Cl **00** *SC* **0** *P* *L* # 24

Obara, Satoshi — Fujitsu Component LT

Comment Type **G** *Comment Status* **D**

For readers' comprehension, please add informative annex which describes relationship between exsiting 802.3af devices and Type1/Type2 devices of 802.3at.

SuggestedRemedy

See my comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

We eagerly await your suggested text. Accepting comment results in no change to the document.

Cl **00** *SC* **0** *P* *L* # 325

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

*** Comment submitted with the file 31532000024-GRN_comments.csv attached ***

This comment is to ensure that all comments supplied by Gerard Nadeau are in fact captured. Comments were supplied in 802.3 Working Group ballot file format and were manually transferred in to the inferior IEEE ballot tool. The original comment file is attached to ensure completeness.

SuggestedRemedy

Review Rogue comments entered by the chair and verify all of Mr Nadeau's comments are included.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Accepting comment results in no change to text.

Cl **00** *SC* **0** *P* *L* # 178

Maytum, Michael — Bourns, Inc.

Comment Type **GR** *Comment Status* **D**

The impulse value of 1.5 kV 10/700 is too low for the above reasons. Compliance only to the lower 1.5 kV 10/700 condition allows manufacturers to reduce insulation withstand voltage and potentially expose users to greater hazards.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Comment makes reference to another comment and offers no solution. Contexually, this is a duplicate of comment 177 (the referred to comment) and therefore this comment is unneccessary.

Cl **00** *SC* **0** *P* *L* # 333

McCormack, Michael — Texas Instruments

Comment Type **GR** *Comment Status* **D**

I am unsure where to fix this, but, it appears to me that we have made all type 2 PDs managed devices and have triggered support for management for all clauses implemented by a Type 2 PD. This is, I believe, and unintended consequence of using LLDP for handshaking.

SuggestedRemedy

Not sure how to fix.

Proposed Response *Response Status* **W**

lots of discussion offline but no concensus.

Some snips from the discussions:

"So either we need to change IEEE 802.3at to match IEEE 802.3bc or IEEE P802.3bc to match IEEE 802.3at next week. If we decide to go with LLDP being a separate containment tree as IEEE P802.3bc is at the moment we have solved the above problem - if we don't we need to change the packages in IEEE P802.3at to allow LLDP to be separate from the other attributes."

"Since we voted to make 802.3at contingent on 802.3bc, I think we should change 802.3at to match 802.3bc. Otherwise we will have a mismatch. Also the attributes corresponding to the legacy Power TLV presently follow the containment in 802.3bc. So it makes sense to put all the attributes related to PoE within the same containment."

Cl **00** *SC* **0** *P* *L* # 23

Obara, Satoshi — Fujitsu Component LT

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

I can find many "See IEEE802.3, Clause XX" and "See Clause XX" in the draft text.

SuggestedRemedy

Please Unify "See IEEE802.3, Clause XX" into "See Clause XX".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 179

Cl **01** *SC* **1.3** *P* **17** *L* # 22

Turner, Michelle

Comment Type **GR** *Comment Status* **D**

802.1AX is cited in the Normative reference clause. It is also cited in a note (informative). It should be cited normatively in text as well.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 28

Cl **01** *SC* **1.3** *P* **17** *L* **11** # 28

Landry, David — Silicon Laboratories

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

These normative references to 802.1 exist in 802.3bc, which will likely precede 802.3at in ratification.

SuggestedRemedy

Remove the editor's note and 802.1AB and 802.1AX references.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4** *P* **17** *L* **27** # 179

Jones, Chad — Cisco Systems, Inc.

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

The rest of these definitions have the format '(See IEEE 802.3, Clause 33)' while 1-event and 2-event says as described in 33.2.8. Shouldn't we be consistent?

SuggestedRemedy

change to (See IEEE 802.3, Clause 33, Subclause 2.8) in two places. (line 27 and Line 32)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4** *P* **17** *L* **47** # 233

Patoka, Martin — Texas Instruments

Comment Type **G** *Comment Status* **D**

Definition of a type 2 PD seems weak

SuggestedRemedy

A PD that provides a Class 4 signature during Physical Layer classification, understands 2-event classification, and is capable of DLL classification. (See IEEE 802.3, Clause 33.)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4** *P* **17** *L* **50** # 234

Patoka, Martin — Texas Instruments

Comment Type **G** *Comment Status* **D**

Definition of a type 2 PSE seems weak

SuggestedRemedy

A PSE that supports 2-event hardware classification or hardware 1-event classification and DLL classification, and can provide up to 36W. (See IEEE 802.3, Clause 33.)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4** *P* **17** *L* **50** # 82

Vetteth, Anoop — Cisco Systems, Inc.

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

Definition of Type 2 PSE refers to PD as singular object while definition of Type 1 PSE refers to PD as a plural object.

SuggestedRemedy

Be Consistent

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change line 45 to read ".only a Type 1 PD."

Cl **01** *SC* **1.5** *P* **18** *L* **3** # 29

Landry, David — Silicon Laboratories

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

These definitions of LLDP exist in 802.3bc, which will likely precede 802.3at in ratification.

SuggestedRemedy

Remove the LLDP and LLDPDU abbreviations.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **25** *SC* **25.4.4a** *P* **19** *L* **11** # 180

Jones, Chad — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *100BTX*

Four new shalls in this new text.

SuggestedRemedy

Ensure PICS cover the shalls P19, L11, L13, L19; P20, L5

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

We eagerly await your suggestions.

Suggested PICs:

A receiver in a Type 2 Endpoint PSE or Type 2 PD meets the requirements of 25.4.5a.

A transmitter in a Type 2 Endpoint PSE or Type 2 PD delivering or accepting more than 13.0 W average power
meets either the Open Circuit Inductance (OCL) requirement in 9.1.7 of TP-PMD, or meets the requirements
of 25.4.4a.1.

Figure 25-1, equivalent system time constant, greater than 2.4 µs when calculated using measurement
points A and C.

A 100BASE-TX PMD in a Type 2 Endpoint PSE or Type 2 PD meets differential
voltage signals received at the MDI that were transmitted from a remote transmitter within the specifications
of Clause 25 and have passed through a link specified in 25.4.6 are translated into one of the
PMD_UNITDATA.indicate messages with a bit error ratio less than 10-9 after link reset completion.

Cl **25** *SC* **25.4.4a** *P* **19** *L* **18** # 213

Law, David 3Com

Comment Type **T** *Comment Status* **D** *TEZ*

Since this isn't a conformance test specification, but an interoperability specification, it is best if we can avoid specifying in terms of test conditions, but instead in terms of the conditions under which the specification shall be met.

SuggestedRemedy

Suggest that '.. using the fixture shown ..' should read '.. using the reference circuit shown ..'. In addition delete Note 1 as this relates to one of the factors the implementer has to account for during implementation of the reference circuit and there are other - such as the effects of the measurement equipment used - that also have to be considered which are not covered in the notes.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **25** *SC* **25.4.4a.1** *P* **19** *L* **26** # 220

Law, David 3Com

Comment Type **T** *Comment Status* **D** *TEZ*

If a cable is to be allowed we should specify what cable it is, can it be any piece of cable or does it have to be Cat 5 or better. Suspect it is the latter so specify the cable has to meet or exceed subclause 25.4.7 'UTP cable plant'.

SuggestedRemedy

Change '.. cable less than ..' to read '.. cable, meeting or exceeding the requirements of 25.4.7, less than ..'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **25** *SC* **25.4.4a.1** *P* **19** *L* **29** # 30

Landry, David Silicon Laboratories

Comment Type **E** *Comment Status* **D** *EZ*

There may be confusion about which portion of the PHY test fixture is the device-under-test and which portion corresponds to the test circuit itself.

SuggestedRemedy

Draw a dashed line through the terminals, and annotate the left side with "DUT" and the right side with "test circuit"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See 219 for additional text.

Cl **25** *SC* **25.4.4a.1** *P* **19** *L* **30** # 219

Law, David 3Com

Comment Type **E** *Comment Status* **D** *EZ*

Suggest the MDI should be marked in Figure 25-1.

SuggestedRemedy

Mark the boxes with a cross in them with a vertical dotted line that is annotated MDI.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 30, and add MDI.

Cl **25** *SC* **25.4.4a.1** *P* **19** *L* **34** # 214

Law, David 3Com

Comment Type **E** *Comment Status* **D** *EZ*

There should be a separate figure numbers and titles for the transmitter load circuit diagram and the time constant measurement diagram.

SuggestedRemedy

Add a title to the upper diagram that reads 'Type 2 system time constant test load' and change the title to the second diagram to read 'Type 2 system time constant measurement'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **25** *SC* **25.4.4a.1** *P* **19** *L* **41** # 122

Schindler, Frederick Cisco Systems, Inc.

Comment Type **T** *Comment Status* **D** *TEZ*

p16 l41. Tying this new approach to the legacy approach improves the reader's understanding.

SuggestedRemedy

Show that tau = 2L/R, where L = open-circuit inductance of the Ethernet isolation transformer and R = 100 ohms.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Request the Editor to fit this into text flow. Also see 218.

Cl **25** *SC* **25.4.4a.1** *P* **19** *L* **41** # 123

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **D** *EZ*

p19, l41. A small negative sign is sometimes missed.

SuggestedRemedy

Reformate the equation to remove the negative sign.
tau = T/ln(Va/Vc)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **25** *SC* **25.4.4a.1** *P* **19** *L* **42** # 218

Law, David — 3Com

Comment Type **E** *Comment Status* **D** *100BTX*

The equation should be placed in the text flow with definitions of the parameter used.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Suggested text below. Also see 122, 214.

Point B is the point of maximum baseline wander droop, and is the zero point for the vertical axis. Point A, with MDI voltage VA, is
earlier in time from B, with a magnitude that is 80 % of the MLT-3 upper envelope value. Point C, with MDI voltage VC, is between
A and B, with a magnitude that is 20 % of the MLT-3 upper envelope value. The time between A and C is T.
These measurements are to be made for the transmitter pair and observing the differential signal output at
the MDI with intervening cable less than 1 m long. The time constant of the transmitter MDI connected to the test fixture of figure ??? is given by:

[place figure 25-1 formula and equation number here. Remove formula from Figure 25-1]

Also integrated with 122, 123, 220, 214, decisions.

Cl **25** *SC* **25.4.4a.1** *P* **19** *L* **50** # 31

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *EZ*

The terms "test circuit" and "test fixture" are used inconsistently.

SuggestedRemedy

Standardize on one term, preferably "test circuit."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace "test fixture" with "test circuit."

Cl **25** *SC* **25.4.4a.1** *P* **19** *L* **51** # 1

Darshan, Yair — Microsemi Corporation

Comment Type **G** *Comment Status* **D** *EZ*

Draft D4
Figure 25-1 title:
The title use "test fixture" and the text in Note 1 use "test circuit"
Let's use the same term in both.

SuggestedRemedy

To pick one of the terms and synchronize between Figure 25-1 title and Note 1 text.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 31

Cl **25** *SC* **25.4.4a.1** *P* **19** *L* **51** # 14

Darshan, Yair — Microsemi Corporation

Comment Type **G** *Comment Status* **D** *EZ*

Draft D4.0 Note 1 page 19 line 51 says:
"NOTE 1-The value of the 100 ohm termination resistor can be adjusted to compensate for the test circuit resistance.
The test circuit resistance should exceed 2 kohm."
Following my objective of clarifying the text in order to reduce the amount of test conditions interpretations I have few questions that may be needed to be clarified:
1. What is "the test circuit resistance" which part of figure 25-1 is it?
Is it the PHI output resistance that determines Ibias?
If this is the intention then modify the text to be:
"NOTE 1-The value of the 100 ? termination resistor can be adjusted to compensate for the test circuit resistance which is defined as |(v1-v2)|/Ibias. The test circuit resistance should exceed 2 k?."
See attached "modified Figure 25-1" proposal for clarifying the issue.
2. The text " ..can be adjusted to compensate for ..": It is not clear why a compensation is required. If the intent is to adjust the 100 ohm in order to compensate the effect of the 2 2Kohm on the total equivalent termination resistance then modify the text to:
"NOTE 1-The value of the 100 ? termination resistor can be adjusted to compensate for the effect of the test circuit resistance which is defined as |(v1-v2)|/Ibias, on the total equivalent termination resistor. The test circuit resistance should exceed 2 k?."
See attached "modified Figure 25-1" proposal for clarifying the issue.

SuggestedRemedy

Group to clarify it.
My proposal is:
1. Add V1, V2 labels to Ibias terminals in Figure 25-1 (See attached drawing "modified figure 25-1".
2. Modify Note 1 text to be:
"NOTE 1-The value of the 100 ohm termination resistor can be adjusted to compensate for the effect of the test circuit resistance which is defined as |(v1-v2)|/Ibias, on the total equivalent termination resistor. The test circuit resistance should exceed 2 kohm."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 30, 219, 214

Cl **25** *SC* **25.4.4a.1** *P* **19** *L* **51** # 166

Darshan, Yair — Microsemi Corporation

Comment Type **E** *Comment Status* **D** *EZ*

*** Comment submitted with the file 31476500024-Modifiedfigure25-1Rev003.pdf attached ***

Draft D4.0 (SA) Note 1 page 19 line 51 says:
(This comment is replacing other similar comment that I have sent on the subject)
"NOTE 1-The value of the 100 ohm termination resistor can be adjusted to compensate for the test circuit resistance.
The test circuit resistance should exceed 2 kohm."
Following my objective of clarifying the text in order to reduce the amount of test conditions interpretations I am suggesting to modify figure 25-1 for better clarity:
1. Mark were the PI starts and ends as we did in other drawings.
2. Add the label "Termination" near the 100 ohm resistor

SuggestedRemedy

Modify figure 25-1 for better clarity as follows (see attached file: modified figure 25-1 rev 003.pdf):
-Mark were the PI starts and ends as we did in other drawings.
-Add the label Termination near the 100 ohm resistor

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 30, 219, 214

Cl **25** *SC* **25.4.5a** *P* **20** *L* **4** # 32

Landry, David — Silicon Laboratories

Comment Type **T** *Comment Status* **D** *TEZ*

Section 25.4.5a could have better readability.

SuggestedRemedy

Change to: Differential voltage signals generated by a remote transmitter that meets the specifications of Clause 25; passed through a link specified in 25.4.6; and received at the MDI of a 100BASE-TX PMD in a Type 2 Endpoint PSE or a Type 2 PD shall be translated into one of the PMD_UNITDATA.indicate messages with a bit error ratio less than 1e-9 after link reset completion.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change to: Differential voltage signals generated by a remote transmitter that meets the specifications of Clause 25; passed through a link specified in 25.4.6; and received at the MDI of a 100BASE-TX PMD in a Type 2 Endpoint PSE or a Type 2 PD shall be translated into one of the PMD_UNITDATA.indicate messages with a bit error ratio less than 1e-9 after link reset completion.

Instruct editor to adjust the PICs related to this shall if required.

Cl **30** *SC* **30.2.3** *P* **22** *L* **3** # 258

Law, David — 3Com

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

IEEE P802.3bc defines a entirely relationship diagram for LLDP objects that is separate from the DTE and Repeater system entity relationship diagrams currently found in IEEE 802.3. Further, rather than defining a new TLV, IEEE P802.3at is extending the existing Power via MDI TLV so should extent the current MIB defined for that TLV.

SuggestedRemedy

Separate out the LLDP related attributes from the oPSE and oPD managed objects and move them to a modification to the IEEE P802.3bc defined oLldpXdot3LocSystemsGroup and oLldpXdot3RemSystemsGroup managed objects.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The containment model in 802.3at and 802.3bc do not match. This will be discussed as part of the Maint TF when it considers comments on the WG Ballot for 802.3bc. Based on the outcome of that discussion, IEEE P802.3at will implement the appropriate changes.

Cl **30** *SC* **30.2.5** *P* **25** *L* **28** # 83

Vetteth, Anoop — Cisco Systems, Inc.

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

The power priority attribute that the PSE sends is named "aDLLPDPowerPriority" while the mirrored value is called "aDLLPowerPriority"

SuggestedRemedy

Either use PD or drop PD from both. Do the same for PD object class also. Do a global change

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Use "aDLLPDPowerPriority". Editors to make global change.

Cl **30** *SC* **30.2.5** *P* **26** *L* **26** # 190

Mahinfallah, Ahmad — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *86*

It is required to have a defined and unique PD model number if aPDModelNumber is to be used.

SuggestedRemedy

Provide for a well-defined and unique PD model number.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Refer comment #86

Cl **30** *SC* **30.2.5** *P* **26** *L* **26** # 254

Law, David — 3Com

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

The package that aPDReducedOperationPowerValue is in is not marked.

SuggestedRemedy

Add an 'X' in the PD Basic Package (mandatory) column for the attribute aPDReducedOperationPowerValue.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.2.5** *P* **26** *L* **26** # 86

Vetteth, Anoop Cisco Systems, Inc.

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

aPDModelNumber is useless unless it is defined and unique

SuggestedRemedy

Remove this attribute and its attribute definition on page 32

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.2.5** *P* **26** *L* **26** # 85

Vetteth, Anoop Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *254*

aPDReducedOperationPowerValue does not belong to any package

SuggestedRemedy

Unless the standard defines how to use this attribute, it dosent make any sense. Remove this attribute and the corresponding attribute definition on page 33. At the very least define which package this attribute belongs to.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Refer 254

Cl **30** *SC* **30.2.5** *P* **26** *L* **26** # 191

Mahinfallah, Ahmad Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *86*

What is meant by this comment "aPDReducedOperationPowerValue does not belong to any package"?

SuggestedRemedy

Please define and elaborate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Refer #86

Cl **30** *SC* **30.2.5** *P* **43** *L* **44** # 84

Vetteth, Anoop Cisco Systems, Inc.

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

aDLLPDPowerPriority and aMirroredDLLPowerPriority should belong to PD DLL Power Classification Package

SuggestedRemedy

Correct this

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.9.1.1.12** *P* **26** *L* **48** # 255

Law, David 3Com

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

Both the oPSE and oPD managed object classes contain attributes named aDLLPowerType and aMirroredDLLPowerType which I don't think is allowed.

SuggestedRemedy

Either delete these attributes - they seem redundant as the Type will always be PSE for the oPSE managed object class and PD for the oPD managed object class, or name them so they are unique.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Delete the attributes

Cl **30** *SC* **30.9.1.1.22** *P* **29** *L* **11** # 256

Law, David 3Com

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

This attributes states it '.. returns the response time of the local system ..' however does not specify the units used.

SuggestedRemedy

Specify the time units used for this attribute.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Use seconds

Cl **33** *SC* **33.1.3** *P* **37** *L* **21** # 363

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Missing comma

SuggestedRemedy

Should read "In an Endpoint PSE and in a PD, the PI is encompassed within the MDI."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.1.3** *P* **37** *L* **8** # 212

Law, David 3Com

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

In IEEE Std 802.3af the similar figure for the Midspan PSEs made it clear that power was only supplied from the PSE to the PD - this was simple since the 'spare pairs' we 'broken' in the PSE and only the ones connecting to the PI were powered. Now in the case of IEEE 802.3at Midspans, the use of transformer coupling or other techniques, allows power to be supplied on the 'data pair' if desired. I however still think there is merit to indicate in this figure that power is only sourced in the direction of the PI so an initial reader will capture this concept from the diagram.

SuggestedRemedy

Suggest that the two vertical lines connecting the PSE box in the Midspan to the wire be changed to curved lines curving in the direction of the PI - or alternatively use something similar to the bus rippers symbol found in schematics - after all we are only powering half of the 8 wires in the 'bus'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.1.4** *P* **37** *L* **53** # 181

Jones, Chad Cisco Systems, Inc.

Comment Type **E** *Comment Status* **D** *EZ*

"related to but not equivalent to the" -- Missing commas?

SuggestedRemedy

related to, but not equivalent to, the...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.1.4.1** *P* **38** *L* **3** # 326

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

*** Comment submitted with the file 31532100024-GRN_comments.csv attached ***

Remove extra commas in line "Type 2 operation requires Class D, or better, cabling as"

SuggestedRemedy

Should read "Type 2 operation requires Class D or better cabling as"

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Ed note: note referring to attachement was mistakenly added in the Rogue comment interface. Please ignore.

The commas are intentional to purposely draw attention to the fact that cabling can be better than specified.

Cl **33** *SC* **33.1.4.2** *P* **38** *L* **19** # 235

Patoka, Martin Texas Instruments

Comment Type **TR** *Comment Status* **D** *TEZ*

Clarify that the imbalance is intra-pair

SuggestedRemedy

Resistance unbalance is a measure of the difference between the two conductors of a twisted pair in the 100 Ohm balanced cabling system.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2** *P* **38** *L* **32** # 236

Patoka, Martin Texas Instruments

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

The term endpoint is used in 33.1.3

SuggestedRemedy

The PSE is the portion of the endpoint or midspan

Proposed Response *Response Status* **W**

PROPOSED REJECT.

end station: A system attached to a LAN that is an initial source or a final destination of MAC frames transmitted across that LAN. A Network layer router is, from the perspective of the LAN, an end station; a MAC Bridge, in its role of forwarding MAC frames from one LAN to another, is not an end station.
(See IEEE 802.3, Clause 43.)

Endpoint by itself is not defined, only Endpoint PSE. End Station is the proper term as this is the initial definition of a PSE.

Cl **33** *SC* **33.2** *P* **38** *L* **33** # 327

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

*** Comment submitted with the file 31532200024-GRN_comments.csv attached ***

Insert colon after "are" in the second sentence of the paragraph and start list elements with "to"

SuggestedRemedy

Should read "The PSE's main functions are: to search the link section for a PD, to supply power to the detected PD through the
link section, to monitor the power on the link section, and to remove power when no longer requested or required, returning to the searching state."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Ed note: note referring to attachement was mistakenly added in the Rogue comment interface. Please ignore.

Cl **33** *SC* **33.2.1** *P* **38** *L* **51** # 328

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

*** Comment submitted with the file 31532300024-GRN_comments.csv attached ***

Either add a comma to the first sentence or subtract one from the second (add being preferred.) Be consistent with lists

SuggestedRemedy

Should read "PSEs can be compatible with 10BASE-T, 100BASE-TX, and/or 1000BASE-T. PSEs may support either Alternative A, Alternative B, or both." or "PSEs can be compatible with 10BASE-T, 100BASE-TX and/or 1000BASE-T. PSEs may support either Alternative A, Alternative B or both."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

FYI: The comment tool added a bogus reference to an attachement that does not exist.

Should read "PSEs can be compatible with 10BASE-T, 100BASE-TX, and/or 1000BASE-T. PSEs may support either Alternative A, Alternative B, or both."

Cl **33** *SC* **33.2.10** *P* **66** *L* **13** # 61

Landry, David Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *shall*

The state diagram captures the power on behavior related to this shall statement -- making the normative term extraneous.

SuggestedRemedy

Remove "shall"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The statement is true but the specification has similar constructs used throughout it.

Decide what to do in the TF and then task the Editor to adjust the PICs if required (the PICs should be the same but repeated for the statemachine).

Cl **33** *SC* **33.2.11** *P* **66** *L* **34** # 183

Jones, Chad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **D** *EZ*

a condition exists, conditions exist

SuggestedRemedy

replace exists with exist.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.11.1.2** *P* **67** *L* **48** # 62

Landry, David — Silicon Laboratories

Comment Type **ER** *Comment Status* **D** *EZ*

"the PI of the PSE PI" is redundant redundant.

SuggestedRemedy

Change to "the PSE PI"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.11.1.2** *P* **67** *L* **53** # 63

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

Buried in item 3a is the requirement that the power feeding ripple and noise spec should be met when AC MPS is being probed. Instead of this scavenger hunt, a direct statement would suffice.

SuggestedRemedy

Delete item 3a, and place in 33.2.11.1.1 a statement that "The PSE shall meet the power feeding ripple and noise requirements of Table 33-11 when probing for the AC MPS with a valid PD connected."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accept and instruct the Editor to adjust the PICs as required.

Cl **33** *SC* **33.2.11.1.2** *P* **67** *L* **6** # 149

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *pics*

p67, 6. Eliminate confusing names. For example, avoid using a Imin min name and Imin max.
ER
Replace all "Imin_max" with "Ihold_max," and and "Imin_min" with "Ihold_min."
Replace table 33-11, p61, item 18 "Imin" with: "Ihold."
This comment supersedes and is related to another comment made on P61 related to Imin2.

SuggestedRemedy

Add a sentence to the bottom of 33.2.9.7 that states:
"The ICUT threshold may equal the Ipeak value determined by equation 33-3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The comment and remedy both contain remedy information--the comment remedy fits this comment best.

Replace all "Imin_max" with "Ihold_max," and "Imin_min" with "Ihold_min."
Replace table 33-11, p61, item 18 "Imin" with: "Ihold."
This comment supersedes and is related to another comment made on P61 related to Imin2.

Instruct the Editor to adjust affected PICs.

Cl **33** *SC* **33.2.11.1.2** *P* **68** *L* **11** # 65

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

Items 4a and 4b contain normative shalls. This is a bad spot, buried in a table, when there is an entire section (33.2.11.1.1) that already makes these statements -- with additional timing requirements that are not even spelled out here.

SuggestedRemedy

Remove the "shalls"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

4a, parameter:
Remove "Shall not remove power from the PI." Replace with "Valid impedance."

4a, additional information:
Strike sentence "Impedance shall . component."

4b, Remove "Shall remove power from PI." and replace it with, "Invalid impedance."

Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.11.1.2** *P* **68** *L* **37** # 66

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *EZ*

These notes on Rpd_d and Cpd_d should not be part of the figure title. They should be part of the figure.

SuggestedRemedy

Take the notes out of the title, and add to them to the figure above.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.11.1.2** *P* **68** *L* **52** # 67

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *EZ*

Figure 33-17 seems rather devoid of meaningful content. In fact, denoting an AC impedance as a resistor may mislead people.

SuggestedRemedy

Strike Figure 33-17.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Strike Figure 33-17.

Adjust references to Figure 33-17 as required.

Cl **33** *SC* **33.2.11.1.2** *P* **68** *L* **7** # 64

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *EZ*

Table entry 3c is another scavenger hunt that is unnecessary, since the reader should already have read about TMPDO in the Table 33-11, and the dropout behavior is explicitly defined in text in section 33.2.11.1.1.

SuggestedRemedy

Delete item 3c.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.2** *P* **39** *L* **2** # 124

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **D** *EZ*

p39, l2. These definitions are copies of what is presented on p17.

SuggestedRemedy

Reference the definitions rather than repeating them or use a word processing feature that keeps the definitions consistent.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Instruct the Editor to determine and use the best way to keep definitions consistent.

Cl **33** *SC* **33.2.3** *P* **43** *L* **42** # 329

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

*** Comment submitted with the file 31532400024-GRN_comments.csv attached ***

Add commas around "in some cases"

SuggestedRemedy

Should read "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."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Ed note: note referring to attachement was mistakenly added in the Rogue comment interface. Please ignore.

Cl **33** *SC* **33.2.3** *P* **43** *L* **42** # 330

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

*** Comment submitted with the file 31532500024-GRN_comments.csv attached ***

Add commas around "in some cases"

SuggestedRemedy

Should read "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."

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Exact duplicate of 329, which is in the EZ bucket.

Ed note: note referring to attachement was mistakenly added in the Rogue comment interface. Please ignore.

Cl **33** *SC* **33.2.3** *P* **43** *L* **48** # 331

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *pics*

The paragraph does not make proper sense, specifically the phrase "or both" does not in light of the second sentence unless the PSE is intended to have multiple link segments.

SuggestedRemedy

Should read "A PSE shall implement Alternative A or Alternative B. While a PSE may be capable of both Alternative A and Alternative B, PSEs shall not operate both Alternative A and Alternative B on the same link segment simultaneously." A PSE can not truly 'implement' something it is prohibited from 'operating.'

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This is legacy text. The change would prevents a PSE from providing one of two alternatives.

Cl **33** *SC* **33.2.4** *P* **50** *L* **34** # 87

Vetteth, Anoop Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *pics*

The default value of ted_timer_done should be "Done". If the default value is "Not_Done" it will not permit power-on for any port under normal operating condition until the first fault is encountered (which ironically can never happen). This branch from CLASSIFICATION_EVAL to POWER_DENIED will be taken and so power will always be denied.

SuggestedRemedy

Add to the definition of ted_timer on page 48: "The default state of this timer is ted_timer_done"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4** *P* **50** *L* **37** # 88

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *pics*

The criterion "power_applied" is used only with legacy_powerup. New criterion "!current_limiting" is used with new definition for inrush. The definition for power_applied says that the "PSE has begun steady state operation ..... completed ramp of voltage and is operating beyond the POWER_UP requirements of 33.2.9.6". All these should apply for new inrush definition also. Moreover all the timers on page 52 are initialized when "power_applied" is asserted. Per the SM on page 50, the PSE can reach the POWER_ON state even when "power_applied" is not asserted. This is most certainly a bug.

SuggestedRemedy

Add to the definition of "power_applied" on page46 : ".... completed ramp of voltage, is not in current limiting state and is operating beyond....."; Change the transition condition from POWER_UP to SET_PARAMETERS to: [(tinrush_timer_not_done * legacy_powerup) + tinrush_timer_done] * power_applied * tpon_timer_not_done * (PSE_TYPE = 2); Change the transition condition from POWER_UP to POWER_ON to: [(tinrush_timer_not_done * legacy_powerup) + tinrush_timer_done] * power_applied * tpon_timer_not_done * (PSE_TYPE = 1); Change the transition condition from POWER_UP to POWER_ON to: tinrush_timer_done*[legacy_powerup + !power_applied + (Iport >= Iinrush)]; Remove current_limiting definition from page 45

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This needs to be reviewed by the TF.

Add to the definition of "power_applied" on page46 : ".... completed ramp of voltage, is not in current limiting state and is operating beyond....."; Change the transition condition from POWER_UP to SET_PARAMETERS to: [(tinrush_timer_not_done * legacy_powerup) + tinrush_timer_done] * power_applied * tpon_timer_not_done * (PSE_TYPE = 2);

Change the transition condition from POWER_UP to POWER_ON to: [(tinrush_timer_not_done * legacy_powerup) + tinrush_timer_done] * power_applied * tpon_timer_not_done * (PSE_TYPE = 1);

Change the transition condition from POWER_UP to ERROR_DELAY to: tinrush_timer_done*[legacy_powerup + !power_applied + (Iport >= Iinrush)]; Remove current_limiting definition from page 45

Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.4.1** *P* **44** *L* **11** # 33

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

The "if power is to be applied ..." paragraph contains normative language that reflects behavior already captured in the state diagram. We have generally chosen to eschew this tendency with new behavior, and should clean up old text whenever possible.

SuggestedRemedy

Eliminate the "shall" statements in paragraph starting on line 11. Also, eliminate "PSE shall back off ..." language from paragraph on line 20.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The TF needs to determine how to handle this type of comment. Shalls are used in the text, the behavior defined by the state diagram take precidence over the shalls in the text.

How should the text be adjusted if this was accepted so that it does not create a conflict with the state diagram?

See 61.

Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.4.1** *P* **44** *L* **15** # 125

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

p44, l15. A system with a Type 1 PSE and a Type 2 midspan may be constructed to power Type 2 PDs.

SuggestedRemedy

Add the following note to the end of section 33.2.4.1,
Note: A Type 1 Alternative A, PSE may need to have its DTE Power ability disabled when it is attached to the same link segments as a Type 2 Alternative B, midspan PSE.
This allows the Type 2 Alternative B, midspan to successfully complete a detection cycle.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.1** *P* **44** *L* **24** # 332

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

The phrase "that is" is unnecessary and slightly awkward.

SuggestedRemedy

Should read "If a PSE performing detection using Alternative B detects an open circuit (see 33.2.7.3) on the link section, then that PSE may optionally omit the detection backoff."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.4** *P* **44** *L* **21** # 2

Darshan, Yair Microsemi Corporation

Comment Type **ER** *Comment Status* **D** *EZ*

Draft D4
There is no such term PD Inrush.
It should be "PD Inrush current"

SuggestedRemedy

Lines 21 and 22 (two occurrences): Replace "PD inrush" with "PD inrush current"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Assume this is page 45.

Accept the suggestion.

Cl **33** *SC* **33.2.4.4** *P* **45** *L* **1** # 126

Schindler, Frederick Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *TEZ*

p45, 1. This value is implementation dependent. It is also tested but not set in the state diagrams.

SuggestedRemedy

Add the following sentence immediately after the variable name.
A variable that is set in an implementation-dependent manner.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.4** *P* **45** *L* **19** # 35

Landry, David Silicon Laboratories

Comment Type **T** *Comment Status* **D** *TEZ*

The legacy_powerup variable seems more like a constant. Are we sure that we are consistently using constant and variables when we should be? My idea of a variable is something that changes throughout the operation or evaluation of a state diagram. Other questionable variables are class_num_events, mr_pse_alternative, pse_dll_capable, pse_skips_event2.

SuggestedRemedy

Verify that each variable is actually a variable and not a mis-labeled constant.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Move legacy_powerup to the constant section. It is doubtful that a PSE would change how it operates.

See 2.

Cl **33** *SC* **33.2.4.4** *P* **45** *L* **19** # 127

Schindler, Frederick Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *TEZ*

p45, 19. This value is implementation dependent. It is also tested but not set in the state diagrams.

SuggestedRemedy

Add the following sentence immediately after the variable name.
A variable that is set in an implementation-dependent manner.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.4** *P* **45** *L* **22** # 3

Darshan, Yair — Microsemi Corporation

Comment Type **ER** *Comment Status* **D** *pics*

Dtaft D4
The wording of "Using only this PI voltage information
is insufficient" is confusing.
Discussion:
If it "is insufficient" as the text says then why we allow it? it may cause interoperability problems...
The reason why we allow it is to continue to support legacy which work fine so using the wording "is insufficient" tells the reader that we know for a fact that in all cases that this method is used it is not working which is also not true.

SuggestedRemedy

Change "is insufficient" to
Option a) : "may be insufficient"
Option b) : "in some cases is insufficient"
Option c) : "in some cases may be insufficient"
Option d) : Other equivalent wording..

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 34

Cl **33** *SC* **33.2.4.4** *P* **45** *L* **22** # 34

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *pics*

The statement, "Using only this PI voltage information is insufficient to determine ..." is too strong.

SuggestedRemedy

Change to: Using only this PI voltage information may be insufficienct to determine ...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Unless the PD is communicating with the PSE I do not see how a PSE can ever know the PD has reached its constant operating point.

This comment could be accepted better facilate legacy implentations.

Cl **33** *SC* **33.2.4.4** *P* **45** *L* **30** # 334

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

"when" is unnecessary

SuggestedRemedy

Should read "If monitoring both components of the MPS, the DC component of MPS" or you could add "when" on line 33.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Should read "If monitoring both components of the MPS, the DC component of MPS."

Cl **33** *SC* **33.2.4.4** *P* **46** *L* **20** # 128

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

p46, 20. This text does not cover the state where TEST_MODE result in DTE power.

SuggestedRemedy

Add sentence to the end of pi_powered, TRUE sentence.
... to be powered, or power is being forced on in TEST_MODE.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.4** *P* **46** *L* **42** # 129

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *TEZ*

p46, 42. This value is implementation dependent. It is also tested but not set in the state diagrams.

SuggestedRemedy

Add the following sentence immediately after the variable name.
A variable that is set in an implementation-dependent manner.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.4** *P* **47** *L* **10** # 335

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

"with pse_skips_event2." seems unnecessary

SuggestedRemedy

Should read "The PSE can choose to bypass a portion of the classification state flow."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

"The PSE can choose to bypass a portion of the classification state flow."

Cl **33** *SC* **33.2.4.4** *P* **47** *L* **9** # 130

Schindler, Frederick Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *TEZ*

p47,9. This value is implementation dependent. It is also tested but not set in the state diagrams.

SuggestedRemedy

Add the following sentence immediately after the variable name.
A variable that is set in an implementation-dependent manner.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This refers to variable pse_skips_event2.

Cl **33** *SC* **33.2.4.5** *P* **46** *L* **12** # 337

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Replace comma with semicolon

SuggestedRemedy

Should read ". . . MPS; see . . . "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Assume this is page 48.

The editor should adjust this text as appropriate. The suggested solution is consistent with text on the same page.

Cl **33** *SC* **33.2.4.5** *P* **46** *L* **15** # 338

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Replace comma with semicolon

SuggestedRemedy

Should read ". . . time; see . . . "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Assume this is page 48.

The editor should adjust this text as appropriate. The suggested solution is consistent with text on the same page.

Cl **33** *SC* **33.2.4.5** *P* **46** *L* **17** # 339

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Replace comma with semicolon

SuggestedRemedy

Should read ". . . turn-on; see . . . "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The editor should adjust this text as appropriate. The suggested solution is consistent with text on the same page.

Cl **33** *SC* **33.2.4.5** *P* **47** *L* **41** # 336

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Period following "addition" should be a colon (if the text following the word is the addition.)

SuggestedRemedy

Should read "All timers operate in the manner described in 14.2.3.2 with the following addition: A timer is reset . . . "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.5** *P* **48** *L* **2** # 131

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *TEZ*

p48, 2. This text changes the definition from what some legacy devices expect and conflicts with the definition provided in table 33-11, item 25.

SuggestedRemedy

Replace "detect" with "power," in this sentence. Have the Editor update the related PIC.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.5** *P* **49** *L* **6** # 340

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Verb does not agree with subject

SuggestedRemedy

Should read "This function returns a variable: ", also fix on line 15

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

On line 6 and 15, replace "return" with "returns."

Cl **33** *SC* **33.2.4.6** *P* **48** *L* **31** # 132

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

This text is easily confused with PD detection.

SuggestedRemedy

Replace "PD detection" with "PD classification."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.6** *P* **48** *L* **32** # 133

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

p48, 32. Specifications cover compliant behavior.

SuggestedRemedy

Delete this sentence.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.6** *P* **48** *L* **41** # 36

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *EZ*

This sentence has some issues: "The variable signature as defined in 33.2.7 and the variable mr_valid_signature." First, the variable signature is NOT defined in 33.2.7, which describes the method of detection probing and the electrical parameters of a valid PD detection signature but makes no mention of any state diagram variables. Second, this sentence seems redundant, as it is naming two variable which are reproduced immediately below.

SuggestedRemedy

Strike the sentence on line 41.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Strike the sentence on line 41 and modify the sentence on line 40 from "This function . variables:" to "This function . variables used to model PSE detection covered in 33.2.7:"

Cl **33** *SC* **33.2.4.6** *P* **48** *L* **50** # 37

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

The variable, mr_valid_signature, seems to be used only once in the state diagram: set to FALSE in the IDLE state. It does not appear anywhere else. The diagram instead mostly uses (signature == valid).

SuggestedRemedy

Strike the function variable mr_valid_signature.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
The comments are valid.

Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.4.6** *P* **49** *L* **1** # 134

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

p49, 1. Provide text showing what this function does.

SuggestedRemedy

Add the following text after the existing text,
This function produce the classification mark voltage.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.6** *P* **49** *L* **14** # 4

Darshan, Yair — Microsemi Corporation

Comment Type **TR** *Comment Status* **D** *pics*

Draft D4
1. do_short_detect function detects short circuit condition and not overload condition. So we need to fix the text (it was copied from do_overload_detect..)
2. However overload condition may be many scenarios that is ended with "short circuit" condition from the PSE point of view examples:
1. Very high load that corresponds to very low output resistance load < 1 ohms.
2. Overload that corresponds to current > Icut_max
All of the above may be considered as overload conditions or "short circuit" condition from the PSE point of view.
I belive that short circuit doesn't mean zero ohms.
As a result do_short_detect function detects short circuit and overload as well. In this case is very much depends on system specific implementation. (All short circuits are overload as well but not all overload scenarios are short circuit conditions. It depends by the PSE output impedance as well. The difference between do_short_detect and do_overload_detect is a) the time TLIM or TOVLD b) Current thresholds c) Enforcement d) different states which requires two separate functions)

SuggestedRemedy

Change from:
"do_short_detect
This function monitors the PSE output current and detects an overload condition for TLIM within a sliding window."
To:
"do_short_detect
This function monitors the PSE output current and detects a short circuit condition or an overload condition for TLIM within a sliding window."

(All short circuits are overload as well but not all overload scenarios are short circuit conditions. It depends by the PSE output impedance as well. The difference between do_short_detect and do_overload_detect is a) the time TLIM or TOVLD b) Current thresholds c) Enforcement d) different states which requires two separate functions)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 39, 237

Cl **33** *SC* **33.2.4.6** *P* **49** *L* **14** # 237

Patoka, Martin — Texas Instruments

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

do_short_detect function defined itself as an overload, looks to be a cut-n-paste from overload

SuggestedRemedy

This function detects a PSE short circuits condition as current above Ilimmin for TLIM

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This function detects a PSE short circuit condition when the PI has provided current of ILIM for TLIM within a sliding window.

Note that the requirement of the commentor is satisfied and a sliding window may be used to deal with misbehaved PDs that pulse the PSE into ILIM.

OBE 39

Cl **33** *SC* **33.2.4.6** *P* **49** *L* **14** # 39

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

There is a copy-paste error in the first sentence of the do_short_detect function description. The function does not detect an overload condition only; it detects a short circuit (and by extension, an overload) condition.

SuggestedRemedy

Change " ... detects an overload condition ..." to "... detects a short cicuit condition or an overload condition ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This draft considers a PSE PI supplying more than Pclass to be in overload, when the PI is in current limit, the port is considered to be in a short circuit condition. Therefore, when the port is in current limit, both a short circuit and an overload condition exist. However, a function designed to detect a short should not be asserted when only an overload condition exists.

The function is used to monitor a short.

Change " ... detects an overload condition ..." to "... detects a short circuit condition ..." [removed or overload because it if covered by do_overload_detect]

See 237, 4, 41

Cl **33** *SC* **33.2.4.6** *P* **49** *L* **15** # 40

Landry, David — Silicon Laboratories

Comment Type **ER** *Comment Status* **D** *EZ*

The word "return" should be plural.

SuggestedRemedy

Change "return" to "returns."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.6** *P* **49** *L* **19** # 41

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

The do_short_detect function isn't really looking for a current limit mode in the PSE. It should be monitoring for a short circuit condition.

SuggestedRemedy

Change "current limit" to "short circuit" on lines 19 and 20.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

The function returns valid when the PSE should remove PI power due to a short.

Change "current limit" to "short circuit" on lines 19 and 20.

see 39, 237, 4, 5

Cl **33** *SC* **33.2.4.6** *P* **49** *L* **19** # 5

Darshan, Yair — Microsemi Corporation

Comment Type **TR** *Comment Status* **D** *pics*

Draft D4
If the result of the do_short_detect function is TRUE, it doesn't necessarily mean that the PSE has detected a current limit condition which is true only to a specific implementation. The PSE may detect TRUE condition by only detecting that the current pass some threshold without activating current limit circuitry which is allowed by figure 33-15.

SuggestedRemedy

Change from:
"Values:
TRUE: The PSE has detected a current limit condition.
FALSE: The PSE has not detected a qualified current limit condition."
To:
"Values:
TRUE: The PSE has detected a short circuit condition.
FALSE: The PSE has not detected a qualified short circuit condition.
Short circuit current is defined as any current above Ipeak as illustrated in figure 33-15"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 41

Cl **33** *SC* **33.2.4.6** *P* **49** *L* **34** # 186

Jones, Chad — Cisco Systems, Inc.

Comment Type **T** *Comment Status* **D** *EZ*

This is the first mention of mutual identification, before it is defined.

SuggestedRemedy

add (see 33.2.8) after mutual identification

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.6** *P* **49** *L* **34** # 135

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *TEZ*

p49, 34. What if a Type 1 PD that supports DLL is attached? Fix this to improve PICs readability.

SuggestedRemedy

Delete the period from the first sentence and "A Type 2 PSE" from the second sentence to produce a single sentence: "..is not complete and shall ..." Have the Editor update the related PIC.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Delete the period from the first sentence and "A Type 2 PSE" from the second sentence to produce a single sentence: "..is not complete and shall ..."

This produces the new sentence:
When a Type 2 PSE powers a Type 2 PD, the PSE may choose to assign a value of '1' to parameter_type if mutual identification is not complete and shall assign a value '2' to the parameter_type if mutual identification is complete.

Have the Editor update the related PIC.

Cl **33** *SC* **33.2.4.6** *P* **49** *L* **6** # 38

Landry, David — Silicon Laboratories

Comment Type **ER** *Comment Status* **D** *EZ*

The word "return" should be plural.

SuggestedRemedy

Change "return" to "returns."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.7** *P* **50** *L* **11** # 42

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

The transition from IDLE to START_DETECTION, the transition from TEST_MODE to IDLE, and the transition from TEST_ERROR to IDLE all contain the qualifier (mr_pse_enable != force_power). This could technical be true if (mr_pse_enable = enable) or (mr_pse_enable = disable). However, the state (mr_pse_enable = disable) triggers an unconditional entry into the DISABLED state. Therefore, the only meaningful value for the statement (mr_pse_enable != force_power) is actually (mr_pse_enable = enable).

SuggestedRemedy

Change occurrences of (mr_pse_enable != force_power) to (mr_pse_enable = enable). This has the added benefit of being easier to follow in the state diagrams.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.4.7** *P* **52** *L* **12** # 136

Schindler, Frederick — Cisco Systems, Inc.

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

p52, 12. The state diagram and text of 33.2.11.1.2, line 14 do not match.
Text states "... Iport is greater than or equal to Imin max for at least Tmps every Tmps + Tmpdo..."
The state diagrams tests that the signature is invalid for at least Tmpdo before power is removed. It does not test that a valid signal has been present for at least Tmps.
The PD spec. on page 81, line 41 requires at least 10 mA for 75 ms.

SuggestedRemedy

Interoperability requires that a PD draw at least the holding current for at least the PSE hold time minimum.
Replace p67, line 14, "... Iminmax for at least Tmps every Tmps+Tmpdo, ..." with "... Iminmax continuously for at least Tmps every Tmps + Tmpdo, ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

P67, 6 requires Ihold (Iminmax) for at least TMPS to be considered valid.

P67, 7 the MPS is absent when port current is less than Ihold (Iminmin).

P67, 8 the MPS is either present or absent when within Ihold (Iminmin to Iminmax).

P45, 28 mr_mps_valid asserts when port current exceeds Ihold for at least TMPS.

p52, 3 the state diagram moves from MONITOR_MPS to DETECT_MPS when the MPS is not valid (Iport < Ihold). It moves from DETECT_MPS to MONITOR_MPS only when Iport > Ihold and this has been true for at least TMPS.

Replace p67, line 14, "... Iminmax for at least Tmps every Tmps+Tmpdo, ..." with "... Iminmax continuously for at least Tmps every Tmps + Tmpdo, ..."

Instruct the editor to adjust the PICs to match these changes.

Instruct the editor to combine this comment and 149, then adjust the PICs to match these changes.

Cl **33** *SC* **33.2.4.7** *P* **52** *L* **13** # 253

Law, David 3Com

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

The Overload state diagram is held in the IDLE_OVLD state when power is not applied (power_applied = false) , the moment power is applied (power_applied = true) it transition to the MONITOR_OVLD state when the do_overload_detect function is called once - see 21.5.1 'Actions inside state blocks' which states 'After performing all the actions listed in a state block one time, the state block then continuously evaluates its exit conditions until one is satisfied, at which point control passes through a transition arrow to the next block. While the state awaits fulfilment of one of its exit conditions, the actions inside do not implicitly repeat.'.
So the do_overload_detect function is called once after power_applied becomes true then never again - hence should an overload occur some time after power_applied becomes true it will not be detected - this doesn't appear to be the intended behaviour. The same is also true for the Short state diagram.
The simplest fix, assuming the timers that these two state diagrams used to provide are no longer required, is to define ovld_detected and short_detected as variables and delete the two state diagrams.

SuggestedRemedy

[1] Delete the Overload and Short state diagrams.
[2] Delete the do_overload_detect and do_short_detect functions
[3] Define ovld_detected and short_detected as variables
ovld_detected:
A variable indicating if the PSE output current has been in an overload condition (see 33.2.9.7) for at least Tovld of a one second sliding time.
Values: TRUE: The PSE has detected an overload condition.
FALSE: The PSE has not detected a qualified overload condition.
short_detected:
A variable indicating if the PSE output current is in a short circuit condition (see 33.2.9.8).
Values: TRUE: The PSE has detected a current limit condition.
FALSE: The PSE has not detected a qualified current limit condition.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This removes two simple state diagrams and provides the intended functionality.

[1] Delete the Overload and Short state diagrams.
[2] Delete the do_overload_detect and do_short_detect functions
[3] Define ovld_detected and short_detected as variables

ovld_detected:
A variable indicating if the PSE output current has been in an overload condition (see 33.2.9.7) for at least Tovld of a one second sliding time.
Values: TRUE: The PSE has detected an overload condition.
FALSE: The PSE has not detected a qualified overload condition.
short_detected:
A variable indicating if the PSE output current is in a short circuit condition (see 33.2.9.8).
Values: TRUE: The PSE has detected a current limit condition.
FALSE: The PSE has not detected a qualified current limit condition.

Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.5** *P* **52** *L* **43** # 243

Patoka, Martin Texas Instruments

Comment Type **E** *Comment Status* **D** *pics*

The PSE measures the link segment (per 33.2.7.1), however the text states is is measuring the PD.

SuggestedRemedy

Add a sentence similar to "The PSE PI is connected to a PD through a link segment, however in the following sections, the link is not called out to preserve clarity."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

---- Additional input from the commentor ----
The PSE is connected to a link section, which may or not have a terminating PD. P55L3 says this.
However, P52L43 states that the PSE is powering a PD - yes but when connected through a link segment.
This follows through the next paragraph. Also at P53L4.

My suggestion was to introduce the concept that the PSE sees maybe a cable & maybe a PD, but the PD always through a cable.
Then when the rest of sections refer only to PD, it will be implicitly stated that it is through the link segment.
---- end

Add a sentence after line 44, "The PSE PI is connected to a PD through a link segment. In the following sections the link is not called out to preserve clarity."

Cl **33** *SC* **33.2.5** *P* **52** *L* **46** # 341

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Reads better without the comma and "may"

SuggestedRemedy

Should read "Also, a PSE may successfully detect a PD but then opt not to power the detected PD."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.6** *P* **53** *L* **1** # 238

Patoka, Martin — Texas Instruments

Comment Type **E** *Comment Status* **D** *EZ*

Sections 33.2.5 - 33.2.7.3 all seem to be a part of the detection requirements of 33.2.5

SuggestedRemedy

Number these sections as a part of the detection section, 33.2.5.x

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.6** *P* **53** *L* **21** # 342

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Extra commas

SuggestedRemedy

Should read "A functional equivalent of the detection circuit that has no source impedance limitation but restricts the PSE
detection circuit to the first quadrant is shown in Figure 33-13."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.6.1** *P* **53** *L* **48** # 43

Landry, David — Silicon Laboratories

Comment Type **ER** *Comment Status* **D** *EZ*

There is an extraneous "and" in the parenthetical statement, (as specified in and Table 33-14).

SuggestedRemedy

Delete the "and"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.6.1** *P* **53** *L* **48** # 182

Jones, Chad — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

(as specified in and Table 33--14) -- extra 'and'

SuggestedRemedy

delete and: "(as specified in Table 33--14)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

OBE 43

Cl **33** *SC* **33.2.6.1** *P* **53** *L* **48** # 6

Darshan, Yair — Microsemi Corporation

Comment Type **E** *Comment Status* **D** *EZ*

Draft D4.0
remove the word "and"

SuggestedRemedy

remove the word "and" from "..(as specified in ..).."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

OBE 43

Cl **33** *SC* **33.2.6.1** *P* **53** *L* **50** # 7

Darshan, Yair — Microsemi Corporation

Comment Type **ER** *Comment Status* **D** *pics*

Draft D4
We can define only parameters that are measurable at the PI.
E.g. we can not define behaviour of power supply or other circuits inside the PSE or PD.
See multiple locations in the spec that explicitly state this concept.
Similarily when PSE is evaluating the presentce of valid PD as stated in line 50, it is done by at least two measurements with Vport and not with Vdetect.
Vdetect is internal variable. Vport is the variable which we have access to it.
It is true that Vport is function of Vdetect but Vdetect is not a variable that is define in one of the tables in the spec.
As aresult Vdetect should be Vport.

SuggestedRemedy

1. Delete Vedetect from figures 33-12 and 33-13 and leave the DC supply part unlabeled if it is permitted by the rules.
2. In line 50: Replace "Vdetect" with "Vport"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

1. Delete Vdetect from figures 33-12 and 33-13 and leave the DC supply part unlabeled.

2. In line 50: Replace "Vdetect" with "Vport"

See 46.

Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.6.1** *P* **53** *L* **53** # 239

Patoka, Martin — Texas Instruments

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

The settling tolerance of 1% in the note should be reduced to <0.3% for interopability. The difference between PSE accept and PD accept is 0.76% on the high limit.

SuggestedRemedy

Change tolerance to 0.3%

Proposed Response *Response Status* **W**

PROPOSED REJECT.

See 44.

A system that has not reached its final value can still provide accurate results that have a tolerance based on the measurement accuracy (V, I, time).

Cl **33** *SC* **33.2.6.1** *P* **53** *L* **53** # 44

Landry, David — Silicon Laboratories

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

The NOTE is not very good advice. If one always waits for the voltage at the port to settle, then it may be difficult to weed out PDs with an invalid detection signature due to excessive capacitance.

SuggestedRemedy

Since the note may not be a good idea, and its not normative, and we really shouldn't have to hand-hold implementors on how to make voltage/current measurements -- delete it.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

A worst-case PSE detection range with maximum capacitance and maximun Rvalid value will settle to a final value in k x 0.15 x 26500 = k x 4 ms maximum.

When an invalid capacitor is used, the time constant becomes 10/0.15 = 67 time longer.

This note was added to help ensure that adequate settling time was provided for detection. Many network devices that are not PDs have resistors and capacitors on their MDI connections. Short settling times during detection may result in a false positive.

Replace the note with:
NOTE-Settling time before voltage or current measurement: the voltage or current measurement should be taken after VPort has settled to within 1 % of its steady state condition for a PD detection signature connected as specified in Table 33-14.

See 239.

Cl **33** *SC* **33.2.6.1** *P* **54** *L* **33** # 242

Patoka, Martin Texas Instruments

Comment Type **TR** *Comment Status* **D** *open*

Table 33-5. Vos and Ios are not defined, while Vos is only useful for PSE design. Ios is meaningless. Since they have been undefined since 2005, they are not necessary.

SuggestedRemedy

Move Vos to Table 33-4, add comment "PSE must accommodate a PD with rectifier offset to Vosmax.", Delete Ios from Table 33-5.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Vos, and Ios have caused too much discussion and provide little benefit.
The specification will be easier to understand if these terms are eliminated.
Interoperability is maintained because a PSE shall provide Vvalid when driving a PD, and a PD provides Rvalid when driven with this voltage range.
This works because the PSE provides more than Vos and supplies enough current to drive Rvalid, and the PD provides Rvalid and takes into account its bias requirements for the operating voltage range.

Rdetect is a dynamic resistance. Some PSE detection circuits use a current source.
This requires a PD to provide a valid signature at a reasonable current.
The minimum value could be interpreted to be the PSE Ios of 12 uA.
I believe a value of 50 uA would work with all devices I am aware of and this provides more PD design margin.

Delete all references to PSE and PD Vos and Ios.
Remove Figure 33-19 and references to it.
Add parameter Ivalid to Table 33-14 with the same conditions as that table Rdetect. The minimum current is 50 uA.
Add a sentence to page 73, line 35, "Rdetect shall result when at least Ivalid current is sunk by the PD PI."

The Editor should use their discretion to cleanup text.

Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.7.1** *P* **55** *L* **3** # 241

Patoka, Martin Texas Instruments

Comment Type **TR** *Comment Status* **D** *open*

Vos and Ios are not defined

SuggestedRemedy

Remove these terms

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Related to 242.

Cl **33** *SC* **33.2.7.1** *P* **55** *L* **7** # 240

Patoka, Martin Texas Instruments

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

Rgood and Cgood are not defined

SuggestedRemedy

Add a note: "Rgood is calculated in the same manner as Rdetect in equation 33-7, and Cgood is extracted from the port R - C charge characteristics."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Formula 33-7 is defined at the PD.

On page 53, line 51, add:
Resistance in 33.2.5 is calculated from two voltage/current measurements made during the detection process.

R = (V2 - V1)/(I2 - I1) (33-?)
where
V1 and V2 are the first and second voltage measurements made at the PSE PI, respectively
I1 and I2 are the first and second current measurements made at the PD PI, respectively
R is the effective resistance. Note that attached PI capacitance may be determined using these measurements.

See 243.

Cl **33** *SC* **33.2.7.2** *P* **55** *L* **16** # 248

Patoka, Martin — Texas Instruments

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

Rbad and Cbad are not defined

SuggestedRemedy

Add a note: "Rbad is calculated in the same manner as Rdetect in equation 33-7, and Cbad is extracted from the port R - C charge characteristics."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 240

Cl **33** *SC* **33.2.8** *P* **55** *L* **35** # 20

Darshan, Yair — Microsemi Corporation

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

Draft D4.0 (SA)
We require PSE to maintain Vmark prior to Startup for Type 2 system.
If during Mark event 2 or even park event 1 PD was disconnected for a short period of time (e.g. less than 300msec ...) the PD lost its memory and will be powered as class 0 even if PSE did what he was required and disconnect time was less than 300msec
Discussion:
In Type 1 system this case is fully defined.
t<300msec : system operates
300 - 400msec : may or may not disconnected
>400msec : must be disconnected.
Here the problem in Type 2 is for t<300msec which meets disconnect criteria i.e. power should be on per the classification results BUT classification results were lost as PD was disconnected...

SuggestedRemedy

To instruct the editor add the following text to 33.2.8 at the relevant location:
"The behaviour of A Type 2 PD that was disconnected from a Type 2 PSE during Mark event is undefined and out of scope of this standard"

Proposed Response *Response Status* **W**

PROPOSED REJECT.

It is already undefined and out of scope. There is no need to enumerate all the things undefined and out of scope.

Cl **33** *SC* **33.2.8** *P* **55** *L* **35** # 45

Landry, David — Silicon Laboratories

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

The title of section 33.2.8 should make mention of mutual identification, since it is an important piece of 2-Event classification.

SuggestedRemedy

Change the title from "PSE classification of PDs" to "Mutual identification and PSE classification of PDs"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change the title from "PSE classification of PDs" to "PSE classification of PDs and Mutual Identification"

Cl **33** *SC* **33.2.8** *P* **55** *L* **41** # 187

Jones, Chad — Cisco Systems, Inc.

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

This is the definition of mutual identification and it seems to be incomplete

SuggestedRemedy

add after "PDs." on L43: "PDs or PSEs that do not implement classification will not be able to complete mutual identification and can only perform as a Type 1 device."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.8** *P* **56** *L* **39** # 89

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **D** *EZ*

The term "as soon as" sonds too restrictive

SuggestedRemedy

Replace with "after"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.8** *P* **56** *L* **49** # 266

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Missing 'shall'. Text has been changed from draft 3.0 D3.0 text: Subsequent to successful detection, all Type 2 PSEs shall perform classification. D3.3 text: Subsequent to successful detection, all Type 2 PSEs perform classification using at least one of the following:

SuggestedRemedy

Insert 'shall' ...all Type 2 PSEs shall perform classification using... If 'shall' is not inserted delete PICS PSE26 and renumber.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Find the redundant shalls and list here:

then delete PICS PSE26 and renumber

Cl **33** *SC* **33.2.8** *P* **57** *L* **27** # 19

Darshan, Yair Microsemi Corporation

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

Draft D4.0
The case of a PSE that successfully complete classification but due to system decision decide to not power the PD or decides to go to IDLE and start all from the beginning or to do classification again as long as Tpon is not done yet is missing from the text.
(We allow system to do detection and not continue to next state just because...system wants and we wanted this ability from any point in the state machine..)

SuggestedRemedy

Add the following text after line 30 in page 57:
"PSE that successfully completed classification may decide due to system decision, to:
a) Go to IDLE state
b) Not power the PD
c) Repeat classification without doing detection again as long as Tpon timer is not done yet"

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The state machine presently lets you redo detection followed by classification whenever desired as long as you are not recovering from an error condition

Cl **33** *SC* **33.2.8.1** *P* **57** *L* **42** # 137

Schindler, Frederick Cisco Systems, Inc.

Comment Type **E** *Comment Status* **D** *EZ*

p57, 42. Use variables.

SuggestedRemedy

Replace "6 ms" with TCLE1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.8.1** *P* **57** *L* **48** # 138

Schindler, Frederick Cisco Systems, Inc.

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

p57, 48. The specification requires the system to be within ICLASS_LIM.

SuggestedRemedy

Strike "greater than or."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change to "If the measured IClass is in the range of IClass_LIM..."

Cl **33** *SC* **33.2.8.1** *P* **57** *L* **49** # 47

Landry, David Silicon Laboratories

Comment Type **ER** *Comment Status* **D** *EZ*

"... at Type 2 PSE shall return ..." should be "... a Type 2 PSE shall return ..."

SuggestedRemedy

Make it so.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** SC **33.2.8.2** P **58** L **25** # 8

Darshan, Yair — Microsemi Corporation

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

DRAFT D4.0 (SA), the note in lines 25-26:
The text:
"NOTE: In a properly operating system, the port may or may not discharge to the VMark range due to the combination of channel capacitance and PD current loading."
is not fully acurate due to the fact that it is not only the function of the channel capacitance. It is also a function of the PD capacitance.

SuggestedRemedy

Change from:
"NOTE--In a properly operating system, the port may or may not discharge to the VMark range due to the combination of channel capacitance and PD current loading."
To:
"NOTE--In a properly operating system, the port may or may not discharge to the VMark range due to the combination of channel and PD capacitance and PD current loading."

(The minimum PD capacitance during detection and classification (Table 33-14 =0.05uF) is at least 5 times higher that the channel capacitance so the channel capacitance is only 20% of the minimum system capacitance at the above operating mode.)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** SC **33.2.8.2** P **58** L **31** # 139

Schindler, Frederick — Cisco Systems, Inc.

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

p58, 31. This statement is not necessary and could conflict with similar statements that use the parameter TCLE1 and TCLE2--see lines 8 and 14.

SuggestedRemedy

Delete this sentence, or replace it with,
"All measurements of Iclass shall be taken using the class event timing of table 33-10 from the application of VclassMIN to ignore intial transients.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

It is important to emphasise that PSEs can't measure before 6msec as PDs don't have to be stable for 5msec. The proposed remedy is vague as there are three event timings.

Suggest: "All measurements of Iclass shall be taken using the class event timing of table 33-10 from the application of VclassMIN to ignore intial transients. This implies a 6msec delay from application of VclasMIN to Iclass measurement."

Cl **33** SC **33.2.8.2** P **58** L **43** # 48

Landry, David — Silicon Laboratories

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

The last paragraph on the page should mirror the language of the similar behavior for 1-Event classification.

SuggestedRemedy

Instead of "... the PSE assumes the PD ..." should be "... the PSE treats the PD as a Type 1 ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** SC **33.2.8.2** P **59** L **19** # 140

Schindler, Frederick — Cisco Systems, Inc.

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

p59, 19. A PSE physical layer classifies by measuring Iclass. When the class current measured is
in between two valid class ranges the PSE may report the classes that is on either side of it. When a PSE does not measure class current or chooses not to use this measurement it may report
class 0--the default class.
Placing Class 0 within table 33-9 may confuse the reader.
Note that a Type 1 PSE could also ignore valid class current and report class 0.

SuggestedRemedy

Remove "May be Class 0," in the classification column of table 33-9 except for the case when
Iclass is >5.00 mA and < 8.00 mA, and replace the removed text with "May be."
Add a note below table 33-9 that states,
"Note: A Type 1 PSE may ignore Iclass and report class 0."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Good catch. The addition of 'Class 0' to the guardbands disregards the fact that the PSE can assign Class 0 even if it measures Class 1, 2, 3. To be complete every entry in the Classification column shuold have 'Class 0' first, but of course that would be silly. Better to remove the extraneous Class 0 options.

Remove "May be Class 0," in the classification column of table 33-9 except for the case when Iclass is >5.00 mA and < 8.00 mA, and replace the removed text with "May be Class" (effectively, delete '0,' in three places and '0 or' in one place).
Add a note below table 33-9 that states,
"Note: A Type 1 PSE may ignore Iclass and report class 0."

Cl **33** *SC* **33.2.9** *P* **60** *L* **1** # 188

Darshan, Yair — Microsemi Corporation

Comment Type **GR** *Comment Status* **D** *pics*

Draft D4.0 Table 33-11 items 1,6,7
When I reviewed the PSE and PD specifications during startup, I have noticed that there is a big difference between the energy dissipated at the PD per Table 33-18 items 1,5 and 50msec (PD spec) and what is specified for The PSE spec in Table 33-11 items 1,6,7 at the same time.
Example:
PD worst case numbers: 0.4Ap, 0.05sec, Vport 36V to 57V.
Cable: 0.4A to 0.45A for 0.05sec to 0.075sec, Rch=20 ohms.
If we add the energy dissipated in PD and Cable and compare it to the PSE numbers (44V-57V, 0.4A to 0.45A, 0.05s to -.075sec) we get huge difference which can never be used but hence not a cost effective requirement.
In order to solve this we can just add simple text at the PSE part during power up which requires that POWER_UP parameters shall be tested with a PD load that meets the above PD parameters per Table 3-18 specifications.

SuggestedRemedy

Add the following text at 33.2.9.6 after line 40:
"The specifications for Iinrush and Tinrush shall be met when PSE is connected to a load that meets Table 33-18 items 1,2,9 and 33.3.7.3."
or better text.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The heat dissipated during inrush:
Vpse < 10 V, 10 mA
10 V < Vpse < 30 V, 60 mA
30 V < Vpse < 57 V, 400 mA

Vds = 57 - Vpse
Note that as the current requirement increase, Vds decreases.

In the worst-case where 0 to 30 V occurs in 0 time:

(57 - 30) x 0.4 x 0.05 = 0.54 J

The worst-case system is:

A PD that has 180 uF and is drawing some power.

If a PD is just a 180 uF cap. then it takes 180 x 20 x 4 = 14.4 ms to charge up.

The excess power is used to power the PD.

Cl **33** *SC* **33.2.9** *P* **60** *L* **12** # 141

Schindler, Frederick — Cisco Systems, Inc.

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

p60, 12. Why does the specification need a static and and load regulation item listing?

SuggestedRemedy

Change references to item 2 to reference item 1. Add 33.2.9.2 to item 1 additional information. Delete item 2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change references to item 2 to reference item 1. Add 33.2.9.2 to item 1 additional information. Delete item 2.

Dynamic is used with reference to item 2 but not clearly defined. If this remdy is accepted or rejected remove reference to dynamic and clean up affected sentences.

See 49 and integrated any omitted concerns.

Cl **33** *SC* **33.2.9** *P* **60** *L* **13** # 46

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

The use of "Vport" should be discontinued. There are 4 quantities of interest: (1) the static output voltage of a PSE, (2) the static output voltage of a PD, (3) the instantaneous measurement of the voltage at the PSE's PI, (4) the instantaneous measurement of the voltage at the PD's PI. We have already named (2) VPort_PD, and (3) VPSE. We should call (1) VPort_PSE, and (4) VPD. This eliminates any ambiguous use of "VPort"

SuggestedRemedy

Change Table 33-11 item 1 to "Vport_PSE" and use this term whenever referencing this variable. Change all occurrences of Vport to VPSE or VPD as needed to refer to the instantaneous port voltage of the relevant PI.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.9** *P* **60** *L* **13** # 192

Mahinfallah, Ahmad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **D** *pics*

Vport is used in previous sections, but it is defined later in this section.

SuggestedRemedy

Define Vport in the first place it appears in the document.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 90.

Cl **33** *SC* **33.2.9** *P* **60** *L* **13** # 90

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **T** *Comment Status* **D** *pics*

Vport is defined in this section but is used prior to this section without referencing this section.

SuggestedRemedy

Include definition of Vport in section 1.4. Similarly Iport is used in multiple locations but defined in section 33.2.9.7. Include definition of Iport also in section 1.4

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

We eagerly await your text.

Suggest using the sentence on page 61, line 40 to create a Vport defintion.

Add Vport definition to section 1.4:
1.4.x Vport: the voltage at the PI measured between any conductor of one power pair and any conductor of the other power pair. (See IEEE 802.3, Clause 33.)

1.4.x Iport: the total power pair current going into the PI. (See IEEE 802.3, Clause 33.)

Cl **33** *SC* **33.2.9** *P* **60** *L* **16** # 49

Landry, David — Silicon Laboratories

Comment Type **T** *Comment Status* **D** *pics*

There is no apparent need for two voltage specs that are identical with different names (static output voltage vs load regulation).

SuggestedRemedy

Eliminate item 2, and collapse sections 33.2.9.1 and 33.2.9.2 together, essnetially requiring that Vport_PSE (I'm assuming we changed the name to this) applies over load (of course it does!).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 141

Cl **33** *SC* **33.2.9** *P* **60** *L* **29** # 91

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *pics*

The variable "Iport_max" is not used anywhere.

SuggestedRemedy

Removing this might be too controvertial but in order to prevent references like Iport_max min; it would be better to change the symbol to "Icon"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Iport_max is used in several places.

Change the symbol to "Icon."
Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.9** *P* **60** *L* **38** # 50

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *pics*

Tovld is a but of a non sequitur, since we have matchin Iinrush/Tinrush and Ilim/Tlim.

SuggestedRemedy

Change Tovld to Tcut.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Some people find CUT, LIM, and OVLD confusing because they are not sure which is the highest current limit.

Removing OVLD and replacing it with CUT removes one of the confusing names.

Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.9** *P* **60** *L* **47** # 93

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *pics*

Vport and Iport are used as instantenous values. Pport here is the max power capability

SuggestedRemedy

Replace Pport with Pcon. Change all references of Pport with Pcon. Pport is used only is section 33.2.9.11. If required nclude a definition of Pport which is defined as the instantenous power at the PSE PI. Pport_PD in the PD section is used as the instantenous PD power.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace Pport with Pcon. Change all references of Pport to Pcon.

Pport is used only is section 33.2.9.11. Include a definition of Pport in this section which defines it as "the instantenous power at the PSE PI."

??? Pport_PD in the PD section is used as the instantenous PD power.

Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.9** *P* **60** *L* **47** # 92

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *pics*

The parameter definition for line item 12 is not correct. This is not the continuous output power.

SuggestedRemedy

Change the parameter definition to "Output power capability in POWER_ON state" to be consistent with line item 5. Also change the heading for section 33.2.9.11 to "Output power capability in POWER_ON state"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change the parameter definition of table 33-11, item 11 to "Output power capability in POWER_ON state."

Change in 33.2.9.11 title should be decided by the Editor.

Cl **33** *SC* **33.2.9** *P* **60** *L* **49** # 142

Schindler, Frederick — Cisco Systems, Inc.

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

p60, 49. It is not clear that item 8, ICUT and item 13, Ptype can be less than the Table 33-11 minimum
value unless a significant amount of the specification is read. The specification reader would benefit from a note warning that limits may be more restrictive than table values.

SuggestedRemedy

Add a note just below section 33.2.9 line 4 stating:
Note: Table 33-11 limits show values that support worst-case operating limits.
These ranges may be narrowed when additional information is known and applied in accordance with this specification.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.9** *P* **60** *L* **53** # 9

Darshan, Yair — Microsemi Corporation

Comment Type **ER** *Comment Status* **D** *pics*

Draft D4.0
Table 33-11 item 15, additional information column:
The spec requires that Trise will be measured from 10% to 90% of Vport however Vport is a parameter that is defined in Table 33-11 item 1 which is a number from 44V to 57V for Type 1 and 50 to 57V for type 2.
Due to the fact that the specification refer to Trise which is the entire port voltage transition from its minimum value to its maximum valuse and not to 10% or 90% of 44V to 57V which is Vport, the spec requires some clarification.
The correct definition is "From 10% to 90% of the entire port voltage range during turn on at POWER_UP state" or equivalent wording to correct the above error.

SuggestedRemedy

Change the text in the "additional information" column from:
"From 10% to 90% of Vport"
To: "From 10% to 90% of the entire port voltage range during turn on at POWER_UP state"

(This change fix the problem in a way that allows port voltage range to be from:
a) 0V to Vport (Vport as specified in Table 33-11 item 1)
b) Voff to Vport (Voff is specified in Table 33-11 item 17)
c) Vmark to Vport
d) Vclass to Vport
e) Any minimum voltage at the port to Vport

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change the text in the "additional information" column from:
"From 10% to 90% of Vport"

To: "From 10% to 90% of the PI voltage range during the POWER_UP state"

Instruct the editor to adjust this text the PICs to match these changes, while considering the outcome of 46.

Cl **33** *SC* **33.2.9** *P* **61** *L* **10** # 94

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *pics*

Table 33-11 Line item 18. Imin leads to references like Imin_max

SuggestedRemedy

Change Imin to Ihold

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 149.

Cl **33** *SC* **33.2.9** *P* **61** *L* **11** # 51

Landry, David — Silicon Laboratories

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

We spell out "Maintain Power Signature" after an entry where we leave it an abbreviation.

SuggestedRemedy

Change "Maintain Power Signature" to "MPS" in items 19 and 20 for consistency and simplicity.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace table 33-11, parameter, item 19 with:
"DC MPS"
and item 20 with:
"PD MPS time for validity."

Cl **33** *SC* **33.2.9** *P* **61** *L* **18** # 143

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *pics*

p61, 18. Type 1 and Type 2 device need to support a PD overload situation.

SuggestedRemedy

Add a note to the additional information section of item 21.
Note: For practical implementations, it is recommended that Type 1 PSEs support Type 2 Iunb requirements.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** SC **33.2.9** P **61** L **22** # 52

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *TEZ*

"Detection backoff time" should only apply to Alt B detection. The parameter name is too general sounding.

SuggestedRemedy

Change "Detection backoff time" to "Alternative B detection backoff time"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** SC **33.2.9.1** P **61** L **41** # 144

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *pics*

p61, 41. Operating limits such as power line voltage and temperature are not defined by the IEEE.
The IEEE defines interoperability and the system designer determines over what operating range the interoperability is achieved.
"Line" is not defined but assumed to be power supply input voltage.

SuggestedRemedy

Remove the sentence, "When measured ... shall include line and temperature variations."
Have the Editor update the related PIC.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** SC **33.2.9.13** P **66** L **3** # 59

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *Shall*

The state diagram captures the Tpon behavior related to this shall statement -- making the normative term extraneous.

SuggestedRemedy

Remove "shall"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The TF needs to sort out a standard approach to shalls in text and state diagrams.

Cl **33** SC **33.2.9.14** P **66** L **8** # 60

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *EZ*

It seems strange to have a section, 33.2.9.14, whose only contents are a NOTE.

SuggestedRemedy

Promote the NOTE to a real paragraph.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** SC **33.2.9.2** P **61** L **48** # 145

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *pics*

p61, 48. Imin2 is not defined in this draft. This variable is defined in the IEEE 802.3 specification.
This variable was replaced with IMIN_MAX during a draft revision.

SuggestedRemedy

Replace all occurrence of IMIN2MAX with IMIN_MAX.
This change is required on pages 61, 62, ...
This comment is affected by another comment on IMIN.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See 149.

Instruct the editor to adjust the PICs to match these changes.

Cl **33** SC **33.2.9.2** P **61** L **49** # 10

Darshan, Yair — Microsemi Corporation

Comment Type **TR** *Comment Status* **D** *pics*

Draft D4.0
We change Imin2 and Imin 1 to Imin.
Change Imin2_max to Imin_max.

SuggestedRemedy

1. Change Imin2_max to Imin_max.
2. Also in 33.2.9.4 p. 62 line 13.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 145.

Cl **33** *SC* **33.2.9.2** *P* **61** *L* **49** # 53
Landry, David Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

IMin2 no longer exists.

SuggestedRemedy

Change Imin2 to Imin

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 145.

Cl **33** *SC* **33.2.9.2** *P* **61** *L* **49** # 244
Patoka, Martin Texas Instruments

Comment Type **TR** *Comment Status* **D** *pics*

Imin2 definition is unclear, it appears in 6 locations.

SuggestedRemedy

It might be that this s/b Imin per Table 33-11 item 18, however it must be clarified.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 145.

Cl **33** *SC* **33.2.9.4** *P* **62** *L* **13** # 54
Landry, David Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

IMin2 no longer exists.

SuggestedRemedy

Change Imin2 to Imin

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 145.

Cl **33** *SC* **33.2.9.5** *P* **62** *L* **31** # 55
Landry, David Silicon Laboratories

Comment Type **E** *Comment Status* **D** *EZ*

The dangling line from the Rchan definition is improperly indented.

SuggestedRemedy

Indent the line so it lines up with the rest of the definition body

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.9.5** *P* **62** *L* **33** # 16
Heath, Jeffrey Linear Technology

Comment Type **GR** *Comment Status* **D** *EZ*

(this comment may have been accidently submitted twice)
PDPeak_PD referenct to table 33-17 appears to be incorrect

SuggestedRemedy

Line 33 is:
PPeak_PD is the peak power a PD may draw for its class; see Table 33-17
New Text for Line 33:
PPeak_PD is the peak power a PD may draw for its class; see Table 33-18

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.9.6** *P* **62** *L* **38** # 168
Darshan, Yair Microsemi Corporation

Comment Type **ER** *Comment Status* **D** *EZ*

Draft D4.0 33.2.9.6 p. 62 line 38
The description of the POWER_UP is not complete (regarding PD inrush current) however instead of changing the text it will be easier to use make a reference to an existing text in other location that completes it as in 33.3.7.3 p.78 line 26.

SuggestedRemedy

Change lines 37 38 from:
"POWER_UP mode occurs between the PSE's transition to the POWER_UP state and either the expiration of TInrush or the conclusion of PD inrush currents."
To:
"POWER_UP mode occurs between the PSE's transition to the POWER_UP state and either the expiration of TInrush or the conclusion of PD inrush currents (see 33.3.7.3)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.9.6** *P* **62** *L* **41** # 57

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

This itemized list of Iinrush requirements is awkward to read. By the way, do we ever explicitly mention anywhere that the PSE is supposed to be limiting the current during inrush?

SuggestedRemedy

Leave the first paragraph of 33.2.9.6. Replace line 42 with "The PSE shall limit the maximum current sourced at the PI during POWER_UP. The maximum inrush current sourced by the PSE shall not exceed the PSE inrush template in Figure 33-14." Strike items (a) and (b). Reword item (c) as: During POWER_UP, for PI voltages above 30V, the minimum Iinrush requirement is 400mA. Reorder items (d) and (e) to denote increasing port voltage.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Leave the first paragraph of 33.2.9.6.

Replace line 42 with "The PSE shall limit the maximum current sourced at the PI during POWER_UP. The maximum inrush current sourced by the PSE shall not exceed the PSE inrush template in Figure 33-14."

Strike items (a) and (b). Reword item (c) as: During POWER_UP, for PI voltages above 30V, the minimum Iinrush requirement is 400mA. Reorder items (d) and (e) to denote increasing port voltage.

Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.9.6** *P* **62** *L* **41** # 56

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

What is the point of having a specification for Iinrush in the table if we immediately start making voltage-based and timing based changes to the limits?

SuggestedRemedy

Remove Iinrush from the table. The Tinrush spec will direct the reader here anyway, where they will learn all about how Iinrush works.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Tinrush is used in too many places. If it is removed from the table it should be defined.

Cl **33** *SC* **33.2.9.6** *P* **62** *L* **42** # 26

Darshan, Yair — Microsemi Corporation

Comment Type **ER** *Comment Status* **D** *pics*

Draft D4.0 (SA):
33.2.9.6 Defines the conditions required to meet the specifications for Iinrush but are not addressing the conditions for meeting Tinrush as well.
Tinrush minimum is 50msec which was originally calculated as long as Iinrush (0.4A to 0.45A) is kept at any port voltage from zero to Vport.
If implementer uses items (d) and (e) for Foldback current limit implementation in which PSE is allowed to supply Iinrush=60mA minimum (and not 0.4 to 0.45A) as long as 10V<=Vport<=30V as Tinrush may result with much higher time duration >75msec which is not permitted.
Example:
If the PD input capacitor is 150uF and PSE uses Iinrush=60mA from 0V to 30V and 0.4A from 30V to 57V, We get Tinrush=150uF*(30V/0.06A + (57V-30V)/0.4)=85ms>75msec.(After 75msec, port must turn OFF).
It became worse with higher capacitors value which also supported by this specifications.
So the question is: What are the conditions in which Tinrush should be tested.
It is obvious that it is the same conditions as Iinrush is tested i.e. the minimum requirement for the PSE is to test Iinrush and Tinrush from 30V to Vport if implementer chooses to implement 33.2.9.6 (d) and (e).

SuggestedRemedy

Suggested Remedy:
Replace the text of line 42:
"The specification for IInrush in Table 33-11 shall be met under the following conditions:"
With:
"The specification for Iinrush and Tinrush in Table 33-11 shall be met at initial port voltage of at least 30V and under the following conditions:"

It means that pending the implementation being used it can also be met at port voltage from 0V to Vport but this is not the minimum requirement.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 57, but that text may require an adjustment to accomidate this comment reference to table 33-11.

Cl **33** *SC* **33.2.9.6** *P* **62** *L* **44** # 245

Patoka, Martin — Texas Instruments

Comment Type **TR** *Comment Status* **D** *pics*

item a) is somewhat contradicted (in current required) by items c) - e)

SuggestedRemedy

Change a) to "During POWER_UP, the IInrush requirement applies for duration TInrush."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 57.

Cl **33** *SC* **33.2.9.6** *P* **63** *L* **10** # 95

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *TEZ*

Figure 33-14 shows Tinrush extending midway between 50ms and 75ms.

SuggestedRemedy

Since this is the Inrush upperbound template Tinrush should extend to 75ms

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.9.6** *P* **63** *L* **16** # 147

Schindler, Frederick — Cisco Systems, Inc.

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

p63, 16. POWER_UP is a state not a time.

SuggestedRemedy

Move POWER_UP below 0 on the x-axis of Figure 33-14. Lable this as "POWER_UP state." The TF should decide if a note is required to clarify the use of POWER_UP. See a related comment for additional recommendations.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Move POWER_UP below 0 on the x-axis of Figure 33-14. Label this as "POWER_UP state."

The TF should decide if a note is required to clarify the use of POWER_UP. See a related comment for additional recommendations.

Cl **33** *SC* **33.2.9.6** *P* **63** *L* **16** # 146

Schindler, Frederick — Cisco Systems, Inc.

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

p63, 16. Figure 33-14 provides a template that shows operating limits. It is incorrectly showing one possible implementation.

SuggestedRemedy

On Figure 33-14 replace the line from 0 s to POWER_UP with a horizontal line drawn from 50A at 0 s to 50 A at time POWER_UP. See a related comment for additional recommendations.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See 147.

Cl **33** *SC* **33.2.9.7** *P* **63** *L* **42** # 148

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *pics*

p63, 42. ICUT is a current threshold that monitors Ipeak. ICUT > =Ipeak.

SuggestedRemedy

Add a sentence to the bottom of 33.2.9.7 that states: "The ICUT threshold may equal the Ipeak value determined by equation 33-3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.2.9.8** *P* **64** *L* **48** # 58

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *pics*

0.025 A^2s as an energy limitation constant is deprecated. It was originally derived from 802.3af current levels, which are exceeded even at DC in Type 2 systems. It seems unnecessarily limiting to enforce the same empirical constant.

SuggestedRemedy

Change the value of K from (0.5A * 0.5A * 100ms) to [(600mA*450/350)^2 * 75ms] = 0.045 A^2s. Recalculate the intercepts with the 50A and 1.75A segments accordingly.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This should be discussed.

Instruct the editor to adjust the PICs to match these changes.

Cl **33** *SC* **33.2.9.8** *P* **65** *L* **16** # 246

Patoka, Martin — Texas Instruments

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

TIimmin does not agree with T33-11

SuggestedRemedy

TOVLDmin

Proposed Response *Response Status* **W**

PROPOSED REJECT.

TLIM is not equal to TOVLD for Type 2 PSEs.

What is the concern here?

Cl **33** *SC* **33.3** *P* **69** *L* **1** # 68

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *EZ*

The title for section 33.3 should follow the title of section 33.2.

SuggestedRemedy

Change "Powered devices" to "Powered devices (PDs)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3** *P* **69** *L* **3** # 69

Landry, David — Silicon Laboratories

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

The lead-in, "A PD is the portion of a device ..." is a bit redundant and not completely correct.

SuggestedRemedy

Change to, "A PD is the portion of a DTE that is ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.1** *P* **69** *L* **42** # 247

Patoka, Martin — Texas Instruments

Comment Type **TR** *Comment Status* **D** *TEZ*

Information in the note is critical to maintain interoperability with the PSE devices specified.

SuggestedRemedy

Remove the text "Note-" making it clear this is a requirement. Although the text is clear in this, the "Note" might be confusing.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.2** *P* **69** *L* **52** # 174

Beia, Christian — STMicroelectronics

Comment Type **TR** *Comment Status* **D** *PD General*

The first description of PD Types is related to 1-event or 2-event classification. This is not wrong, but neither the main feature. The real distinction is the maximum drawn power.

SuggestedRemedy

Add a sentence as the following: PDs that expect to draw from the PSE a maximum power up to 13W are known as Type1. PDs that expect to draw from the PSE a maximum power up to 25.5W are known as Type2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There are both power and class behavioral implications to Class 1 and 2. Modify the text to include both aspects as a logical AND.

Propose text:
From:
"Type 1 PDs implement 1-Event Physical Layer classification."

"Type 2 PDs implement both 2-Event Physical Layer classification (see 33.3.5.2) and Data Link Layer classification
(see 33.6)."

To:
Type 1 PDs draw 13W or less and implement a minimum of 1-Event Physical Layer classification, and advertise hardware class 0-3.

Type 2 PDs 1) draw from 13W to 25.5W, 2) implement both 2-Event Physical Layer classification (see 33.3.5.2) and Data Link Layer classification
(see 33.6), and 3) advertise hardware class 4.

Cl **33** *SC* **33.3.2** *P* **69** *L* **53** # 175

Beia, Christian STMicroelectronics

Comment Type **T** *Comment Status* **D** *PD General*

As per permutation table 33-8 a Type 1 PD is allowed to show a 2-event class signature.

SuggestedRemedy

Change the sentence to: Type 1 PDs implement 1-Event or 2-Event class signature.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment 174 and proposed resolution. There is nothing to bar a type 1 PD from implementing DLL classification. So, the proposed resolution uses the term "minimum of 1-event ."

Cl **33** *SC* **33.3.2** *P* **70** *L* **1** # 176

Beia, Christian STMicroelectronics

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

By definition, PDs implement Class signature and not classification (The definition for 1 or 2-Event classification is the application of a class event) so the sentence is inaccurate

SuggestedRemedy

Replace "Type 2 PDs implement 2-Event Phisical Layer Classification" with "Type 2 PDs implement 2-Event class signature"

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This is a matter of symantics. There is a protocol (voltage qualification or qualification and sequential state machine) associated with providing multiple signatures. The usage of "classification" implies both the protocol and the actual signature.

Cl **33** *SC* **33.3.2** *P* **70** *L* **22** # 70

Landry, David Silicon Laboratories

Comment Type **T** *Comment Status* **D** *PD Variables*

The PD state diagram constants and variables should be checked over for proper usage. Is class_sig a constant? Then why not pd_dll_capable?

SuggestedRemedy

Check over constant/variable usage.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

802.3 section 21.5.2 implies that a variable may have a default and has its value dynamic set.

Neither pd_2-event and pd_dll_capable in section 33.3.3.3 appear to have a dynamic nautre, but are established statically by the hardware capability.

Move these two from the Variable section to 33.3.3.2 Constant section, and reword to something like "A constant indicating ."

Cl **33** *SC* **33.3.2** *P* **70** *L* **7** # 150

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *PD Class*

p70, 7. A Type 2 PD that has not achieved mutual ID and can function as a Type 1 PD may interoperate as a Type 1 PD.
Fix text to make the PIC easier to read.

SuggestedRemedy

Combined and adjust the sentences on lines 6 and 7 by, replacing "... restrictions. Such a PD shall..." with
"... restrictions and shall..." then add sentence,
Type 2 and Type 1 PDs that operate within the Type 1 requirements may provide the user with an active indicator
that it is underpowered. Have the Editor update the related PIC.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Was
"A Type 2 PD that does not successfully observe a 2-Event Physical Layer classification or Data Link Layer classification conforms to Type 1 PD power restrictions. Such a PD shall provide the user with an active indication that it is underpowered. The method of active indication is left to the implementor."

To:
A Type 2 PD that does not successfully observe a 2-Event Physical Layer classification or Data Link Layer classification shall conform to Type 1 PD power restrictions and shall provide the user with an active indication if underpowered. Type 2 and Type 1 PDs that operate within the Type 1 requirements may provide the user with an active indicator. The method of active indication is left to the implementor.

Editor to modify PICS as necessary

Cl **33** *SC* **33.3.3.3** *P* **70** *L* **34** # 151

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *PD State Variables*

p70, 34. Values for variables: mdi_power_required; pd_2-event; pd_dll_capable; pd_max_power; pse_power_type; Vport_PD,
are implementation dependent. These are tested but not set in the state diagrams.

SuggestedRemedy

Add the following sentence immediately after each variable name.
A variable that is set in an implementation-dependent manner.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment 70. pd_2-event; pd_dll_capable; are changed to constants.

Vport_PD is a physical measurement. While the way it is measured, is implementation dependent, the voltage is not.

pd_max_power;pse_power_type; are driven within the state machine

mdi_power_required is not set within the state machine, but is somehing that could change by some actor outsid ethe state machine.

Add the following statement to the descriptive paragraph of mdi_power_required:

A variable that is set in an implementation-dependent manner.

Cl **33** *SC* **33.3.3.3** *P* **70** *L* **57** # 71

Landry, David — Silicon Laboratories

Comment Type **ER** *Comment Status* **D** *PD State Variables*

pd_dll_capable and pd_dll_enabled point to section 33.5. This is incorrect.

SuggestedRemedy

Point to "see 33.6"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. ed note: this is line 47, not 57.

The reference should be made to 33.3.5, not 33.6

See also comment 70.

Cl **33** *SC* **33.3.3.3** *P* **71** *L* **11** # 152

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

p71, 11. State NOT_MDI_POWERED does not exist.
I believe the state NOT_MDI_POWERED was replaced by IDLE.

SuggestedRemedy

Replace occurrence of "NOT_MDI_POWERED" with "IDLE."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.3.3** *P* **71** *L* **15** # 72

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *PD State Variables*

The power_received variable talks about power "present on the link." The PD is supposed to be specified at the PI.

SuggestedRemedy

Change "present on the link" to "present at the PI."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

From:
power_received
An indication from the circuitry that power is present on the link.

To:
power_received
An indication from the circuitry that power is present on the PD's PI.

Cl **33** *SC* **33.3.3.3** *P* **71** *L* **17** # 153

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

p71, 17. These values are vague.

SuggestedRemedy

Replace "Power not" with "The PD input voltage does not meet the requirements of Table 33-18 variable Vport_PD."
Replace "Power being" with "The PD input voltage meets the requirements of Table 33-18 variable Vport_PD."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.3.3** *P* **71** *L* **32** # 73

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *PD State Variables*

The present_mps variable talks about MPS "applied to the link." The PD is supposed to be specified at the PI.

SuggestedRemedy

Change "applied to the link" to "applied to the PI."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment 72

Cl **33** *SC* **33.3.3.3** *P* **71** *L* **43** # 74

Landry, David — Silicon Laboratories

Comment Type **ER** *Comment Status* **D** *PD State Variables*

Vport_PD is an electrical parameter denoting the static voltage input at which the PD functions. It is being used here to denote the instantaneous voltage measurement at the PI, which could have any value from 0V to 57V. This is wrong.

SuggestedRemedy

Use "VPD" instead, as discussed in the comment calling for better differentiated terminology for static operating voltages and instantaneous voltage measurements at the respective Pis.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Note to task force, there are many possible ways to do this. This bears some discussion. This also impacts ~7 locations in Figure 33-18 (PD state diagram)

1) use suggestion
2) change the capital V to a lower case v
3) VPD_PI or vPD_PI

Cl **33** *SC* **33.3.3.5** *P* **72** *L* **10** # 96

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *PD State Diagram*

The transition from IDLE state to DO_DETECTION state should be: "Vport_PD > Vreset" since all other transitions are based on voltage (for sake of consistency)

SuggestedRemedy

Change this. Removing mdi_power_required will not affect the SM because when !mdi_power_required is asserted, the SM automatically ends up in the IDLE state

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Agree that this transition should have some PSE voltage to drive it, the presence of present_detect_sig in the DO_DETECTION state along with the concept of PD not desiring power means that these two conditions should be ANDed.

The transition from IDLE state to DO_DETECTION state should be: "mdi_power_required * Vport_PD > Vreset"

Cl **33** *SC* **33.3.3.5** *P* **72** *L* **41** # 97

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *PD State Machine*

Page 75 line 29 and page 76 line 18 state that the "pse_power_type" variable is updated after DLL is completed. This action is not performed by the SM

SuggestedRemedy

Add the following assignment to MDI_POWER2: pse_power_type <= 2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This is the place where a PD discovers a PSE with type 1 hardware class is a type 2 PSE with DLL.

Cl **33** *SC* **33.3.3.5** *P* **73** *L* **1** # 18

Darshan, Yair — Microsemi Corporation

Comment Type **ER** *Comment Status* **D** *PD State Machine*

Draft D4.0
The "Note" in line 1:
"NOTE - DO_CLASS_EVENT3 creates a defined behavior for a Type 2 PD that is brought into the classification range repeatedly."
We need to clarify how PD is brought to such scenario i.e. this is not due to the PD operation.

SuggestedRemedy

Append the text "by the PSE." to the end of line 2 on page 73 so the new text will be:
"NOTE--DO_CLASS_EVENT3 creates a defined behavior for a Type 2 PD that is brought into the classification range repeatedly by the PSE."

Proposed Response *Response Status* **W**

PROPOSED REJECT.

While the recommended statement would not be incorrect, the basis of the standard is always that the PSE drives the link voltage, the PD drives the link current unless a special or fault condition occurs. That is, the PD does not back-drive the PI. Adding un-necessary words needlessly complicates the standard.

Cl **33** *SC* **33.3.3.5** *P* **73** *L* **1** # 21

Darshan, Yair — Microsemi Corporation

Comment Type **GR** *Comment Status* **D** *PD State Machine*

Draft D4.0 (SA)
The "Note" in line 1:
"NOTE--DO_CLASS_EVENT3 creates a defined behavior for a Type 2 PD that is brought into the classification range repeatedly."
DO_CLASS_EVENT3 should be DO_CLASS_EVENT_n due to the fact that DO_CLASS_EVENT3 will happen when PSE is going to startup and passing classification range once and when PD is passing Voff, Port voltage may drop to any value down to Vmark_min and voltage will ramp again (PSE is charging PD input capacitance) while crossing classification operating range hence DO_CLASS_EVENT4.
So for the general case we need to replace NOTE--DO_CLASS_EVENT3 with NOTE--DO_CLASS_EVENT_n while n is the number of ocassions when Vport is passing through classification range as a result of PSE - PD interactions.

SuggestedRemedy

1. Replace:
"NOTE-DO_CLASS_EVENT3 creates a defined behavior for a Type 2 PD that is brought into the classification range repeatedly."
With:
"NOTE-DO_CLASS_EVENT_n creates a defined behavior for a Type 2 PD that is brought into the classification range repeatedly (n times) by the PSE."
2. Update Figure 33-18 line 42, DO_CLASS_EVENT3 label
Alternatively, group to show how the above case is covered by the current state machine, Figure 33-18.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The existing DO_CLASS_EVENT3 permits multiple cycles.

The transient behavior of the link is not incorporated in the state machine - Vport_PD is definced as a static value. Thus there is no need to create a lot of extra states.

Cl **33** *SC* **33.3.3.5** *P* **73** *L* **4** # 75

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *PD State Machine*

The NOTE is redundant, as the Tclass variable in itself establishes the concept that it takes time to settle on a class signature.

SuggestedRemedy

Strike the NOTE.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This was put into the standard to address the need for the voltage to transition through the class range, but not the need for the PD to respond to it during the transition to operating voltage.

Cl **33** *SC* **33.3.4** *P* **73** *L* **37** # 76

Landry, David — Silicon Laboratories

Comment Type **E** *Comment Status* **D** *PD Detection*

The paragraph talking about signature guardbands and a PD that presents a non-valid signature being a non-valid PD is unnecessary.

SuggestedRemedy

Strike the paragraph.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Tables 33-14 and 33-15 present Valid and Invalid signatures. There are signatures that correspond to either.

"The valid and non-valid detection signature regions are separated by guardbands. The guardbands for the slope are the ranges 2.0 kO to 23.7 kO and 26.3 kO to 45.0 kO. A PD that presents a signature in a guardband
is non-compliant."

Maintain the intent comment changing the paragraph to:

A PD that presents a signature outside Table 33-14 is non-compliant, while a PD that presents the signature of Table 33-15 is assured to fail detection.

Cl **33** *SC* **33.3.4** *P* **73** *L* **51** # 250

Patoka, Martin — Texas Instruments

Comment Type **TR** *Comment Status* **D** *PD Detection*

Table 33-14: I offsett is not measurable, has not been defined since 2003, and is unnecessary since the PD may not source current.

SuggestedRemedy

Delete Ioffsett requirement.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.4** *P* **73** *L* **54** # 11

Darshan, Yair — Microsemi Corporation

Comment Type **ER** *Comment Status* **D** *EZ*

Draft D4.0
Table 33-14, Input Inductance.
The reader may assume that it can be inductance in parallel to the port which is not the case (otherwise port will be shorted at DC voltage). This is "series input inductance".

SuggestedRemedy

Replace Table 33-14 item "Input Inductance" with "Series input inductance

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.4** *P* **74** *L* **12** # 249

Patoka, Martin — Texas Instruments

Comment Type **TR** *Comment Status* **D** *PD Detection*

Definition of Ioffsett is unusable since the "corner" of the V-I slope is soft, and some current can be theoretically and practically expected all the way to 0V.

SuggestedRemedy

Show Voffsett as the projected line intercept and delete Ioffsett

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See figure 33-19 and IEEE 802.3af figure 33C.20. The parameter definition was changed, potentially creating problems for existing compliant devices. The original intent of bringing the figure from the annex to normative text was to leave the definition unchanged, but provide definition for the parameters.

Editor: reproduce .af figure 33C.20

Cl **33** *SC* **33.3.4** *P* **74** *L* **25** # 77

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *TEZ*

Figure 33-19 pops up without any preamble or explanation. It is difficult for the reader to even link it with Table 33-14, as is apparently intended.

SuggestedRemedy

Add some explanation of what the figure is trying to say, or delete it altogether.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Modify Table 33-14: Add notation to Voffsett, Conditions column "see Figure 33-19"

Cl **33** *SC* **33.3.5.1** *P* **75** *L* **1** # 170

Beia, Christian — STMicroelectronics

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

Since the definition of a 1-Event class signature is the response of a (whatever) PD to 1-Event classification, paragraph 33.3.5.1 should describe the behavior of Type 2 PDs as well. Alternatively, modify the definition of 1-event class signature in clause 1.4

SuggestedRemedy

Rewrite the sentence to the following: A Type 1PD shall return class 0 to 3 signature and a Type 2 PD shall return a class4 signature in accordance...

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Accepting this comment adds a redundant shall already located on L23. This is the PD section and 1-event calssification for a PD is only intended for Type 1 PD.

Cl **33** *SC* **33.3.5.1** *P* **75** *L* **51** # 343

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

Extra commas

SuggestedRemedy

Should read "A PD shall present one and only one classification signature during classification." This may be unnecessary, it is technically correct either way.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The extra commas are there for emphasis.

Cl **33** *SC* **33.3.5.2** *P* **75** *L* **23** # 171

Beia, Christian STMicroelectronics

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

Only Type 2 PDs are allowed to return class4, while Type1 PDs may optionally implement 2-Event class signature (as per the permutation table 33-8) returning classes 0-3

SuggestedRemedy

Replace "PDs implementing a 2-Event class signature" with "Type2 PDs".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Good catch. T33-8 does allow:
type 1 2-event=n pd allowed=y
type 1 2-event=y pd allowed=y

But the suggested remedy doesn't fix address the Type 1 PD that performs 2-event.

Insert as the second sentence in the paragraph starting on L23: "Type 1 PDs may choose to implement 2-Event classification and return class 0, 1, 2, or 3 in accordance with the maximum power draw."

Cl **33** *SC* **33.3.5.2** *P* **75** *L* **24** # 172

Beia, Christian STMicroelectronics

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

Only type 2 PDS are required to comply with table 33-17

SuggestedRemedy

Change the sentence to: The Type 2 PD's classification behavior shall conform ..

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See 171

Cl **33** *SC* **33.3.5.2** *P* **75** *L* **25** # 173

Beia, Christian STMicroelectronics

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

The shall statement for a PD to conform with the state diagram in figure 33-18 is already present in 33.3.3

SuggestedRemedy

Remove " the figure 33-18 state diagram" to read: "PD's classification behavior shall conform to the electrical specifications defined by Table 33-17"

Proposed Response *Response Status* **W**

Good point, not sure how to resolve. Do we delete the sentence and hope they recall from the earlier section? Incidentally, the PSE has this same problem in section 33.2.4 and 33.2.9.

Cl **33** *SC* **33.3.5.2** *P* **75** *L* **40** # 27

Darshan, Yair — Microsemi Corporation

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

*** Comment submitted with the file 30634700024-VmarkvsImarkattypicalconditions.pdf attached ***

Draft D4.0 Table 33-17 items 3 and 4:
Possible interoperability issue:
A PSE is allowed to have up to 0.52uF in its output.
Cable capacitance is 10nF max for 100m.
PD capacitance during detection in 0.12uF max.
PD capacitance during classification is undefined. (Worth seperate comment..)
Hence total capacitance is 0.65uF at least for the worst case.
During Mark Event PD current can be as low as 0.25mA.
During Vmark_th range the current can be any number between 0.25mA to 44mA or to Iclass.
Assuming PD vendor use 0.25mA all the way for Vmark_th range then the voltage at the port during Mark event for TCLE1/2_min=6msec will be:
Vclass-0.25mA*6msec/0.65uF= Vclass-2.304V.
1. Now if Vclass is 20.5V than port voltage at mark event of 6msec is 18.2V so PD can not identify the 2nd class event.
2. If Vclass is 18V (Middle range of Vclass) than port voltage at mark event of 6msec is 15.8V so again PD can not identify the 2nd class event.
3. If Vclass is 14.5V (lower range of Vclass) than port voltage at mark event of 6msec is 12.2V which MAY be Identified by the PD only if PD Vmark_th is lower than 12.2V...
So we have the following problems:
a) PSE can not support its maximum capacitance spec.
b) PSE can not support TCLE1/2 min value with (a)
c) The worst case scenario is: PD is using Vmark_th_min=10.1V ,Cpd=0.12uF, Imark=0.25mA for the entire Vmark_th range. PSE is using 0.52uF max, TCLE1/2=6msec.
At these conditins system is broken.
If we use typical numbers i.e. middle range numbers such:
PSE: 0.2uF , TCLE1/2=9msec, Vclass=18V.
PD: 0.1uF , Imark=0.25mA for the entire Vmark_th range, Vmark_th=10.2V (legal..PSE can not control what PD will use)
Then the voltage at the port during Mark event for TCLE1/2_min=9msec will be:
Vclass-0.25mA*9msec/0.3uF= 18V-7.5V=10.5V. This case will not work too.
See attached simulation results "Vmark vs Imark at typical conditions" file.
Conclussions:
We dont want to change legacy parameters but we can do simple change that will fix the issue: To require PD to consume Iclass as long as Vport>Vmark_th.

SuggestedRemedy

Add the following item after item 4 in Table 33-17:
Item: 4.1, Parameter: Mark_event threshold current, Symbol:Imark_th, Units:mA, Min:Iclass, Max:Iclass_max, Additional Information: For Vclass >=Vport_PD >=Vmark_th

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The comment incorrectly assumes a PD will draw mark current in the classification voltage range. A PD will draw class current until it hits the lower threshold (something less than 14.5V) at which point it will start to draw mark current - but the PD has switched from the Class Event to the Mark Event, so it already knows that it is in the Mark State.

"To require PD to consume Iclass as long as Vport>Vmark_th"

This is not necessary as the PD internals will inherently distinguish the class/mark thresholds as it switches its loading to meet the existing voltage/current requirements. The existing PD requirements guarantee that it has self-aligning class/mark detection thresholds. The presence of the loop resistance requires the PD to have some hysteresis - although not explicitly called out, it is required.

Cl **33** *SC* **33.3.5.2** *P* **75** *L* **43** # 17

Heath, Jeffrey — Linear Technology

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

*** Comment submitted with the file 30204700024-MinorProblemwithPDResetThresholdandResetVoltage.pdf attached ***

VReset_th Minimum was changed between draft 3.1 and 3.3 and appears to be in error (From Clay Stanford). See attached File "Minor Problem with PD Reset Threshold and Reset Voltage.pdf"

SuggestedRemedy

Old VReset_th Min. Value: 2.7 V
New VReset_th Min. Value: 2.8 V

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This change was made by comment 100 against D3.1. Comment follows:

The VReset_th min and VReset max should correspond with the minimum detection voltage, as this threshold dictates when the PD transitions out of detection into the NOT_MDI_POWERED state.

Otherwise, it is possible for a PD to see a valid detection voltage, but churn through the states because of the VReset and VReset_th overlap.

Sugg remedy: Make both VReset max and VReset_th min 2.7V.

Response: ACCEPT.

Cl **33** *SC* **33.3.5.2.1** *P* **75** *L* **51** # 15

Darshan, Yair — Microsemi Corporation

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

We need to limit the time required to PD current to get to Imark from Iclass otherwise the PSE may be in overload if the PSE sets its current limit from Iclass_lim to Imark_lim faster than PD current gets to Imark range.

SuggestedRemedy

1. Change the text from:
"When the PD is presenting a mark event signature as shown in the state diagram of Figure 33-18, the PD shall draw IMark as defined in Table 33-17 and present a non-valid detection signature as defined in Table
33-15."
To:
"When the PD is presenting a mark event signature as shown in the state diagram of Figure 33-18, the PD shall draw IMark within Tmark_st as defined in Table 33-17 and present a non-valid detection signature as defined in Table
33-15."
2. Add the parameter Tmark_st to Table 33-17 with the following data:
Item 3.1
Parameter: Imark stabilization time
Symbol: Tmark_st
Units: Min=0, Max=1msec (Yair:the number is a proposal, can be other practical number to be determined by PD vendors)
Additional Information column: See 33.3.5.2.1
3. Add the following text line 52 PAGE 75:
Tmark_st is the time from Vmark_th to the time when Imark is within its operating range.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Since the PSE is assumed largely a sourcing device (implicit in the large time to discharge the port in idle state) and since it was not our intention to mandate a discharge function in the PSE, you can assume the PSE turns his port regulation to Vmark @ I mark in advance of the voltage actually entering this region.

The PD requirement for mark voltage makes no exception for "just a short time" it is absolute. The standard requires only Imark within the Imark voltage range. No change is required.

From a practical standpoint, the standard is not requiring an infinitely fast PD detector - a practical one is possible. The PD can switch (or begin to) anywhere between Vclass min and Vmark max, and in addition it has margin down to 6.9V. So it has up to 10 us (dv/dt = 40mA / .1uf = 400e3V/s or .4V/us) to detect and turn off Iclass (assume 4V transition region)!

This is not theoretical - it works! Multiple manufacturers claim to have compliant devices.

Cl **33** *SC* **33.3.5.2.1** *P* **76** *L* **11** # 78

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *TEZ*

The NOT_MDI_POWERED state has been eliminated.

SuggestedRemedy

Replace NOT_MDI_POWERED with IDLE

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.5.2.1** *P* **76** *L* **7** # 154

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

p76, 7. Replace "0.25 mA minimum" with "Imark."

SuggestedRemedy

See comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.7** *P* **77** *L* **22** # 12

Darshan, Yair — Microsemi Corporation

Comment Type **ER** *Comment Status* **D** *EZ*

Draft D4.0
We had some cleaning work in previous drafts in order to use state machine terms.
Here is an other case that need some editing.
Normal Powering state is "POWER_ON" when we are refering to PSE and
"MDI_POWERx" when we are refering to PD.
Since this is a PD spec let's use the right term

SuggestedRemedy

Replace the text in item 9 Table 33-18 from:
"....during normal powering state"
to ""....during MDI_POWERx state"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Also this term shows up in the PICs PD41, P120 L25.

Cl **33** *SC* **33.3.7** *P* **77** *L* **22** # 189

Darshan, Yair — Microsemi Corporation

Comment Type **E** *Comment Status* **D** *EZ*

Draft D4.0 (SA)
Table 33-18 item 9: There is missing information regarding the maximum PD capacitance which is limited by item 5 (PD inrush current of 0.4A as specified in 33.3.7.3

SuggestedRemedy

Add to the additional information column for item 9:
See 33.3.7.3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.7.1** *P* **77** *L* **48** # 251

Patoka, Martin — Texas Instruments

Comment Type **T** *Comment Status* **D** *PD Startup*

Startup may not occur until Von, so application of Vport_PD min is a contradiction.

SuggestedRemedy

Startup begins upon application of Vport above Von, and subsequently VPort_PD as defined in Table 33--18

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.7.1** *P* **77** *L* **51** # 184

Jones, Chad — Cisco Systems, Inc.

Comment Type **T** *Comment Status* **D** *PD Startup*

Von is 42.0V. Vport_pd min for a T2 PD is 42.5V. The 'must turn on' range does not include the operational range of the Type 2 PD.

SuggestedRemedy

Raise Von to 43V to include the lower operational limit of Type 2 PDs

Proposed Response *Response Status* **W**

PROPOSED REJECT.

1) A type 2 PD has to work as a type 1 PD under some cases, therefore it has to meet the (.af) startup requirements of T33-18 item11.

Practically speaking, startup transitions occur with a PD at very low current when the PSE voltage is brought to its minimum. This elimiantes the loop IR drop, and assures a PD startup.

See also comment 251 that requires specifies Von as a minimum voltage for start and VportPD as static voltage afterwards.

Cl **33** *SC* **33.3.7.10** *P* **81** *L* **33** # 158

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *PD Hard*

p81, 33. Diodes with a lower voltage drop waste less power.
Existing requirement may prevent Schottky diodes from being used.
These diodes have a 500 uA leakage at high temperature and maximum reverse voltage.
If a current is backfeed into the PSE port very little will occur because many
systems have DC-blocking capacitors on the port termination.
Termination resistors without DC-blocking capacitors are typically
0603 in size and have a power dissipation limit of 1/10 W.
This corresponds to a current of 26 mA. Therefore, permitting
currents of up to 0.5 mA provides 52x margin on the resistor current ability.

SuggestedRemedy

Change the 100 k ohm test resistor value to 5.6 k ohm.
This keeps Vbfd the same and uses a standard resistor value. The maximum current possible is 2.8V/5.6k = 0.5 mA

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Commenter to withdraw per off-line conversation.

Cl **33** *SC* **33.3.7.2.1** *P* **78** *L* **13** # 217

Law, David 3Com

Comment Type **T** *Comment Status* **D** *PD Pport*

The text '.. when the PD is fed by VPort_PD min to VPort_PD max with RCh ..' doesn't make it clear if VPort_PD is to be applied to the PD through RCh or if a voltage is applied through RCh to achieve Vport_PD at the PD. I suspect it is the latter.

SuggestedRemedy

Change '.. when the PD is fed by VPort_PD min to VPort_PD max with RCh ..' to read '.. when VPort_PD min to VPort_PD max is applied to the PD through a source resistance of RCh ..'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Propose a slightly different wording to address the comment.
From:
"PPort_PD shall be measured when the PD is fed by VPort_PD min to VPort_PD max with RCh (as defined in Table33-1) in series.

PPort_PD is defined as:"

To:
When the PD is fed from a voltage source through a series resistor (RCh as defined in Table 33-1) to achieve VPort_PD min to VPort_PD max, PPort_PD shall be defined as:

Cl **33** *SC* **33.3.7.2.1** *P* **78** *L* **13** # 216

Law, David 3Com

Comment Type **T** *Comment Status* **D** *PD Pport*

Since this isn't a conformance test specification, but an interoperability specification, it is best if we can avoid specifying in terms of test conditions, but instead in terms of the conditions under which the specification shall be met.

SuggestedRemedy

Change 'PPort_PD shall be measured when the PD is fed by VPort_PD min to VPort_PD max with RCh (as defined in Table 33-1) in series. PPort_PD is defined as:' to read 'When the PD is fed by VPort_PD min to VPort_PD max with RCh (as defined in Table 33-1) in series PPort_PD shall be defined as:'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See response to 217. This comment is large the same as 217.

Cl **33** *SC* **33.3.7.2.1** *P* **78** *L* **14** # 185

Jones, Chad Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *PD Pport*

PPort_PD shall be measured when the PD is fed by VPort_PD min to VPort_PD max with RCh (as defined in Table 33--1) in series. -- If you are talking about the PD PI, Rch is not in series. PD port power and voltage already discounts the cable loss.

SuggestedRemedy

remove _PD in two spots in sentence on L14

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See 217. The task force has the choice to eliminate reference to Rch or leave it in as proposed. The only reason to leave it in is to validate that there is no "unstable" operation induced as a consequence of the resistive feed.

Cl **33** *SC* **33.3.7.4** *P* **78** *L* **47** # 98

Vetteth, Anoop Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *EZ*

50ms is a number that needs to be replaced with a variable

SuggestedRemedy

Change to Tovld_min

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.7.6** *P* **80** *L* **28** # 155

Schindler, Frederick Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *PD Transient PI*

p80, 28. Instantaneous changes are not physically possible.

SuggestedRemedy

Delete "instantaneous" and replace it with "peak," or delete the word "instantaneous."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There needs to be some indication that this is power is a real-time measurement, not an increase in the Pport (average) power.

Original paragraph:
A Type 1 PD with input capacitance of 180 µF or less requires no special considerations with regard to transients at the PD PI. A Type 1 PD with input capacitance of 180 µF or less requires no special considerations with regard to transients
at the PD PI. A Type 2 PD with instantaneous power draw that does not exceed PClass_PD max and has
an input capacitance of 180 µF or less requires no special considerations with regard to transients at the PD
PI. PDs that do not meet these requirements shall comply with the following.requires no special considerations with regard to transients at the PD PI. PDs that do not meet these requirements shall comply with the following."

TO:

.... A Type 2 PD with peak power draw that does not exceed PClass_PD max and has an input capacitance of 180 µF .

Cl **33** *SC* **33.3.7.6** *P* **80** *L* **30** # 344

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Poor syntax and indentation

SuggestedRemedy

Replace the period after the word "following" with a colon and indent the paragraph immediately below (lines 31 to 35)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Editor to ask the IEEE editors for guidance for this structure.

Cl **33** *SC* **33.3.7.6** *P* **80** *L* **35** # 156

Schindler, Frederick Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *PD Transient PI*

p80, 35. Use a variables instead of fixed values. Page 80 Lines 34, 35, 44.

SuggestedRemedy

Replace "20 ohms" with Type 1 Rch (See Table 33-1)."
Replace "44 V to 57 V" with Vport_min to Vport_max (see table 33-11)."
Replace "12.5 ohms" with Type 2 Rch (see Table 33-1)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

From:
"A Type 1 PD input current shall not exceed the PD upperbound template (see Figure 33-20) after TLIM min (see Table 33-11 for a Type 1 PSE) when the following input voltage is applied. A current limited voltage source is applied to the PI through a 20 O resistance. The current limit meets Equation (33-13) and the voltage ramps from 44 V to 57 V at 2250 V/s."
To:
A Type 1 PD input current shall not exceed the PD upperbound template (see Figure 33-20) after TLIM min (see Table 33-11 for a Type 1 PSE) when the following input voltage is applied. A current limited voltage source is applied to the PI through a Rch resistance (See Table 33-1). The current limit meets Equation (33-13) and the voltage ramps from Vport_min to Vport_max (see table 33-11) at 2250 V/s.

From:
"b) The PD shall not exceed the PD upperbound template beyond TLIM min under worst case current draw when tested as follows. The input voltage source drives VPort_PD from 50 V to 56 V at 2250 V / s, the source impedance is 12.5 O, and the voltage source limits the current to MDI ILIM per Equation (33-13)."

TO:
b) The PD shall not exceed the PD upperbound template beyond TLIM min under worst case current draw under the following conditions. The input voltage source drives VPort_PD from type 2 Vport_min to Vport_max (see table 33-11) at 2250 V / s, the source impedance is Type 2 Rch (see Table 33-1), and the voltage source limits the current to MDI ILIM per Equation (33-13).

Cl **33** *SC* **33.3.7.6** *P* **80** *L* **43** # 207

Law, David 3Com

Comment Type **T** *Comment Status* **D** *PD Transient PI*

Since this isn't a conformance test specification, but an interoperability specification, it is best if we can avoid specifying in terms of test conditions, but instead in terms of the conditions under which the specification shall be met.

SuggestedRemedy

Change '.. when tested as follows.' to read '.. under the following conditions.'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See comment 156

Cl **33** *SC* **33.3.7.7** *P* **81** *L* **4** # 157

Schindler, Frederick Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *PD Ripple*

p81, 4. Table 33-18 item 10 requires that a ripple of up to 0.2 Vpp occurs at a frequency below 150 kHz to preserve data integrity. Therefore, the allowance for item 8 di/dt of 15 mA/us is to high.
The Vport ad hoc reported Type 1 PD, DC-DC power supplies had di/dt rates up to 7 mA/us. A high volume IP-phone tested has a di/dt rate of less than 1 mA/us.

SuggestedRemedy

Reduce Table 33-18 maximum di/dt rate to 15 x 150/478 = 4.7 mA/us.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Steady-state ripple current is better addressed by properly specifying the ripple voltage (then i = v/r). Table 33-18 item 10 refers to 33.3.7.7, which states the ripple voltage must be measured at the worst case. The worst case for PD-generated noise at the PD PI is with the Rch source loop. Different test methods are possible, to avoid becoming a test procedure, add "Balanced source impedance: Rch" as additional information for item 10.

Cl **33** *SC* **33.3.7.9** *P* **81** *L* **25** # 79

Landry, David Silicon Laboratories

Comment Type **E** *Comment Status* **D** *EZ*

It seems strange to have a section, 33.3.7.9, whose only contents are a NOTE.

SuggestedRemedy

Promote the NOTE to a real paragraph.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.7.9** *P* **81** *L* **25** # 345

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Poor syntax - delete the extra "or", add comas.

SuggestedRemedy

Should read "instability at the PSE side, the PD side, or both due to the presence"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.3.8** *P* **81** *L* **41** # 346

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Missing word "to"

SuggestedRemedy

Should read "Current draw equal to or above the minimum"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4** *P* **82** *L* **21** # 199

Law, David 3Com

Comment Type **E** *Comment Status* **D** *EZ*

10BASE-T is a MAU and 100BASE-T and 1000BASE-T are PHYs.

SuggestedRemedy

Change '.. of the PHYs of 10BASE-T, 100BASE-TX, and 1000BASE-T.' to read '.. of the 10BASE-T MAU and the 100BASE-TX, and 1000BASE-T PHYs.'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.1** *P* **82** *L* **26** # 347

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

The comma following the parenthetical expression "if any" is unnecessary.

SuggestedRemedy

Remove the comma following "(if any)" in two places.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Nonrestrictive appositives are short phrases that further elaborate a subject. Sometimes, appositives start with or, such as, particularly, especially, and similar words. Appositives can also be used to identify or explain a preceding name. They should be offset by commas.

Cl **33** *SC* **33.4.1** *P* **82** *L* **34** # 177

Maytum, Michael Bourns, Inc.

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

Subclause 5.2.2 of IEC 60950-1 specifies an insulation test voltage of a)1500 V rms or a DC voltage at least equal to the peak AC voltage e.g. b)2250 V dc. Impulse test of c)1500 V, 10/700 completely fails to reach the 2250 V peak stress voltage of tests a) and b). The TNV-1 CIRCUIT or a TNV-3 CIRCUIT voltage level of 1.5 kV is based on ITU-T K.21 Resistibility of telecommunication equipment installed in customer premises to overvoltages and overcurrents. In K.21 the assumed primary protector let-through voltage of 1.5 kV sets the 1.5 kV test level of K.21 test 2.1.1.b (basic). In the case of Ethernet circuits primary protectors are not installed, which will increase the inherent impulse voltage level. Conversely most Ethernet wiring is internal, which will decrease the impulse voltage level. For unprotected TNV-1 interfaces ITU-T K.21 specifies a higher level 6 kV (enhanced). A US telecommunication supplier has found it necessary to increase internal port withstand test level from 1.5 kV to 6 kV for their fibre to the home installations to reduce failures.

SuggestedRemedy

Change the option c) 1500 V 10/700 test level to 2250 V 10/700

Proposed Response *Response Status* **W**

PROPOSED REJECT.

It is 1500V rms, or AC. 1500V * 1.414 = 2121V. This is the peak V and generally accepted as 'close enough' to 2250VDC.

See 178, which is the identical comment without a remedy.

Cl **33** *SC* **33.4.1** *P* **82** *L* **35** # 25

Thompson, Michael Pentair Electronic Pac

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

The 60 s requirement in the IEC 60950-1:2001 standard is typically only used for certification testing. Note 1 in section 5.2.2 of IEC 60950-1:2001 says that a 1 s duration can be used for routine testing. Requiring a 60 s duration will add significant testing time to a product.

SuggestedRemedy

2250 V dc for 60 s, applied as specified in subclause 5.2.2 of IEC 60950-1:2001. A 1 s test duration may be used for production testing.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.1.1.1** *P* **83** *L* **10** # 202

Law, David 3Com

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

I am not aware of any 'medium standard' that we reference that requires the medium itself to meet any particular isolation requirement and therefore suggest that this be removed from the list.

SuggestedRemedy

Change the text '.. requirements of the basic MAU/PHY/medium standard.' to read '.. requirements of the MAU or PHY.' here and also on line 23 of subclause 33.4.1.1.2 below.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See 206

Cl **33** *SC* **33.4.1.1.1** *P* **83** *L* **10** # 200

Law, David 3Com

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

The isolation requirements for 100BASE-T are provided in subclause 25.4.5 and not in the TP-PMD specification.

SuggestedRemedy

Change 'TP-PMD' to read 25.4.5 here and also on line 24 of subclause 33.4.1.1.2 below.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.1.1.1** *P* **83** *L* **11** # 201

Law, David 3Com

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

Suggest that '.. multiple instances of PSE and/or PD shall meet ..' should read 'multiple instances of PSE, PD or both, shall meet ..'

SuggestedRemedy

Change '.. multiple instances of PSE and/or PD shall meet ..' should read 'multiple instances of PSE, PD or both, shall meet ..' here and on line 25 of subclause 33.4.1.1.2 below.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This is legacy text and has served well since 2003.

Cl **33** *SC* **33.4.2** *P* **83** *L* **35** # 204

Law, David 3Com

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

This subclause states 'Each wire pair of the PSE or PD when it is encompassed within the MDI shall ..' however PSE and PD's don't have wire pairs, the PI does. Also the based on the Subclause 1.4.282 'Power Interface (PI)' definition 'In an Endpoint PSE and in a PD the Power Interface is the MDI.'. This subclause states that 'When a PSE is not encompassed within an MDI ..', similarly a PSE can't be encompassed into a MDI.
Suggest the condition be that a PI is also a MDI - or not - and that we be clear what we are really talking about is an Endpoint or a Midspan.

SuggestedRemedy

Suggest the text 'Each wire pair of the PSE or PD when it is encompassed within the MDI shall ..' is changed to read 'Each wire pair of the PI, when it is also an MDI (i.e., an Endpoint PSEs and PDs), shall ..' and that the text 'When a PSE is not encompassed within an MDI, the PSE PI shall ..' be changed to read 'When a PI is not an MDI (i.e., an Midspan PSE), , the PI shall ..' The resultant new paragraph would read:
'Each wire pair of the PI, when it is also an MDI (i.e., an Endpoint PSEs and PDs), shall meet the fault tolerance requirements of the appropriate specifying clause (see 14.3.1.2.7, 25.4, and 40.8.3.4.). When a PSE PI is not an MDI (i.e., an Midspan PSE), the PSE PI shall meet the fault tolerance requirements of this subclause.'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change the text 'Each wire pair of the PSE or PD when it is encompassed within the MDI shall ..'
To: 'Each wire pair of the PI, when it is also an MDI (i.e., an Endpoint PSE or PD), shall ..'

Change the text 'When a PSE is not encompassed within an MDI, the PSE PI shall ..'
To: 'When a PI is not an MDI (i.e., a Midspan PSE), , the PI shall ..'

Cl **33** *SC* **33.4.2** *P* **83** *L* **36** # 203

Law, David 3Com

Comment Type **E** *Comment Status* **D** *EZ*

A more direct reference for 100BASE-T, rather than simply Clause 25, would be to subclause 25.4.

SuggestedRemedy

Change '(See 14.3.1.2.7, Clause 25, and 40.8.3.4.)' to read '(See 14.3.1.2.7, 25.4, and 40.8.3.4.)'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.2** *P* **83** *L* **43** # 196

Law, David 3Com

Comment Type **E** *Comment Status* **D** *EZ*

Generally clauses other than 33, the 'cm' of 'Ecm' is a subscript.

SuggestedRemedy

Change the 'cm' of 'Ecm' to be a subscript. If this change is made also change the 'cm_out' of 'Ecm_out' and the 'dif' of 'Edif' to be subscripts.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.2** *P* **83** *L* **44** # 205

Law, David 3Com

Comment Type **T** *Comment Status* **D** *TEZ*

This paragraph states that the impulse be applied '.. of either polarity (as indicated in Figure 33--21).' yet I don't see any polarity indicated in Figure 33-21. The same paragraph states later that the impulse is applied '.. as shown in Figure 33--21.' so this first reference to Figure 33-21 in this paragraph seems redundant.

SuggestedRemedy

Delete the text '(as indicated in Figure 33--21)'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.2** *P* **84** *L* **14** # 198

Law, David 3Com

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

The common mode ground reference is labeled as 'PG' however PG is the 'Protective Ground' of the AUI connector (see 7.5.2). This is therefore is only relevant to 10BASE-T MAU with an AUI connector. 10BASE-T covers the case of an embedded MAU by stating in subclause 14.3 'MAU electrical specifications' that 'The ground for all common-mode tests is circuit PG, Protective Ground of the AUI. In implementations without an AUI, chassis ground is used as circuit PG.'. The label PG does not appear in any of the other common-mode related figures.

SuggestedRemedy

At a minimum remove the label PG from this figure as it isn't included in the other common-mode related figures and doesn't appear anywhere else in the draft.
Text similar to that found in 1000BASE-T subclause 40.6 'PMA electrical specifications' that reads 'Common-mode tests use the common-mode return point as a reference.' can be added to subclause 33.4 if there is a desire to define the common-mode reference point.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Remove 'PG' from Figure 33-21.

Cl **33** *SC* **33.4.3** *P* **84** *L* **30** # 206

Law, David 3Com

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

At 10Mb/s it is a MAU rather than a PHY.

SuggestedRemedy

Change '.. 10 Mb/s PHY' to read '.. 10Mb/s MAU'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See 202

Cl **33** *SC* **33.4.3** *P* **84** *L* **46** # 197

Law, David 3Com

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

Is Edif '.. the resulting wave-form due ..' or rather a voltage of the resulting wave-form, also the Edif definition references the '.. applied sine wave.' but there is no mention of the a sine wave elsewhere. Finally Edif is also shown in Figure 33-22.

SuggestedRemedy

Change Ecm and Edif to read:
Ecm is the externally applied sine wave voltage as shown in Figure 33-22.
Edif is the voltage of the resulting wave-form due only to the applied sine wave measured as shown in Figure 33-22.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.4** *P* **85** *L* **45** # 208

Law, David 3Com

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

Since this isn't a conformance test specification, but an interoperability specification, it is best if we can avoid specifying in terms of test conditions, but instead in terms of the conditions under which the specification shall be met.

SuggestedRemedy

Change 'The PIs shall be tested with the PHY transmitting data, an operating PSE or PD, and with the following PSE load or PD source requirements:' to read 'The common-mode AC output voltage shall be measured under while the PHY is transmitting data, the PSE or PD is operating, and has the following PSE load or PD source:'. Also change 'When testing .. ' to read 'For a ..' in both items 1) and 2).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.4** *P* **85** *L* **45** # 348

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

The second occurrence of the work "with" is not necessary.

SuggestedRemedy

Should read "The PIs shall be tested with the PHY transmitting data, an operating PSE or PD, and the following PSE"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

OBE 208

Cl **33** *SC* **33.4.4** *P* **86** *L* **35** # 195

Law, David 3Com

Comment Type **E** *Comment Status* **D** *EZ*

Add a note to define DUT

SuggestedRemedy

Add a note that reads 'DUT - Device under test'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.4** *P* **86** *L* **8** # 194

Law, David 3Com

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

The value for the capacitor shown in Figure 33-24 (lines 8 and 27) is not provided.

SuggestedRemedy

As is done in Figure 33-23 add a '**' to both these capacitors and a note in the figure that states '** Capacitor impedance less than 1 Ohm
from 1 MHz to 100 MHz'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See 210

Cl **33** *SC* **33.4.5** *P* **87** *L* **3** # 211

Law, David 3Com

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

Since a PI is defined in Subclause 1.4.282 'Power Interface (PI)' defines a PI as 'The mechanical and electrical interface between the Power Sourcing Equipment (PSE) or Powered Device (PD) and the transmission medium. In an Endpoint PSE and in a PD the Power Interface is the MDI.' the marking of PI A and PI B in Figure 33-25 implies that the measurement is being performed between two separate PSEs or PDs on a NID rather than different PI wire pairs on the same PSE or PD. Since I think the latter is the intent here the labels A and B should be deleted and the two dotted lines should be joined.

SuggestedRemedy

Change 'PI A' to read 'PI' and delete 'PI B' from the figure, join the two dotted lines to form one single dotted line.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This drawing depicts two PSEs to illustrate pair to pair noise in a bundle.

Cl **33** *SC* **33.4.5** *P* **87** *L* **8** # 210

Law, David 3Com

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

The value for the capacitor shown in Figure 33-24 (lines 8 and 27) is not provided.

SuggestedRemedy

As is done in Figure 33-23 add a '**' to both these capacitors and a note in the figure that states '** Capacitor impedance less than 1 Ohm
from 1 MHz to 100 MHz'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See 194

Cl **33** *SC* **33.4.6** *P* **87** *L* **36** # 209

Law, David 3Com

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

Since this isn't a conformance test specification, but an interoperability specification, it is best if we can avoid specifying in terms of test conditions, but instead in terms of the conditions under which the specification shall be met.
In addition subclause 33.4.4 items 1) and 2) already specify that the PD or PSE has to be terminated as illustrated in Figure 33-24 so it is not necessary to state this again in this paragraph.

SuggestedRemedy

Suggest that the entire subclause be changed to simply read 'The coupled noise, Ed_out in Figure 33-24, from a PSE or PD to the differential transmit and receive pairs shall not exceed 10 mV peak-to-peak when measured from 1 MHz to 100 MHz under the conditions specified in 33.4.4, item 1) and item 2).'.
The PICS will need a similar update.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.8** *P* **87** *L* **51** # 13

Darshan, Yair — Microsemi Corporation

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

Draft D4.0 , 33.4.8, page 87 line 51
Comment:
There is already a requirement in the specification that guarantees the operation of 100BT ALT A Midspans.
We can add it as alternative to 33.4.8 text.
Rational:
(1) 33.4.8 requires that:
Alternative A Type 2 Midspan PSEs that support 100BASE-TX
shall enforce channel unbalance currents less than or equal to
Type 1 Iunb (see Table 33-11)."
Which means:
Reducing Iunb to Type 1 levels increase PD Type 2 OCL to
350uH minimum i.e make the system as 350uH system.
(2) Now, prior to changing OCL from 350uH to 120uH in the Switch and PD, we define a Transfer Function (Eq. 33-19 in 33.4.9.2) that 100BT ALT A Midspans has to meet in order to work in 100BT ALT A Type 1 and Type 2 systems that uses OCL of 350uH hence this equation was built for 350uH systems.
It was approved and supported by a motion by Yair Darshan and David Law.
See motion in: http://www.ieee802.org/3/at/public/2008/05/minutes_0508.pdf
See technical data attached to the motion in:
http://www.ieee802.org/3/at/public/2008/05/index.html
(3) Both requirements (1)+(2) above, 33.4.8 and 33.4.9.2 are equivalent alternatives i.e. both of them supporting 350uH system.
As a result 33.4.8 can be updated as follows:
"Alternative A Type 2 Midspan PSEs that support 100BASE-TX shall enforce channel unbalance currents less than or equal to Type 1 Iunb (see Table 33-11) or meet 33.4.9.2.
The rest is implementation that we don't care.
(Please see attached presentation "ALT A Midspan requirements - updating the spec" for more details in the IEEE802.3at March 2009 site)

SuggestedRemedy

Change from:
"Alternative A Type 2 Midspan PSEs that support 100BASE-TX shall enforce channel unbalance currents less than or equal to Type 1 Iunb (see Table 33-11).
To:
"Alternative A Type 2 Midspan PSEs that support 100BASE-TX shall enforce channel unbalance currents less than or equal to Type 1 Iunb (see Table 33-11) or meet 33.4.9.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.9.1** *P* **90** *L* **12** # 349

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

The texts says there are three types of midspans but the list enumerates four

SuggestedRemedy

Make the text say four or eliminate a list item

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.9.2.1** *P* **91** *L* **32** # 215

Law, David — 3Com

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

The decision to perform independent third party compliance testing is up to the implementer however the start of this paragraph which reads 'Compliance testing shall be performed by applying ..' could be misread to imply it is required by the standard. Since this isn't the normal wording used for normative requirements such as these suggest that this subclause be merged with the previous subclause.

SuggestedRemedy

Change the title 'Alternative A Midspan PSE compliance test setup' to read 'Alternative A Midspan PSE signal path transfer function', change 'Compliance testing shall be performed by ..' to read 'The transfer function is measure by ..' and change 'The transfer function shall be measured from the output termination to the Midspan PSE input.' to read 'The transfer function is defined from the output termination to the Midspan PSE input.'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.4.9.2.1** *P* **91** *L* **36** # 221

Law, David — 3Com

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

Rather that calling out 'CAT5', we should really reference 11801, alternatively suggest that it would be simpler to reference the 100BASE-T cabling specification found in subclause 25.4.7 'UTP cable plant' - after all - it is this channel we are trying to replicate.

SuggestedRemedy

Suggest that '.. a 0.5 m maximum length of CAT5 cable, terminated ..' should be changed to read '.. a 0.5 m maximum length of cable, meeting the requirements of 25.4.7, terminated ..'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.5** *P* **92** *L* **28** # 350

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

A comma is required after the parenthetical item MDIO.

SuggestedRemedy

Should read "(MDIO), then"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.5.1.1** *P* **93** *L* **24** # 351

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

Formatting problem, text which should appear above the table 33-21 appears below it.

SuggestedRemedy

Move text.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.5.1.1** *P* **93** *L* **35** # 352

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

Commas missing.

SuggestedRemedy

Text should read "A PSE that supports Data Link Layer classification, but does not allow the function
to be disabled, shall ignore writes to bit 11.5 and shall return a value of one when read."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.5.1.1** *P* **93** *L* **45** # 353

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

Commas missing.

SuggestedRemedy

Text should read "A PSE that supports Physical Layer classification, but does not allow the function to be disabled, shall ignore writes to bit 11.4 and shall return a value of one when read."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.5.1.1.1** *P* **93** *L* **93** # 99

Vetteth, Anoop Cisco Systems, Inc.

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

Table 33-21 Item 11.5 Per the PSE SM, DLL classification is enabled/disabled by the SM and not by management entity.
But the capability of the PSE with regard to DLL is an input to the SM as indicated by the variable "pse_dll_capable"

SuggestedRemedy

Change this field to "Data Link Layer Capability"
Add a new field to Register 12 to indicate if the PSE SM has completed powerup and enabled DLL as indicated by the SM variable pse_dll_enable

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.5.1.1.4** *P* **94** *L* **20** # 354

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

Poor economizing of words making the text read poorly

SuggestedRemedy

Text should read "setting bit 11.1 to a zero and bit 11.0 to a one." That is strike the plural "bits" and add bit twice.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.5.1.2** *P* **93** *L* **95** # 101

Vetteth, Anoop Cisco Systems, Inc.

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

Table 33-22. Register 12 is not comprehensive with regard to fault conditions. Missing the following fault conditions: inrush fault, option_vport_lim fault and Power not available fault.

SuggestedRemedy

Add them

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.5.1.2** *P* **93** *L* **95** # 102

Vetteth, Anoop Cisco Systems, Inc.

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

Table 33-22. It will be advantageous to know if the PSE is using Type-1 or Type-2 parameters when powering a Class-4 PD

SuggestedRemedy

Add this info

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Commenter is requested to provide exact text to address the remedy

Cl **33** *SC* **33.5.1.2** *P* **93** *L* **95** # 100

Vetteth, Anoop Cisco Systems, Inc.

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

Table 33-22 item 12.6:4. We have defined the behavior when classification yields invalid class. Show the status

SuggestedRemedy

Change the value corresponding to 101 from "reserved" to "overcurrent" or "Invalid Class"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Use "Invalid Class"

Cl **33** *SC* **33.5.1.2.1** *P* **95** *L* **34** # 355

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

Extra comma should be deleted.

SuggestedRemedy

Text should read "Entity writes to a reserved bit it should use a value of zero."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.5.1.2.2** *P* **95** *L* **38** # 356

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

Missing the word "that"

SuggestedRemedy

Text should read "bit 12.13 indicates that the PSE supports"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.5.1.2.9** *P* **96** *L* **29** # 357

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

Is "Delivering" supposed to be capitalized? If so should "power" be too?

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Current style is consistant with previous tables in the clause

Cl **33** *SC* **33.6** *P* **97** *L* **3** # 80

Landry, David — Silicon Laboratories

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

The current structure of 33.6 makes it difficult to visualize the possible future text which will turn into a amendment of the theoretical Clause 79.

SuggestedRemedy

Restructure 33.6 so that it more closely resembles an amendment to 802.3bc. Use the contents of 802.3bc as a starting point, and replace 33.6 with a set of editorial amendment instructions.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The intent is to move this material over to C79 as the commenter points out.

The Editor-in-Chief for 802.3at and the Editor-in-Chief for 802.3bc are encouraged to produce a set of editorial instructions that can be presented to the P802.3at TF for consideration when discussing this comment.

Cl **33** *SC* **33.6.2** *P* **97** *L* **22** # 257

Law, David — 3Com

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

Now that IEEE P802.3bc is in sponsor ballot, and the IEEE P802.3at PAR has been changed to make IEEE P802.3at approval contingent on IEEE P802.3bc, the changes found in this subclause should be re-written to be a set of changes to the new Clause 79.

SuggestedRemedy

Provide a set of changes for Clause 79.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

P802.3bc is currently in working group ballot, however, the commenter is correct that this section will become editorial instructions for an existing clause, which will be C79.

The Editor-in-Chief for 802.3at and the Editor-in-Chief for 802.3bc are encouraged to produce a set of editorial instructions that can be presented to the P802.3at TF for consideration when discussing this comment.

Cl **33** *SC* **33.6.2.1** *P* **98** *L* **17** # 103

Vetteth, Anoop — Cisco Systems, Inc.

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

Table 33-23. The enumeration for PD Power source "10 = Local" is not valid since the PD/PSE cannot exchange DLL packets when the PSE is not powering the PI or when PD is not drawing power from the PI.

SuggestedRemedy

Delte this enumeration

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The commenter points to an interesting subtelty in the protocol. Assuming that the L2 engine is enabled, if the PD goes to a local power, can the L2 engine stay up, perhaps to allow for exchanges that are not related to budgeting or do we want to eliminate this possibility. Recommend that this is discussed in the L2 ad-hoc

Cl **33** *SC* **33.6.2.1** *P* **98** *L* **25** # 225

Law, David — 3Com

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

Should define what the reserved values are so that they can be used in the future if required - reserved bits are usually defined as 'Write as zero, ignore on read' hence this reserved bits should be 'Transmit as zero, ignore on receive'.

SuggestedRemedy

Change 'Reserved' to read 'Transmit as zero, ignore on receive' in the 'Value/meaning' column for bits 3:2 of Table 33-23.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.2.1** *P* **98** *L* **3** # 159

Schindler, Frederick — Cisco Systems, Inc.

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

p98, 3. For what side of the channel are these defined?

SuggestedRemedy

Expand the sentence to read:
The power type/source/priority field shall contain a bit-map of the power type, source and priority defined in Table 33--23, and is report for the device producing the TLV.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Either side can produce the TLV. The recommended clarification is inherent to how LLDP works but is reasonable to add

Cl **33** *SC* **33.6.4** *P* **100** *L* **11** # 227

Law, David — 3Com

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

Table 33-26 is titled the 'DTE Power via MDI TLV to PSE object class cross-references' however it actually only provides the mapping from the Clause 30 PSE attributes to the TLV, not from the TLV to the Clause 30 PSE attributes.

SuggestedRemedy

[1] Change the title of Table 33-26 to read 'PSE object class to DTE Power via MDI TLV class cross-references' and reverse the order of the second and third columns so that the 'Clause 30 attribute' column is the second column and the 'TLV variable' is third.
[2] Add a new table titled 'DTE Power via MDI TLV to PSE object class cross-references', the is similar to the existing Table 33-26, the first column is the 'TLV name' column, the second is TLV variable and the third is 'Clause 30 attribute'. The content of these two columns are:
TLV variable Clause 30 attribute
power type aMirroredDLLPowerType
power source aMirroredDLLPowerSource
power priority aMirroredDLLPowerPriority
PD requested power value aMirroredDLLPDRequestedPowerValue
PSE allocated power value aMirroredDLLPSEAllocatedPowerValueEcho

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.4** *P* **100** *L* **23** # 228

Law, David — 3Com

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

Table 33-26 is titled the 'DTE Power via MDI TLV to PD object class cross-references' however it actually only provides the mapping from the Clause 30 PD attributes to the TLV, not from the TLV to the Clause 30 PD attributes.

SuggestedRemedy

[1] Change the title of Table 33-27 to read 'PD object class to DTE Power via MDI TLV cross-references' and reverse the order of the second and third columns so that the 'Clause 30 attribute' column is the second column and the 'TLV variable' is the third.
[2] Add a new table titled 'DTE Power via MDI TLV to PD object class cross-references', the is similar to the existing Table 33-26, the first column is the 'TLV name' column, the second is TLV variable and the third is 'Clause 30 attribute'. The content of these two columns are:
TLV variable Clause 30 attribute
power type aMirroredDLLPowerType
power source aMirroredDLLPowerSource
power priority aMirroredDLLPowerPriority
PD requested power value aMirroredDLLPDRequestedPowerValueEcho
PSE allocated power value aMirroredDLLPSEAllocatedPowerValue

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.4** *P* **100** *L* **30** # 229

Law, David — 3Com

Comment Type **TR** *Comment Status* **D** *161*

It is optional for a Type 1 PSE to support Data Link Layer classification however that is no mentioned here nor in relation to pse_dll_ready.

SuggestedRemedy

Change the text 'A Type 1 PSE shall send ..' to read 'A Type 1 PSE that implements Data Link Layer classification shall send ..'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.4** *P* **100** *L* **7** # 226

Law, David 3Com

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

Why is the 'power priority' TLV variable marked as RESERVED in the mapping provided in Table 33-26, the aDLLPDPowerPriority attribute in the oPSE managed object class provides the PD priority assigned by the PSE and it would seem reasonable to communicate this to the PD since the PD is required to mirror this value back in the aMirroredDLLPowerPriority attribute.

SuggestedRemedy

Change 'RESERVED' to read 'aDLLPDPowerPriority'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.4** *P* **100** *L* **7** # 104

Vetteth, Anoop Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *226*

Table 33-26. Power Priority is not reserved for PSE. It is defined.

SuggestedRemedy

Change Reserved to aDLLPowerPriority

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See #226

The power priority is defined for the PD. Is the commenter asking for the ability of the PSE to asign / override the default priority of the PD? If so, this should be aDLLPDPowerPriority. Otherwise the commenter is encouraged to privde more background to the comment

---

Cl **33** *SC* **33.6.5** *P* **100** *L* **26** # 160

Schindler, Frederick Cisco Systems, Inc.

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

p100, 26. Normally PSE can meet the timing requirements.

SuggestedRemedy

Replace "A Type 2 PSE shall send .." with "Under normal operation, a Type 2 PSE shall send .."

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This was discussed in the past. For Type 2 devices, the consensus was that there was no issue in meeting the requirements over all conditions

---

Cl **33** *SC* **33.6.5** *P* **100** *L* **30** # 161

Schindler, Frederick Cisco Systems, Inc.

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

p100, 30. To improve the PIC clarify the sentence.

SuggestedRemedy

Replace "A Type 1 PSE shall ..." with
"A Type 1 PSE that provides DLL classification shall ..."
Have the Editor update the related PIC.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There should be a global PIC that has an optional capability for DLL classification. This would eliminate the redundancy of doing this throughout the text. This could be introduced at the top of the section.

Absent the above, implement the suggestion by the commenter

Cl **33** *SC* **33.6.5** *P* **100** *L* **30** # 81

Landry, David Silicon Laboratories

Comment Type **TR** *Comment Status* **D** *161*

There is a normative requirement here for a Type 1 PSE to send LLDPDUs. What if the PSE doesn't even implement DLL?

SuggestedRemedy

Change from "A Type 1 PSE shall send ..." to "A Type 1 PSE that implements Data Link Layer classification shall send ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See 161, this is a common theme

Cl **33** *SC* **33.6.6** *P* **106** *L* **23** # 112

Vetteth, Anoop Cisco Systems, Inc.

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

The PD updates it maximum permissible power draw in the PD POWER ALLOCATION state. This happens when the new value is lesser than the present value or the PSE allocated value. There is a cornercase bug if the PSE and PD settle at two different values, with PSE allocated value being greater than the PD requested value. For example assume that the steady state is PSE allocation is 20W and PD requested is 15W. The pD wants to increase its request to 19W and simultaneously PSE wants to reduse its allocation to 15W. When this happens, the PD should wait until its request is approved which it is not doing currently.

SuggestedRemedy

The PD should be allowed to increase its max power draw only when the PSE and PD are in sync with regard to the mirrored values. The proposed change is shown in attached pdf avetteth_pdsm.pdf. Append to Section 33.6.7.2
"When the PD notices that the MirroredPDRequestedPowerValueEcho is equal to PDRequestedPowerValueEcho, then the PD can assume that MirroredPSEAllocatedPowerValue is the power that the PSE has presently allocated to the PD. Based on this the PD updates its max permissible power draw by entering the PD_POWER_REALLOCATION_2 state."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Commenter to present preso to L2 ad-hoc and TF prior to addressing this comment

Cl **33** *SC* **33.6.6** *P* **106** *L* **9** # 111

Vetteth, Anoop Cisco Systems, Inc.

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

The variable pse_power_type is not defined.

SuggestedRemedy

A control variable output by the PD state diagram (Figure 33-18) to indicate the type of PSE by which it is being powered

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.6.1** *P* **101** *L* **1** # 162

Schindler, Frederick Cisco Systems, Inc.

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

p101, 1. Most of the variables that provide power information do not have units or a reference to how they should be interpreted.

SuggestedRemedy

Add a sentence to the bottom of the conventions section, or add this sentence to all constants,
variables, and functions that lack this information--PDMaxPowerValue; MirroredPDAllocatedPowerValue;
MirroredPSEAllocatedPowerValue; TempVar; PSE_New_Value; pse_power_review; pd_power_review.
"Actual power numbers are represented using an integer value that is encoded according to Equation (33--21),
where X is the decimal value of the power value field being reference."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.6.3** *P* **101** *L* **42** # 105

Vetteth, Anoop Cisco Systems, Inc.

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

The variables are not arranged in alphabetic order like other similar sections

SuggestedRemedy

Fix this

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Arrange in alphabetical order

Cl **33** *SC* **33.6.6.3** *P* **102** *L* **10** # 107

Vetteth, Anoop Cisco Systems, Inc.

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

PDRequestedPowerValue - The third sentence begins with "The PD power value is". This is not PD power value

SuggestedRemedy

Change "The PD power value" to "This power value"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.6.3** *P* **102** *L* **17** # 108

Vetteth, Anoop — Cisco Systems, Inc.

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

PSEAllocatedPowerValue - The third sentence begins with "The PD power value is". This is not PD power value

SuggestedRemedy

Change "The PD power value" to "This power value"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.6.3** *P* **102** *L* **30** # 109

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **D** *230*

local_system_change - this variable definition uses locRequestedPowerValue that is not defined

SuggestedRemedy

Replace locRequestedPowerValue to "allocated/requested power"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See #230

Cl **33** *SC* **33.6.6.3** *P* **102** *L* **33** # 230

Law, David — 3Com

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

The local_system_change variable is defined as 'An implementation specific control variable that indicates that the local system wants to change the locRequestedPowerValue.' yet the variable locRequestedPowerValue is not mentioned anywhere else in the draft.
The variable local_system_change is used both in the PSE and PD state diagrams a desire in the local system to change the power allocation, in a PSE to change the allocation to the PD, in a PD to indicate that it wishes to request a new allocation for the PSE.

SuggestedRemedy

An implementation specific control variable that indicates that the local system wants to change the allocated power value. In a PSE this indicates it is going to change the power allocated to the PD. In a PD this indicates it is going to request a new power allocation from the PSE.
Values: FALSE: The local system does not wants to change the power allocation.
TRUE: The local system wants to change the power allocation.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.6.3** *P* **102** *L* **53** # 231

Law, David — 3Com

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

We generally don't use the terminology 'system software' as it acceptable to implement the system in any way that meets the externally observable behavior required by the standard. In addition the values for this variable are not defined.

SuggestedRemedy

Change 'This variable is updated by the PD system software.' to read 'An implementation specific control variable that indicates that the PD has initialized Data Link Layer classification.'.
Add the value definitions:
Values : FALSE: Data Link Layer classification has not complete initialization.
TRUE: Data Link Layer classification has completed initialization.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.6.3** *P* **102** *L* **8** # 106

Vetteth, Anoop — Cisco Systems, Inc.

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

PDMaxPowerValue - Does not reference equation 33-20

SuggestedRemedy

Append to the definition "This power value is encoded according to Equation (33--20), where X is the decimal value of PDMaxPowerValue"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.6.3** *P* **103** *L* **11** # 232

Law, David — 3Com

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

We generally don't use the terminology 'system software' as it acceptable to implement the system in any way that meets the externally observable behavior required by the standard. In addition the values for this variable are not defined.

SuggestedRemedy

Change 'This variable is updated by the PSE system software.' to read 'An implementation specific control variable that indicates that the PSE has initialized Data Link Layer classification.'.
Add the value definitions:
Values : FALSE: Data Link Layer classification has not complete initialization.
TRUE: Data Link Layer classification has completed initialization.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.6.3** *P* **103** *L* **30** # 110

Vetteth, Anoop — Cisco Systems, Inc.

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

Table 33-28. The values mentioned under the aMirroredDLLPowerType attribute for PSE and PD have been swapped. The PSE object should see the values corresponding to the PD power type while the PD object should see values corresponding to the PSE power type.

SuggestedRemedy

Fix this. Move the enumerations 10 and 00 from PSE to PD. Move enumerations 11 and 01 from PD to PSE

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.6.4** *P* **103** *L* **49** # 163

Schindler, Frederick — Cisco Systems, Inc.

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

p103, 49. This is an optional timer but it has requirements and behavior associated it with it. Also see page 107, line 27.
What is the default value of an optional timer that is not implemented?
The State diagram on figure 33-30 only works if the default value for this time is done.
The proposed solution should enable a specification reader to see that an norealized timer is always considered done.

SuggestedRemedy

Add a sentence to the end of the timer description: "The default state for this time is power_change_timer_done."

Proposed Response *Response Status* **O**

Cl **33** *SC* **33.6.6.5** *P* **104** *L* **6** # 223

Law, David — 3Com

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

In the case of the examine_request function it is stated that PSE_New_Value is 'The new max power value that the PSE expects the PD to draw.' This is only true in the cases where change_accept is TRUE, when FALSE there request has been rejected and there will not be a new max power value. Further it is stated that when change_accept is TRUE 'The requested change to the allocated power is accepted', well if that is the case then PSE_New_Value should be set to equal the value that the PD has requested, if it can be set to another value the request hasn't really been accepted.

SuggestedRemedy

If the PSE can only accept of reject the requested new power, as the definition for the variable change_accept seems to state, the variable PSE_New_value should read 'Set to MirroredPDRequestedPowerValue when change_accept is set TRUE', if it can be set to any value regardless of what the PD requested the variable PSE_New_value should read 'The new max power value that the PSE expects the PD to draw when change_accept is set TRUE'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The new max power value that the PSE expects the PD to draw when change_accept is set TRUE

Cl **33** *SC* **33.6.6.6** *P* **105** *L* **1** # 121

Vetteth, Anoop — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *222*

There are two functions "examine_request" and "pse_power_review". One of them is called when there is local system change and the other is called when the PD is requesting for a change. We can combine the two into one function. Moreover since examine_request returns a new PSE power value, the transition from PD POWER REQUEST to PSE POWER REALLOCATION state should be UCT.

SuggestedRemedy

Use the same function pse_power_review for both states: PD POWER REQUEST and PSE POWER REVIEW. Delete "examine_request" function from 33.6.6.5. Remove the transition from PD POWER REQUEST to MIRROR UPDATE. Change the conditon for the transition from PD POWER REQUEST to PSE POWER REALLOCATION to UCT. Change the definition for pse_power_review to: "This function evaluates the power allocation or budget of the PSE based on local system changes or change in power request from the PD". Look at avetteth_psesm.pdf for comprehensive changes.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See #222

Cl **33** *SC* **33.6.6.6** *P* **105** *L* **18** # 164

Schindler, Frederick — Cisco Systems, Inc.

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

p105, 18. CHANGE is not defined anywhere.

SuggestedRemedy

Define change in 33.6.6.1, or used the preferred solution of using the not-equal operator.
Replace
(MirroredPDRequestedPowerValue CHANGED)
with (MirroredPDRequestedPowerValue [not equal] PSE_New_value)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The intent here is to show that the mirrored PD requested power value has changed not that it is different from the PSE New Value.

The editor can look for better symbols to use so long as the comparison is to the old registered value. If not better symbol can be used, no change should be made to the text

Cl **33** *SC* **33.6.6.6** *P* **106** *L* **16** # 165

Schindler, Frederick — Cisco Systems, Inc.

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

p106, 16. CHANGE is not defined anywhere.

SuggestedRemedy

Define change in 33.6.6.1, or used the preferred solution of using the not-equal operator.
Replace
(MirroredPSEAllocatedPowerValue CHANGED)
with (MirroredPSEAllocatedPowerValue [not equal] PD_New_value)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The intent here is to show that the mirrored PD requested power value has changed not that it is different from the PSE New Value.

The editor can look for better symbols to use so long as the comparison is to the old registered value. If not better symbol can be used, no change should be made to the text

Cl **33** *SC* **33.6.6.6** *P* **106** *L* **27** # 222

Law, David — 3Com

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

The two states 'PD POWER REALLOCATION' and 'PD POWER REQUEST' perform the same action, that is assign 'PDRequestedPowerValue' the value 'PD_New_Value'. Since the transition between the two states is a UCT the state 'PD POWER REALLOCATION' is redundant

SuggestedRemedy

Delete the state 'PD POWER REALLOCATION', change the transition from 'PD POWER REVIEW' to 'PD POWER REQUEST' to read ((PD_New_Value > PDMaxPowerValue) * (PD_New_Value > TempVar)) + (PD_New_Value =< PDMaxPowerValue) + (PD_New_Value =< TempVar).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See #121

Cl **33** *SC* **33.6.6.6** *P* **106** *L* **27** # 252

Law, David 3Com

Comment Type **T** *Comment Status* **D** *121*

My comment that the two states 'PD POWER REALLOCATION' and 'PD POWER REQUEST' can be combined was incorrect and I withdraw it - unfortunately the myBallot system is write only so I cannot delete the comment now I have submitted it. The comment should have read as follows:
Since the transition between the states 'PD POWER REQUEST' and 'MIRROR UPDATE' is UCT the state 'PD POWER REQUEST' is redundant and the action in that state can be moved to 'MIRROR UPDATE' state.

SuggestedRemedy

Delete the 'PD POWER REQUEST' state and add the assignment 'PDRequestedPowerValue <= PD_New_Value' to the 'MIRROR UPDATE' state.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See #121

Cl **33** *SC* **33.6.7** *P* **106** *L* **48** # 224

Law, David 3Com

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

This text states that 'The PSE responds to a PD's request through the aDLLPSEAllocatedPowerValue (30.9.1.1.20) attribute in the PSE object class.'. Now it may depend on what is considered a response but the PSE copies the request to the 'echo' value, the aDLLPDRequestedPowerValueEcho (30.9.1.1.19) attribute when the PSE power control state diagram MIRROR UPDATE state. It will only change the aDLLPSEAllocatedPowerValue (30.9.1.1.20) attribute if the change requested by the PD is accepted - which can change at any other time if the PSE chooses to change the allocated value for internal reasons.

SuggestedRemedy

Suggest changing:
'The PSE responds to a PD's request through the aDLLPSEAllocatedPowerValue (30.9.1.1.20) attribute in the PSE object class. The PSE also copies the value of the aMirroredDLLPDRequestedPowerValue (30.9.1.1.18) attribute in the PSE object class to the aDLLPDRequestedPowerValueEcho (30.9.1.1.19) attribute in the PSE object class.'
to read
'The PSE responds to the PD's request by copying the value of the aMirroredDLLPDRequestedPowerValue (30.9.1.1.18) attribute in the PSE object class to the aDLLPDRequestedPowerValueEcho (30.9.1.1.19) attribute in the PSE object class. If the request is accepted the aDLLPSEAllocatedPowerValue (30.9.1.1.20) attribute in the PSE object class will be changed although it should be noted that this value can change at any time by the PSE to change the power allocated to the PD.'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.7.1** *P* **107** *L* **18** # 358

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

The second occurrence of "then" in the sentence is unnecessary.

SuggestedRemedy

Should read ". . . MIRROR UPDATE state and returns to the . . . "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.6.7.1** *P* **107** *L* **23** # 359

McCormack, Meghan

Comment Type **G** *Comment Status* **D**

Add a comma at the end of the line

SuggestedRemedy

The entire sentence should read "The PSE may decide to ignore the request, in which case it returns to the RUNNING state, or it may decide to change the PD allocation by entering the PSE POWER REALLOCATION state and behaves as described above."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.2.4** *P* **112** *L* **11** # 324

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Nowhere in the PICS are the 'Items' *END, *ENDA and *ENDB used. They were most likely defined but never needed when drafting the PICS.

SuggestedRemedy

Delete the 'Items' *END, *ENDA and *ENDB

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.1** *P* **113** *L* **12** # 259

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Update PICS COM2 from 'shall' statement in 33.1.4.1, page 38, line 4: '...DC loop resistance shall be 25 ohms or less.'

SuggestedRemedy

Update PICS COM2 'Value/Comment' to reflect updated text in 33.1.4.1 New text: 'DC loop resistance 25 ohms or less. Requirement satisfied by category 5e components (cables, cords, and conectors)'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.1** *P* **113** *L* **12** # 260

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Missing PICS statement. Necessary due to the addition of clause 33.1.4.2 and the text '...resistance unbalance shall be 3 % or less.' Page 38, line 18.

SuggestedRemedy

Add PICS Item Feature Subclause Value/Comment Status Support COM3 Resistance unbalance 33.1.4.2 3% or less M Yes[]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This used to be PSEES2, which was dropped in D3.2.

Cl **33** *SC* **33.8.3.10** *P* **127** *L* **1** # 120

Vetteth, Anoop Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *TEZ*

Item DLL4, DLL6, DLL8, DLL12 and DLL15 are incorrect and have not been updated for a long time

SuggestedRemedy

Fix them

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See 312, 313, 314, 318

Cl **33** *SC* **33.8.3.10** *P* **127** *L* **1** # 193

Mahinfallah, Ahmad Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *TEZ*

Item DLL4, DLL6, DLL8, DLL12 and DLL15 are incorrect and have not been updated.

SuggestedRemedy

Update these DLLs.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See 312, 313, 314, 318

Cl **33** *SC* **33.8.3.10** *P* **127** *L* **17** # 312

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text supporting PICS DLL4, DLL5 and DLL6 has been changed since D3.0 (33.7.1 and 33.7.2). New text in current draft 33.6.1 and 33.6.2 cannot define the current PICS. Delete them.

SuggestedRemedy

Remove PICS DLL4, DLL5 and DLL6 and renumber.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.10** *P* **127** *L* **17** # 167

Darshan, Yair Microsemi Corporation

Comment Type **TR** *Comment Status* **D** *TEZ*

The PICS defines 30sec between TLVs and it is in aligned with the defaults of 802.1AB.
However in 33.6.5 page 100 line 26 the time is 10sec max.
See multiple occurrences in 33.6.5 for 10sec max.

SuggestedRemedy

Decide if it is 30 or 10sec.
It seems that 30sec is the right value.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See 312

Cl **33** *SC* **33.8.3.10** *P* **127** *L* **29** # 313

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

PICS DLL8 Value/Commnet field requires changing. Text in 33.6.2.1.1, page 98, line 35 defines the change.

SuggestedRemedy

Change Value/Comment field to read: 'Set according to Table 33-23.'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.10** *P* **127** *L* **46** # 314

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Value/Comment field requires an update. Text in 33.6.2.1.3, page 98, line 52 has changed.

SuggestedRemedy

Change Value/Comment field to read: 'Set to PD priority PSE advertises to assign to the PD'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.10** *P* **127** *L* **50** # 315

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

Table number in text has changed to 33-24 (page 99).

SuggestedRemedy

Change table reference in Value/Comment field to 33-24.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.10** *P* **127** *L* **52** # 317

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Insert a new PICS DLL14 after the current DLL13. New text in 33.6.2.3, page 99, line 25 defines the PICS.

SuggestedRemedy

Insert new PICS after the current DLL13 and renumber. Item Feature Subclause Value/Comment Status Support DLL_X PSE allocated power 33.6.2.3 Contains current DLLC:M Yes[] value allocated power defined in Table 33-25

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS after DLL13 and renumber as appropriate:

PSE#; PSE allocated power value; 33.6.2.3; Contains current value for allocated power as defined in Table 33-25; DLLC:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.10** *P* **127** *L* **52** # 316

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text has been deleted since D3.0, PICS DLL14 no longer defined in the current text. Delete the PICS statement. D3.0 text that supported the PICS. 33.7.2.3 Actual power type/source/priority The actual power type/source/priority field shall contain a bit-map of the actual power type, source, and priority defined in Table 33-22.

SuggestedRemedy

Delete current PICS DLL14.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.10** *P* **127** *L* **8** # 311

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Insert new PICS DLL1 and renumber as necessary. Text in 33.6, page 97, line13 defines a new PICS.

SuggestedRemedy

Insert new PICS DLL1 and renumber. Item Feature Subclause Value/Comment Status Support DLL1 Reserved fields in 33.6 Contain zero and M Yes[] DTE Power via MDI reserved fields in N/A[] TLVs received TLVs ignored

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS at beginning of 33.8.3.10, and renumber as appropriate:

DLL1; Reserved fields; 33.6; Reserved fields in DTE Power via MDI TLVs are transmitted as zeroes and ignored upon receipt; M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.10** *P* **128** *L* **6** # 322

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Insert new PICS statement as a result of the significant changes to the text in 33.6.5 since D3.0. (4 of 5)

SuggestedRemedy

Insert before current PICS DLL16 Item Feature Subclause Value/Comment Status Support DLL_X PSE transmission 33.6.5 Within 10 seconds DLLC:M Yes[] of an LLDPDU during of receipt of an N/A[] normal operation LLDPDU with a different 'PD requested power value'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS before DLL16 and renumber as appropriate:

DLL#; PD requested power value change; 33.6.5; LLDPDU with updated "PSE allocated power value" sent within 10 seconds; DLLC:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.10** *P* **128** *L* **6** # 320

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Insert new PICS statement as a result of the significant changes to the text in 33.6.5 since D3.0. (2 of 5)

SuggestedRemedy

Insert before current PICS DLL16 Item Feature Subclause Value/Comment Status Support DLL_X Type 1 PSE LLDPDU 33.6.5 When PSE DLLC engine DLLC:M Yes[] transmission is ready as indicated N/A[] by the variable pse_dll_ready

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS before current DLL16, and renumber as appropriate:

DLL#; Type 1 PSE LLDPDU; 33.6.5; Transmitted when PSE Data Link Layer classification engine is ready as indicated by the variable pse_dll_ready; DLLC:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.10** *P* **128** *L* **6** # 319

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Insert new PICS statement as a result of the significant changes to the text in 33.6.5 since D3.0. (1 of 5)

SuggestedRemedy

Insert before current PICS DLL16 Item Feature Subclause Value/Comment Status Support DLL_X Type 2 PSE LLDPDU 33.6.5 Within 10 seconds DLLC:M Yes[] transmission of DLLC being enabled N/A[] as indicated by the variable pse_dll_enabbled

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS before DLL16 and renumber as appropriate:

DLL#; Type 2 PSE LLDPDU; 33.6.5; Transmitted within 10 seconds of Data Link Layer classification engine being enabled as indicated by the variable pse_dll_enabled.; DLLC:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.10** *P* **128** *L* **6** # 318

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text in 33.6.5 has been changed since D3.0. Delete the current DLL15 PICS statement and insert new PICS statements to be defined in additional comments. Current text cannot support DLL15 PICS.

SuggestedRemedy

Delete PICS DLL15.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.10** *P* **128** *L* **6** # 323

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Insert new PICS statement as a result of the significant changes to the text in 33.6.5 since D3.0. (5 of 5)

SuggestedRemedy

Insert before current PICS DLL16 Item Feature Subclause Value/Comment Status Support DLL_X PD transmission 33.6.5 Within 10 seconds DLLC:M Yes[] of an LLDPDU during of receipt of an N/A[] normal operation LLDPDU with a different 'PSE allocated power value'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS before DLL16 and renumber as appropriate:

DLL#; PSE allocated power value change; 33.6.5; LLDPDU with updated "PD requested power value" sent within 10 seconds; DLLC:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.10** *P* **128** *L* **6** # 321

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Insert new PICS statement as a result of the significant changes to the text in 33.6.5 since D3.0. (3 of 5)

SuggestedRemedy

Insert before current PICS DLL16 Item Feature Subclause Value/Comment Status Support DLL_X Set state variable 33.6.5 Within 5 minutes DLLC:M Yes[] pd_dll_ready of DLLC being enabled N/A[] as indicated by the variable pd_dll_enabled

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS before DLL16 and renumber as appropriate:

DLL#; PD DLL ready; 33.6.5; Set state variable pd_dll_ready within 5 minutes of Data Link Layer classification being enabled as indicated by pd_dll_enabled.; DLLC:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.2** *P* **111** *L* **11** # 113

Vetteth, Anoop Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *EZ*

Item PDCL2 - the status should be PDT2:M

SuggestedRemedy

Fix this

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **111** *L* **14** # 114

Vetteth, Anoop Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *EZ*

Item DLLC - the status should be PDT2:M

SuggestedRemedy

Fix this

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **113** *L* **44** # 261

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Missing PICS statement. Necessary due to the addition of clause 33.2.4.6 and the text 'A Type 2 PSE shall assign a value of '2'...' Page 49, line 34.

SuggestedRemedy

Insert PICS and renumber accordingly Item Feature Subclause Value/Comment Status Support PSE10 Mutual identification 33.2.4.6 Assign a value 2 M Yes[] complete: set_parameter_type

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS in 33.8.3.2 and renumber as appropriate:

PSE#; Mutual identification complete; 33.2.4.6; Assign a value to set_parameter_type; M; Yes[ ]

Cl **33** *SC* **33.8.3.2** *P* **113** *L* **46** # 262

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Missing PICS statement. Necessary due to the addition of clause 33.2.4.6 and the text '..the PSE shall meet the PI electrical requirements...' Page 49, line 37.

SuggestedRemedy

Insert PICS and renumber accordingly Item Feature Subclause Value/Comment Status Support PSE11 Type 2 PSE PI electrical 33.2.4.6 Meet Type 1 PSE PSET2:M Yes[] requirements when powering requirements or N/A[] Type 1 PD Type 2 PSE for Iport_max, ILIM, TLIM and PType

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS in 33.8.3.2 and renumber as appropriate:

PSE#; Type 2 PSE PI electrical requirements; 33.2.4.6; Meet Type 1 PSE requirements when powering Type 1 PD or Type PSE requirements for IPort_max, ILIM, TLIM, and PType; PSET2:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.2** *P* **113** *L* **50** # 263

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Missing PICS statement. Necessary due to the additional text '..The PSE shall present a non-valid PD detection signature...' Page 53, line 3.

SuggestedRemedy

Insert PICS and renumber accordingly Item Feature Subclause Value/Comment Status Support PSE_X Non-Valid Detection 33.2.6 As defined in Table M Yes[] signature 33-15 when probed by another PSE.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS and renumber as appropriate:

PSE#; Non-valid detection signature; 33.2.6; As defined in Table 33-15 when probed by another PSE; M; Yes[ ]

Cl **33** *SC* **33.8.3.2** *P* **114** *L* **13** # 116

Vetteth, Anoop Cisco Systems, Inc.

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

item PSE19 - The spec does not require 1V difference between consecutive measurements if there are more than 2 measurements

SuggestedRemedy

Remove consecutive

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

From:
At least 1 V difference between consecutive measurements

To:
At least 1 V difference between at least two measurements in the range of Vdetect

Cl **33** *SC* **33.8.3.2** *P* **114** *L* **13** # 115

Vetteth, Anoop Cisco Systems, Inc.

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

Item PSE19 - The spec requires only a minimum of 2 measurements

SuggestedRemedy

Change to Atleast two measurements with Vdetect

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See 116

Cl **33** *SC* **33.8.3.2** *P* **114** *L* **31** # 117

Vetteth, Anoop Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *EZ*

Item PSE24, PSE25, PSE26 and PSE27 use just "classification" to describe physical layer classification

SuggestedRemedy

Change classification to "physical layer classification"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

PSE24 is generic with respect to 1-Event Physical Layer classification, 2-Event Physical Layer classificaion, and Data Link Layer Classification. No change needed.

PSE25, PSE26, and PSE27 should have "classification" changed to "Physical Layer classification."

Cl **33** *SC* **33.8.3.2** *P* **114** *L* **32** # 265

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

Value/Comment Field: missing the '1' for 'Type 1 PSE'.

SuggestedRemedy

Add the '1'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **114** *L* **37** # 267

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text in 33.2.8, page 57, line 27 has changed from draft 3.0 therefore PICS PSE27 needs to be updated.

SuggestedRemedy

Update Value/Comment field in PSE27 to: 'Return to IDLE state or assign to Class 0.'
Update Subclause reference in PICS PSE27 to 33.2.8 (drop .1)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **114** *L* **39** # 268

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Insert PICS after current PSE27. Text in 33.2.8, page 57, line 27 has changed from draft 3.0 therefore another PICS needs to added after the current 'Default classification' feature.

SuggestedRemedy

Insert PICS (after current PSE27, default classfication for Type 1 PSEs) and renumber accordingly Item Feature Subclause Value/Comment Status Support PSE_X Default classification 33.2.8 Return to IDLE state PSET2:M Yes[] N/A[]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS after PSE27 and renumber as appropriate:

PSE#; Default classification; 33.2.8; Return to IDLE state; PSET2:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.2** *P* **114** *L* **7** # 264

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

The text on page 42 line 43 in 33.2.6 has been deleted from draft 3.0. 'The PSE shall exhibit Thevenin equivalence to one of the detection circuits shown in Figure 33-12 or Figure 33-13 in all detection states.' Therefore PICS PSE17 is now invalid.

SuggestedRemedy

Delete PICS statement PSE17 and renumber.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **115** *L* **10** # 270

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text in 33.2.8.1, page 57, line 48 has changed from D3.0. PICS PSE35 needs updating.

SuggestedRemedy

Update Value/Comment field in PSE35 to: Return to IDLE state or assign PD to Class 0 if Iclass is greater than or equal to IClass_LIM.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **115** *L* **11** # 118

Vetteth, Anoop Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *TEZ*

Item PSE35 is incorrect. We have the option to treat this condition as Class 0 or go to Idle state

SuggestedRemedy

Fix this

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See 270

Cl **33** *SC* **33.8.3.2** *P* **115** *L* **12** # 271

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Text in 33.2.8.1, page 57, line 48 has changed from D3.0. A PICS needs to be added after the current PSE35.

SuggestedRemedy

Insert PICS (after current PSE35) and renumber accordingly Item Feature Subclause Value/Comment Status Support PSE_X Classification default 33.2.8.1 Return to IDLE state PSET2:M Yes[] for 1-Event Physical Layer N/A[] classification

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS after PSE35 and renumber as appropriate:

PSE#; Classification default for 1-Event Physical Layer classification; 33.2.8.1; Return to IDLE state; PSET2:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.2** *P* **115** *L* **37** # 119

Vetteth, Anoop Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **D** *TEZ*

Item PSE46 is incorrect. This condition will cause the PSE to go into IDLE state

SuggestedRemedy

Fix this

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See 272

Cl **33** *SC* **33.8.3.2** *P* **115** *L* **37** # 272

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text in 33.2.8.2, page 58, line 30, has changed from draft 3.0. PICS PSE46 needs updating.

SuggestedRemedy

Change Value/Comment field in PICS PSD46 to the following: 'Return to IDLE state if IClass is greater than or equal to IClass_LIM.'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **115** *L* **51** # 273

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Text in 33.2.8.2, page 58, line37, has been changed from D3.0, need to add a PICS as a result of this text. ' it shall maintain the PI voltage at VReset for a period of at least TReset min before starting a new detection cycle.'

SuggestedRemedy

Insert PICS (after current PSE51) and renumber accordingly Item Feature Subclause Value/Comment Status Support PSE_X Return to IDLE State 33.2.8.2 Vreset for a period 2EPLC:M Yes[] PI Voltage of at least TReset N/A[]

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS after PSE51 and renumber as appropriate:

PSE#; Return to IDLE state PI voltage; 33.2.8.2; Vreset for a period of at least TReset; 2EPLC:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.2** *P* **115** *L* **6** # 269

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Text in 33.2.8.1, page 57, line 46 has changed from D3.0. A shall has been removed. D.3.0 Text: a Type 2 PSE shall assume it is powering a Type 2 PD. D 3.1 Text: a Type 2 PSE treats the PD as a Type 2 PD but may provide Class 0 power until mutual identification is complete.

SuggestedRemedy

Delete PICS PSE34 or Update the text in 33.2.8.1 to say 'a Type 2 PSE shall treat the PD...' and leave the current PICS PSE34 in the draft.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Delete PSE34

Cl **33** *SC* **33.8.3.2** *P* **116** *L* **10** # 275

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Text has changed from D3.0 to D3.3 in 33.2.9.1, page 61, line 41. The text struck from D3.0 'The voltage potential shall be measured between any conductor...' As a result PICS PSE55 is not needed.

SuggestedRemedy

Delete PICS PSE55 and renumber accordingly

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **116** *L* **30** # 276

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text in 33.2.9.5, page 62, line 19, has been deleted from draft 3.0. Deleted text from Draft 3.0: 'the minimum value for IPort_max in Table 33-9 shall be (PPort / VPort).' PICS PSE61 is no longer valid.

SuggestedRemedy

Delete PICS PSE61

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **116** *L* **33** # 277

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

Equation number in 33.2.9.5, page 62, line 25 has changed from draft 3.0.

SuggestedRemedy

Change equation number in the Value/Comment field for PICS PSE62 to 33-3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **116** *L* **4** # 274

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Text has changed from D3.0 to D3.3 in 33.2.9, page 60, line3. Text struck from D3.0 'When a Type 2 PSE powers a Type 1 PD, the PSE shall meet the electrical requirements...' As a result PICS PSE53 is not needed.

SuggestedRemedy

Delete PICS PSE53 and renumber accordingly

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Text related to this behavior has been moved to 33.2.4.6 (See 262).

Cl **33** *SC* **33.8.3.2** *P* **116** *L* **40** # 279

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

Figure number has changed in the text, 33.2.9.8, page 64, figure 33-15. PICS PSE64 reqires an update

SuggestedRemedy

Change figure number in PICS PSE64 to 33-15.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **116** *L* **40** # 278

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

Equation number has changed to 33-5 for IPSEUT in 33.2.9.8

SuggestedRemedy

Update equation number in PICS PSE64 to 33-5.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Editor to research why these references did not auto-update.

Cl **33** *SC* **33.8.3.2** *P* **116** *L* **54** # 280

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

New PICS required due to the new text in 33.2.9.12, page 65, line 54. 'Type 2 Endpoint PSEs shall meet the requirements of 25.4.4a in the presence of (Iunb / 2).'

SuggestedRemedy

Insert PICS (after current PSE69) and renumber accordingly Item Feature Subclause Value/Comment Status Support PSE_X Current unbalance for 33.2.9.12 Meet requirements of PSET2:M Yes[] type 2 PSE 25.4.4a in presence N/A[] of (Iunb/2).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS after PSE69 and renumber as appropriate:

PSE#; Current unbalance for Type 2 Endpoint PSE; 33.2.9.12; Meet requirements of 25.4.4a in presence of (Iunb/2); PSET2:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.2** *P* **117** *L* **17** # 282

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Insert PICS after PSE72 Text in 33.2.11.1, page 66, line 40 added since last PICS review. 'The PSE shall monitor either the DC MPS component, the AC MPS component, or both.'

SuggestedRemedy

Insert PICS (after current PSE72) and renumber accordingly Item Feature Subclause Value/Comment Status Support PSE_X MPS monitoring 33.2.11.1 DC MPS or AC MPS M Yes[] requirement components or both

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This behavior is captured by PSE major capability PICS "DC" and "AC" on page 112.

Cl **33** *SC* **33.8.3.2** *P* **117** *L* **24** # 284

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text in 33.2.11.1.2, page 67, line 6 has changed from D3.0, PICS PSE77 requires updating.

SuggestedRemedy

Replace Value/Comment field with the following: 'IPort is greater than or equal to IMin max for a minimum of TMPS as specified in Table 33-11.'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **117** *L* **24** # 283

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Line 24 and Line 26. The terms IMin2 and IMin1 are used throughout the text however only IMin is defined in Table 33-11. I beleive these are editorial errors.

SuggestedRemedy

Search doucment and replace all instances if IMin1 and IMin2 with Imin.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This has probably been covered by other comments submitted by this comment editor. But it's worth double- and triple-checking.

Editor to also adjust context as appropriate when replacing IMin1 or IMin2 with IMin.

Cl **33** *SC* **33.8.3.2** *P* **117** *L* **26** # 285

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text in 33.2.11.1.2, page 67, line 7 has changed from D3.0, PICS PSE78 requires updating.

SuggestedRemedy

Replace Value/Comment field with the following: 'IPort is less than or equal to IMin min as specified in Table 33-11.'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **117** *L* **3** # 281

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

TOff in Value/Comment field in PICS PSE70 is incorrect, it should be Tpon. See text in 33.2.9.13, page 66, line 3.

SuggestedRemedy

Change TOff to Tpon.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **118** *L* **20** # 286

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Need to insert a PICS for current unbalance requirements for PD due to the new text in 33.3.2, page 70, line 10. 'Type 2 PDs shall meet the requirements of 25.4.4a in the presence of (Iunb / 2).'

SuggestedRemedy

Insert PICS (after current PSE69) and renumber accordingly Item Feature Subclause Value/Comment Status Support PSE_X Current unbalance for 33.3.2 Meet requirements of PDT2:M Yes[] type 2 PD 25.4.4a in presence N/A[] of (Iunb/2).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS after PD6 and renumber as appropriate:

PD#; Current unbalance for Type 2 PD; 33.3.2; Meet requirements of 25.4.4a in presence of (Iunb/2); PDT2:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.2** *P* **118** *L* **26** # 287

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

PICS PD8 can be deleted. The text from D3.0, 33.3.4 has changed and the following text was deleted making PD8 no longer valid. '...while it is in a state where it will not accept power via the PI.'

SuggestedRemedy

Delete PICS PD8.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **118** *L* **41** # 288

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

PICS PD13 'shall' removed from text, 33.3.5, page 74, line 44. Either the word 'shall' is reinserted into the text or remove the PICS statement.

SuggestedRemedy

Insert the word 'shall' in 33.3.5, page 74, line 44. 'Type 2 PDs shall implement both...'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The shall was removed from the text because it is redundant to the requirement expressed by PICS PD12. There is only one acceptable permutation for a Type 2 PD: one which implements both 2-Event class signature and Data Link Layer classification.

Delete PD13.

Cl **33** *SC* **33.8.3.2** *P* **119** *L* **12** # 290

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Text in 33.3.5.2.1 has changed, need to update PICS PD20 to reflect the change in text.

SuggestedRemedy

Replace PICS PD20 fields as follows: Feature: Mark event current and 2-Event class signature Value/Comment: Draw IMark (defined in Table 33-17) and present a non-valid detection signature (defined in Table 33-15).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **119** *L* **19** # 291

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

The text supporting PICS PD22 has been removed since D3.0 and clauses renumbered. Text in D3.0, 33.3.5.2.2, page 65, line 3: 'A PD implementing 2-Event class signature shall reset its pse_power_type state variable to 1 when the voltage at the PI is less than or equal to VReset max as defined in Table 33-16.'

SuggestedRemedy

Delete PICS PD20 and renumber.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This behavior is captured in the state diagram, which itself is covered by PICS PD6.

Delete PICS PD22.

Cl **33** *SC* **33.8.3.2** *P* **119** *L* **27** # 292

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

PICS PD24 is specific to Type 2 PDs therefore the Status field needs to indicate as such.

SuggestedRemedy

Change 'Status' field from 'M' to 'PDT2:M'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **119** *L* **43** # 293

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Text has changed from D3.0 making PICS PD30 invalid. Text from D3.0, 33.3.7.2, page 67, line 33 that created the PICS: 'The specification for PPort in Table 33-17 shall apply for the input power averaged over 1 second.' Current text in 33.3.7.2, page 78, line 6 does not have a shall statement. Either delete the PICS statement or insert the word shall in the text.

SuggestedRemedy

Delete PICS PD30.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **119** *L* **53** # 294

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text in 33.3.7.3, page 78, line 33 references 'Tdelay min', not 'TInrush max' as stated in the PICS PD32.

SuggestedRemedy

Change 'TInrush max' to 'Tdelay min' in the Value/Comment field of PICS PD32.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **119** *L* **7** # 289

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

Table reference in PICS PD18 is incorrect. Tables were renumbered.

SuggestedRemedy

Change table reference to 33-17 in Value/Comment field.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **120** *L* **12** # 296

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

PICS PD36 and PD37, equations were renumbered in the text.

SuggestedRemedy

Change 33-8 on line 12 to 33-9 Change 33-9 on line 14 to 33-10

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **120** *L* **22** # 297

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text supporting PICS PD40 has been deleted from D3.0 to D3.3. D3.0 Text, in 33.3.7.5, page 69, line 37: 'The PD shall operate below the "PD upperbound template," defined in 33.2.9.9 and Figure 33-14, during transient conditions lasting greater than 10 ms.'

SuggestedRemedy

Delete PICS PD40.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **120** *L* **25** # 298

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text supporting PICS PD41, sublcause 33.3.7.6 has been completely rewirtten from D3.0 to D3.3. Updateing the Feature field in PICS PD41 makes the PICS statement more clear.

SuggestedRemedy

Replace PICS PD41 'Feature' field as follows: 'Behavior during transients at the PSE PI'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **120** *L* **7** # 295

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Text has changed in 33.3.7.3 from D3.0. D3.0 text: At any static voltage at the PI, and any PD operating condition, the peak current shall not exceed PPort max for more than 50 ms maximum and 5% duty cycle maximum. D3.3 text: At any static voltage at the PI, and any PD operating condition, the peak power shall not exceed PClass_PD max for more than 50 ms maximum and 5% duty cycle maximum.

SuggestedRemedy

Change PICS PD34 as follows: Change the 'Feature' field to: 'Peak power' Change the 'Value/Comment' to: 'Not to exceed PClass_PD max for more than 50 ms max and 5 % duty cycle max'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **121** *L* **47** # 299

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Value/Comment field: for 10Mb/s PHYs the text in 33.4.3, page 84, line 30 states the freqency range is up to 100 MHz, not 20 MHz as stated in the PICS. D3.0 also stated up to 100MHz.

SuggestedRemedy

Change 20 Mhz to 100MHz in PICS EL13.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **122** *L* **10** # 300

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Text supporting PICS EL15 has been struck since D3.0. D3.0 text, 33.4.4, page 74, line45: 'The magnitude of the common-mode AC voltage shall not exceed 50 mV peak-to-peak measured at all other PIs.'

SuggestedRemedy

Delete PICS EL15.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.2** *P* **122** *L* **48** # 301

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Insert PICS due to new text in 33.4.8, page 87, line 51.

SuggestedRemedy

Insert new PICS after PSEEL3 and renumber. Item Feature Subclause Value/Comment Status Support PSEEL_X Channel unbalance 33.4.8 Less than or equal MIDA: Yes[] current for Type 2 to Type 1 Iunb. M N/A[] Midspans that support 100BASE-TX

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS after PSEEL3 and renumber as appropriate:

PSEEL#; Channel unbalance for Alternative A Midspan PSEs that support 100BASE-TX; 33.4.8; Less than or equal to Type 1 Iunb; MIDA:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.4** *P* *L* # 302

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Insert PICS due to new text in 33.4.8, page 88, line 1.

SuggestedRemedy

Insert new PICS after EL20. Item Feature Subclause Value/Comment Status Support EL21 Channel unbalance 33.4.8 Meet requirements of M Yes[] current for Type 2 clause 25 in presence N/A[] Enpoint PSE and PDs (Iunb/2) that support 100BASE-TX

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS after EL20 and renumber as appropriate:

EL#; Channel unbalance; 33.4.8; 100BASE-TX Type 2 Endpoint PSEs and Type 2 PDs meet requirements of Clause 25 in presence of (Iunb/2); M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.5** *P* **122** *L* **46** # 307

Nadeau, Gerard

Comment Type **G** *Comment Status* **D**

Insert a PICS specific to the PSE to be consistent with a similar PICS specific to the PD (PDEL1).

SuggestedRemedy

Insert new PICS after existing PSEEL2 and renumber. Item Feature Subclause Value/Comment Status Support PSEEL_X PSE common-mode test 33.4.4 The PIs that require M Yes[] requirement power shall be N/A[] terminated as illustrated in Figure 33-24

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS after PSEEL2 and renumber as appropriate:

PSEEL#; PSE common-mode test requirement; 33.4.4; The PIs that require power shall be terminated as illustrated in Figure 33-24; M; Yes[ ]

Cl **33** *SC* **33.8.3.5** *P* **123** *L* **36** # 303

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

Equation and equation number have changed in the text, 33.4.9.2, page 91, line 23. PICS PSEEL13 requires an update.

SuggestedRemedy

Replace PICS PSEEL13 Value/Comment field as follows: 'Exceed transfer function gain expressed in equation 33-19 from 0.1 MHz to 1 MHz at the pins of the PI used as 100BASE-TX transmit pins'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.5** *P* **123** *L* **40** # 305

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *TEZ*

Insert PICS statement. Additional text in 33.4.9.2, page 91, line 29 defines another PICS.

SuggestedRemedy

Insert new PICS after existing PSEEL13 and renumber. Item Feature Subclause Value/Comment Status Support PSEEL_X Alternative A Midspan 33.4.9.2 Between 0 mA and MIDA:M Yes[] DC bias current (Ibias) (Iunb / 2) mA defined N/A[] in Table 33-11

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Insert new PICS after PSEEL13 and renumber as appropriate:

PSEEL#; Alternative A Midspan PSE DC bias current (Ibias); 33.4.9.2; Between 0 mA and (Iunb/2) mA; MIDA:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.5** *P* **123** *L* **41** # 304

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

Text and subclause reference 33.4.9.2.1, page 91, line 29 has changed from D3.0 (33.4.9.2). PICS PSEEL14 needs to be updated.

SuggestedRemedy

Replace existing PSEEL14 fields as follows: Subclause: 33.4.9.2.1 Status: MIDA:M

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.5** *P* **123** *L* **44** # 306

Nadeau, Gerard

Comment Type **G** *Comment Status* **X** *TEZ*

Insert PICS: 33.4.9.2.1, page 91, line 38 defines another PICS. Insert PICS statement.

SuggestedRemedy

Insert new PICS after existing PSEEL14 and renumber. Item Feature Subclause Value/Comment Status Support PSEEL_X Alternative A Midspan 33.4.9.2.1 From output MIDA:M Yes[] transfer funcion termination to the N/A[] measurement Midspan PSE input

Proposed Response *Response Status* **W**

Insert new PICS after PSEEL14 and renumber as appropriate:

PSEEL#; Alternative A Midspan PSE transfer function measurement; 33.4.9.2.1; From output termination to the Midspan PSE input; MIDA:M; Yes[ ] N/A[ ]

Cl **33** *SC* **33.8.3.7** *P* **124** *L* **2** # 308

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

Subclauses 33.8.3.7 and 33.8.3.8 are not in sequence with the rest of the PICS in relation to the clause numbers they reference (33.7...). Suggest they be moved to follow 33.8.3.10 which reference 33.6... and renumber the clauses as necessary.

SuggestedRemedy

Move 33.8.3.7 and 33.8.3.8 in order after 33.8.3.10 and renumber. 33.8.3.9 becomes 33.8.3.7 Management function requirements 33.8.3.10 becomes 33.8.3.8 Data Link Layer classification requirements 33.8.3.7 becomes 33.8.3.9 Environmental spec... to PSEs and PDs 33.8.3.8 becomes 33.8.3.10 Evironmental spec... to the PSE

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Move 33.8.3.7 and 33.8.3.8 in order after 33.8.3.10 and renumber as appropriate.

Cl **33** *SC* **33.8.3.9** *P* **125** *L* **41** # 309

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

Subclause 33.5.1.2.1 now reserves 2 bits instead of 1 bit (change from D3.0 to D3.3). Need to update PICS MF20.

SuggestedRemedy

Change the 'Feature' to read: 'Reserved bits (12.15:14)'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **33.8.3.9** *P* **126** *L* **15** # 310

Nadeau, Gerard

Comment Type **G** *Comment Status* **D** *EZ*

Subclause reference is incorrect and the state name is not quite correct. Update.

SuggestedRemedy

Change the fields in MF27 as follows. Sublcause: 33.5.1.2.6 Value/Comment: Replace ERROR_DELAY with ERROR_DELAY_SHORT

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33** *SC* **Table 33-7** *P* **56** *L* **29** # 169

Beia, Christian STMicroelectronics

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

I don't see the reason for Table 33-7 to contain a link to table 33-11instead of straight numbers. It only adds difficulties for the reader.

SuggestedRemedy

Replace Ptype with: 15.4W for Type1 PSEs, 30W for Type2 PSEs. Use two lines for Type 1 and Type 2

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Ptype is not a number in Table 33-11 but instead an equation. While we agree that the level of misdirection in this standard is high, we have agreed to may times before to keep things defined in one place so as to be sure that there aren't conflicting definitions in the standard.

Cl **33A** *SC* **33A.1** *P* **131** *L* **26** # 360

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Missing word "a"

SuggestedRemedy

Should read ". . . which is a function of the . . ."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33A** *SC* **33A.1** *P* **131** *L* **42** # 361

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Missing comma

SuggestedRemedy

Should read ". . . at short cable length, or by presenting . . ."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **33A** *SC* **33A.2** *P* **133** *L* **41** # 362

McCormack, Meghan

Comment Type **G** *Comment Status* **D** *EZ*

Superfluous comma and missing "and"

SuggestedRemedy

Should read "Because of this, measuring the PD input impedance is a complicated task and the following guidelines should be followed by the PD vendor:"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.