P802.3at D0.2 DTE Power via MDI Enhancements comments

Cl 33 SC 1.3 P5 L1 # 120
 Jones, Chad Cisco

Comment Type T Comment Status A

Need drawings that depict 1000Mb endspans or figure 33-4 needs altered to include 4P data transmission in the EndPoint PSE, Alternative A and EndPoint PSE, Alternative B drawings.

SuggestedRemedy

It seems easier to fix the drawings to show 4P data transmission.

Response Response Status C

ACCEPT IN PRINCIPLE.

see 150

Editor to make two more drawings showing 1000Mb Alt A and 1000Mb Alt B.

Cl 33 SC 2.7.1 P17 L22 # 121
 Jones, Chad Cisco

Comment Type T Comment Status A

Missing the legacy function that Type 1 PSEs treat Class 4 PDs as class 0. This is important for the new operation as Type 2 PDs rely on the fact that Type 1 PSEs will classify them as Type 0 and provide 13W.

SuggestedRemedy

Add class 4 - Type 1 - Treat as Class 0 to Table 33-3.

Response Response Status C

ACCEPT.

Cl 33 SC 2.7.1 P16 L53 # 124
 Jones, Chad Cisco

Comment Type T Comment Status R

The statement "A Type 2 PSE shall implement Type 2 hardware classification" forces all Type 2 PSEs to implement HW classification. It was agreed that a Type 2 PSE had the option to implement either/or L1/L2 class. This sentence disallows a Type 2 PSE from assuming class 0 and using L2 to move to high power.

SuggestedRemedy

Change "A Type 2 PSE shall implement Type 2 hardware classification." to "A Type 2 PSE shall implement at least one method of Type 2 classification. Type 2 classifications are Type 2 Hardware classification and Link Layer classification."

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

see 269

Cl 33 SC 2.1 P5 L8 # 150
 Schindler, Fred Cisco

Comment Type T Comment Status A

System topology is not shown for 1 GBPS end-points.

SuggestedRemedy

The system topology should be shown for 1 GBPS end-points.

Response Response Status C

ACCEPT IN PRINCIPLE.

Resolved by 120

IEEE P802.3at D0.2 DTE Power via MDI Enhancements comments

CI 33 SC 2.7a P20 L3 # 151
 Schindler, Fred Cisco
 Comment Type T Comment Status R
 The whole section needs to be reworked. An IEEE 802.3 state diagram is required.
 SuggestedRemedy
 Have the task force review the feedback Hugh Barrass provides.
 Response Response Status C
 REJECT.
 This comment was WITHDRAWN by the commenter.
 propose to withdraw see 80, 81, 82.

CI 33 SC 2.7.2a P17 L41 # 154
 Schindler, Fred Cisco
 Comment Type TR Comment Status A
 The duration required to ensure reset occurs is not specified.
 There are also several typos in this section including a repeat of p18, lines 25-26
 SuggestedRemedy
 Add a specification for the reset minimum duration.
 If the corrections are not obvious please see me and I will show them to you.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Add a specification for the reset minimum duration to Table 33-4a of TBD.
 Editor to review text for cross reference errors.

CI 33 SC 2.8 P23 L20 # 155
 Schindler, Fred Cisco
 Comment Type TR Comment Status A
 The existing IEEE specification should not be changed and the definitions for type-1 and type-2 are not clear.
 SuggestedRemedy
 The Vtran_lo is applicable only to PSEs that provide a minimum 50 V static supply.
 The definitions for type-2 and type-1 are related to how each system classifies power. The other requirements, such as supply voltage, fall into place automatically because only a new PD will request power using new power classification mechanisms. A legacy PD that requests power using new mechanism is provided with power that meets its needs too.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 The transient spec only applies to a Type 2. Fix table 33-5 Item 2a.
 see 236 for Type 1/Type 2 resolution.

CI 33 SC 2.10.1.2 P28 L30 # 164
 Schindler, Fred Cisco
 Comment Type TR Comment Status A
 The text in table 33-6 is not clear for item 1a. The average value of Vport is less than 57 V, and the peak value is less than 60V.
 SuggestedRemedy
 Under the max column:
 10% of the average value provided within the limits of table 33-5 item 1.
 Response Response Status C
 ACCEPT.

IEEE P802.3at D0.2 DTE Power via MDI Enhancements comments

Cl 33 SC 2.10.1.2 P 29 L 47 # 165

Schindler, Fred Cisco

Comment Type TR Comment Status A

The specification is not consistent for the location of the Cpd_d capacitor. Figure 33-6 indicates either location is ok, but table 33-13 item 3 calls out 0V stimulus for the same capacitance. With 0 V stimuli the diodes will not conduct. Also see p43 line 33.

SuggestedRemedy

The task force needs to determine what is required for Cpd_d in order to me both DC and AC disconnect requirements. It appears that AC disconnect requires Cpd_d on the Ethernet line side of the diodes while DC disconnect works with Cpd_d on either side.

Response Response Status C

ACCEPT IN PRINCIPLE.

replace additional information contents with:
"See table 33-6"

Note to editor, this occurs more than once in the spec. Please scan for Cpd_d, this '0V' statement is in there multiple times. Please fix consistently.

Cl 33 SC 2.1 P 6 L 6 # 202

Darshan, Yair Microsemi Corporation

Comment Type T Comment Status A

Figure 33-4a:

1. The data transformer in Midspan is one way to combine power with data. Other implementations are possible.

2. According to 802.3af spec. the PD should have provisions to be able to get power from either pairs. See figure 33-4.

SuggestedRemedy

1. Replace the data transformer in the Midspan with a black box which indicates implementation independent data data and power interface. See attached drawing.

2. Fix the PD part in 33-4a by copying the PD part from 33-4.

Response Response Status C

ACCEPT IN PRINCIPLE.

#1: Add the note that this is an informative diagram.

#2 resolved by 97

See 265

Cl 33 SC 1 P 1 L 8 # 221

Law, David 3Com

Comment Type E Comment Status A

Clause 14 defines a MAU, not a physical layer. Clauses 25 and 40 define PHYs (Physical Layer entities - see definition of PHY in 1.4.281 in IEEE 802.3ay/D1.1), not 'physical layers'.

SuggestedRemedy

Change '.. physical layers defined in Clause 14, Clause 25, and Clause 40.' to read '.. MAU defined in Clause 14 and the PHYs Clause 25 and Clause 40.'.

Response Response Status C

ACCEPT.

IEEE P802.3at D0.2 DTE Power via MDI Enhancements comments

Cl 33 SC 2.3.1 P 8 L 30 # 222
 Law, David 3Com

Comment Type E Comment Status A

The text 'for Type 1 and Type 2 PSEs' is redundant as it equates to all PSEs and that is what subclause 33.2 and its subclause define. In addition Table 33-5 clearly defines which Type each specification applies to.

SuggestedRemedy

Remove the text 'for Type 1 and Type 2 PSEs' and 'applicable'.

Response Response Status C

ACCEPT IN PRINCIPLE.

Detection, classification, and power turn-on timing for PSEs shall meet the specifications in Table 33-5.

Cl 00 SC P L # 224
 Law, David 3Com

Comment Type ER Comment Status A HWvsL1

In the draft the two types of classification are referred to as 'hardware' classification and 'link layer' classification. I think both should be named based on their respective OSI reference model layers, Physical and Data Link or alternatively 'Layer 1' and 'Layer 2'.

SuggestedRemedy

Use the terms 'Physical Layer classification' and 'Data Link Layer classification' or 'Layer 1' and 'Layer 2' throughout the draft.

Response Response Status C

ACCEPT IN PRINCIPLE.

Use the terms 'Physical Layer classification' and 'Data Link Layer classification'

See 55, 52, 54, 65, 224

Cl 00 SC P L # 228
 Law, David 3Com

Comment Type ER Comment Status A

Something seems to have gone wrong with the fonts throughout the draft. The font used for headers should be Arial and for text Times New Roman. For special symbols see the latest special symbols table.

SuggestedRemedy

Use correct fonts.

Response Response Status C

ACCEPT IN PRINCIPLE.

David to help editor set correct fonts.

IEEE P802.3at D0.2 DTE Power via MDI Enhancements comments

Cl 33 SC 2.2a P8 L3 # 236
 Law, David 3Com

Comment Type TR Comment Status A

The text states that 'Type 1 PSEs may optionally implement Type 1 hardware classification.' It then states that 'This limits the minimum power the Type 1 PSE may expect to provide to a PD 15.4 W'.

[a] I don't understand the 'This limits ..' text, I didn't think it was the classification that limits the power, I thought that was only optionally to do so based on classification, if classification took place, which in itself is also optional for a Type 1 PSE (see 33.2.8.6). The limit of 15.4W is just simply the limit for a Type 1 PSE.

[b] While I understand that the 15.4W is a minimum value for item 14 in Table 33-5, I believe here it is a maximum value. If you have a Type 1 PSE the maximum power you can expect to draw from it is 15.4W. If you try to draw more power the PSE is permitted to consider this an overcurrent condition (Table 33-5, item 8, ICUT overcurrent range, minimum 15400/Vport) and if so, after a delay of TOVLD would have to remove power.

[c] The power 15.4W isn't what a Type 1 PSE 'expect to provide to a PD', instead it is the power sourced at the PI of the PSE - a portion of this power is dissipated in the cabling and doesn't reach the PD.

[d] I believe similar comments to [a], [b] and [c] are also true for Type 2 PSEs.

[e] I'm not too sure if it is here that we should be defining what classification methods can be used. For example the current text doesn't actually say that Type 2 classification can't be used for a Type 1 PSE, only that Type 1 classification can optionally be used. Regardless the 'may' and 'shall' statements made here are a duplication of statements made in subclause 33.2.7 (page 32, lines 27 through 33) and so should not be included here.

[f] On a similar note the text says that a Type 2 PSE may optionally implement link layer classification, but is silent if a Type 1 PSE may do so. Since it is permitted I assume it can do so, I don't remember a motion prohibiting it. Again however any restrictions on the use of link layer classification belongs in subclause 33.2.7a 'Link layer classification'.

[g] I think the text 'Table 33-5 specifies the electrical characteristics of Type 1 and Type 2 PSEs. When a Type 2 PSE powers a Type 1 PD, the PSE shall meet the electrical requirements of a Type 1 PSE.' should be moved to somewhere a lot closer to Table 33-5 to make sure it isn't missed.

[h] I don't believe that 'A Type 2 PSE satisfies all requirements of a Type 1 PSE, whereas a Type 1 PSE does not necessarily meet the requirements of a Type 2 PSE.'. One of the requirements of a Type 1 PSE is that it uses Type 1 classification if it uses any classification, a Type 2 PSE would not do that. Isn't the point actually that a Type 2 PSE can support all PDs that a Type 1 PSE supports whereas a Type 1 PSE may not be able to support all PDs a Type 2 PSE supports.

Suggested Remedy

Suggest that:

[1] Duplicate requirements are removed so that subclause 33.2.2a reads:

33.2.2a PSE types

Two types of PSE are defined - Type 1 and Type 2.

Type 1 PSE:

A type of PSE that can supply a maximum of 15.4W at the PI.

Type 2 PSE:

A type of PSE that can supply a maximum of 36W at the PI.

Note - A Type 2 PSE can support all PDs that a Type 1 PSE supports whereas a Type 1 PSE may not be able to support all PDs a Type 2 PSE supports.

[2] The text 'When a Type 2 PSE powers a Type 1 PD, the PSE shall meet the electrical requirements of a Type 1 PSE.' should be added to the end of the first paragraph of 33.2.8 'Power Supply output'.

Response

Response Status C

ACCEPT IN PRINCIPLE.

See 83, 152

TYPE 1 PSE:

A type of PSE that fully supports Type 1 PDs.

TYPE 2 PSE:

A type of PSE that fully supports Type 1 and Type 2 PDs.

[2] The text 'When a Type 2 PSE powers a Type 1 PD, the PSE shall meet the electrical requirements of a Type 1 PSE.' should be added to the end of the first paragraph of 33.2.8 'Power Supply output'.

Note to editor: We will define 'fully supports' later.

IEEE P802.3at D0.2 DTE Power via MDI Enhancements comments

CI 33 SC 2.3.4 P9 L 24 # 247
 Darshan, Yair Microsemi Corporation

Comment Type T Comment Status A
 The definition for "error_condition" is not satisfied.

SuggestedRemedy

Change definition from:
 "A variable indicating the status of implementation-specific fault conditions that require the PSE not to source power.."

To
 "A variable indicating the status of implementation-specific fault conditions or other system faults that prevents meeting Table 33-5 that require the PSE not to source power..":

Response Response Status C
 ACCEPT IN PRINCIPLE.

Change sentence to:
 A variable indicating the status of implementation-specific fault conditions or optionally other system faults that prevents meeting Table 33-5 that require the PSE not to source power.

CI 33 SC 2.7.2 P18 L 23 # 249
 Darshan, Yair Microsemi Corporation

Comment Type T Comment Status R
 Potential problem:
 When PSE is at Reset range especiall when it is in Vrest_high then at 31V indication data is lost since PD has not started yet and captured the PSE type.

SuggestedRemedy

If PSE successfully done with the 2 fingers classification it will stay at 7V min until power up and steady state operation.
 Reset will hapen only after PSE issued Vreset_low.

Response Response Status C
 REJECT.

This comment was WITHDRAWN by the commenter.

CI 33 SC 2.7.2 P18 L 39 # 256
 Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status A
 Replace "shall" with "may"

SuggestedRemedy

It should be "may ommit" not "shall" to simplify classification circuits of type 2. (in any case if PD advertize class 0-3 then PD can't take more then advertized current although PSE is type 2 i.e. all parties PSE and PDs knows all required info.)

Response Response Status C
 ACCEPT IN PRINCIPLE.

Change 'shall' to 'may'.

CI 33 SC 2.8 P23 L 22 # 257
 Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status A
 Draft D0.2: Table 33-5 item 2b.

We had an error in the "transient voltage" motion.
 We can't allow voltage above 60Vp as indicated by:
 1) SELV definitions
 2) Table 33-6 item 3b

See additional data in attached presentation.

SuggestedRemedy

Delete 33-5 item 2b.
 Correct last motion as poposed by Vport_ad hoc at the last phone conference.

Response Response Status C
 ACCEPT IN PRINCIPLE.

Previously had motion to delete Item 2b. Resolved this comment.

IEEE P802.3at D0.2 DTE Power via MDI Enhancements comments

Cl 33 SC 2.1 P6 L10 # 265
 McCormack, Michael Texas Instruments

Comment Type E Comment Status R
 Both drawing of Figure 33-4a show transformers while other DC blocking yet AC allowing
 (CE deleted: blocking) technologies may be suitable.

SuggestedRemedy
 Replace windings with some form of black box which indicates DC blocking.

Response Response Status C

REJECT.

see 202

Cl 33 SC 2.3.1 P8 L30 # 266
 McCormack, Michael Texas Instruments

Comment Type E Comment Status A

The word "applicable" is vague

SuggestedRemedy
 Strike the word, the tables are clear on the different types of PSEs.

Response Response Status C

ACCEPT.

Cl 33 SC 2 P3 L31 # 267
 McCormack, Michael Texas Instruments

Comment Type T Comment Status R

The word "optionally" can not be stricken, there are legacy PSEs that will not classify.

SuggestedRemedy
 Restore "optionally"

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

see 46, 229

Cl 33 SC 2.2 P7 L50 # 268
 McCormack, Michael Texas Instruments

Comment Type TR Comment Status A
 The sentence prohibiting four pair has been struck through. I do not recall a vote to make
 this change. This is a major issue for compatibility and cost to the end customers. There
 are numerous IP claims against four pair where none of the filing / patent holders have
 disclosed terms or promised no enforcement.

SuggestedRemedy
 Replace the prohibition

Response Response Status C

ACCEPT IN PRINCIPLE.

Resolved by 48

Cl 33 SC 2.2a P8 L11 # 269
 McCormack, Michael Texas Instruments

Comment Type TR Comment Status R
 I do not believe that Type 2 PSEs are required to support Type 2 hardware classifications.
 I believe we have previously voted that the type of classification for Endspan PSEs is a
 choice of hardware or Layer 2.

SuggestedRemedy
 Replace the first sentence with: "Type 2 PSEs shall implement classification. Type 2 PSEs
 may optionally implement Type 2 hardware classification."

Response Response Status C

REJECT.

The Type 2 PSE must perform at least one classification voltage probe. This behavior is
 captured in the text in 33.2.7.2a.