Cl *SC* **FM** *P* **12** *L* **15** # i-1

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

The character after "Amendment 1" should be an em-dash. Likewise for Amendments 2 through X

SuggestedRemedy

Replace "--" with em-dash (Ctrl-q Shft-q)

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **1** *L* **2** # i-116

Zimmerman, George — Commscope and Line

Comment Type **E** *Comment Status* **A** *ez*

Amendment is of 802.3-2015 as amended by several amendments: e.g., "IEEE Std 802.3-2015 as amended by IEEE Std 802.3bw(TM)-2015), IEEE Std 802.3by(TM)-201X, IEEE Std 802.3bq(TM)-201X, IEEE Std 802.3bp(TM)-201X, IEEE Std 802.3br(TM)-201X, and IEEE Std 802.3bz(TM)-201X) "

SuggestedRemedy

Update "Amendment of IEEE Std 802.3-2015" to include amendments preceding 802.3bu, for example: "IEEE Std 802.3-2015 as amended by IEEE Std 802.3bw(TM)-2015), IEEE Std 802.3by(TM)-201X, IEEE Std 802.3bq(TM)-201X, IEEE Std 802.3bp(TM)-201X, IEEE Std 802.3br(TM)-201X, and IEEE Std 802.3bz(TM)-201X) "

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **1** *L* **26** # i-114

Zimmerman, George — Commscope and Line

Comment Type **E** *Comment Status* **A** *ez*

twisted pair should be hypenated when used as an adjective. "with single twisted pair IEEE 802.3 interfaces"

SuggestedRemedy

change "with single twisted pair IEEE 802.3 interfaces" to "with single twisted-pair IEEE 802.3 interfaces"

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **2** *L* **1** # i-218

Gardner, Andrew — Linear Technology

Comment Type **ER** *Comment Status* **A** *ez*

There is no acknowledgement to Maxim Integrated Products, Inc. for the use of 1-wire material in Clause 104.

SuggestedRemedy

Add the following acknowledgment to page 2 with insertion point starting at beginning of line 1:'Portions of the material contained herein are reprinted with permission from Maxim Integrated Products, Inc., DS18B20 "Programmable Resolution 1-Wire Digital Thermometer" Data Sheet, Rev. 042208, (C) 2008.'

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: the response was changed from ACCEPT to REVISED subsequent to comment resolution since the insertion point was changed from page 2 line 1 to page 3 line 6 in order to be consistent with other standards, e.g. IEEE P802.3bw.

Cl **FM** *SC* **FM** *P* **2** *L* **3** # i-111

Zimmerman, George — Commscope and Line

Comment Type **T** *Comment Status* **A** *ez*

"for the provision of power via a single twisted pair to connected Data Terminal Equipment (DTE) with IEEE 802.3 interfaces." This amendment, as designed, isn't made to work on a single-twisted pair of a 4-pair IEEE 802.3 interface. It is only designed for the BASE-T1, single-pair, interfaces. (this same text occurs on P2 L3 and P12 L44)

SuggestedRemedy

Change "with IEEE 802.3 interfaces" to "with IEEE 802.3 single twisted-pair interfaces", on both P2L3 and P12L44.

Response *Response Status* **C**

ACCEPT.

Cl **FM** SC **FM** P **12** L **18** # i-76

Law, David — Hewlett Packard Enter

Comment Type **E** *Comment Status* **A** *ez*

IEEE Std 802.3by-2016, IEEE Std 802.3bq-2016 and IEEE Std 802.3bp-2016 were all approved as IEEE standards on 30th June 2016.

SuggestedRemedy

Change 'IEEE Std 802.3by(TM)-201x' to read 'IEEE Std 802.3by(TM)-2016', 'IEEE Std 802.3bq(TM)-201x' to read 'IEEE Std 802.3bq(TM)-2016', and 'IEEE Std 802.3bp(TM)-201x' to read 'IEEE Std 802.3bp(TM)-2016'.

Response *Response Status* **C**

ACCEPT.

Cl **FM** SC **FM** P **12** L **37** # i-136

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

DL: Since it seems likely that IEEE P802.3br and IEEE P802.3bn will be published before IEEE P802.3bu add these to the list of prior amendments.

SuggestedRemedy

Add the following text between the IEEE Std 802.3bp-201x entry and the IEEE Std 802.3bu-201x entry:

IEEE Std 802.3br-201X

Amendment 5--This amendment includes changes to IEEE Std 802.3-201x and adds Clause 99. This amendment adds a MAC Merge sublayer and a MAC Merge Service Interface to support for Interspersing Express Traffic over a single link.

IEEE Std 802.3bn-201X

Amendment 6--This amendment adds the physical layer specifications and management parameters for symmetric and/or asymmetric operation of up to 10 Gb/s on point-to-multipoint Radio Frequency (RF) distribution plants comprising either amplified or passive coaxial media. It also extends the operation of Ethernet Passive Optical Networks (EPON) protocols, such as Multipoint Control Protocol (MPCP) and Operation Administration and Management (OAM).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to add the following text between the IEEE Std 802.3bp-201x entry and the IEEE Std 802.3bu-201x entry:

IEEE Std 802.3br-2016

Amendment 5--This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 99. This amendment adds a MAC Merge sublayer and a MAC Merge Service Interface to support for Interspersing Express Traffic over a single link.

IEEE Std 802.3bn-201X

Amendment 6--This amendment adds the physical layer specifications and management parameters for symmetric and/or asymmetric operation of up to 10 Gb/s on point-to-multipoint Radio Frequency (RF) distribution plants comprising either amplified or passive coaxial media. It also extends the operation of Ethernet Passive Optical Networks (EPON) protocols, such as Multipoint Control Protocol (MPCP) and Operation Administration and Management (OAM).

IEEE Std 802.3bz-201X

Amendment 7-- This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 125 and Clause 126. This amendment adds new rates of 2.5 Gb/s and 5 Gb/s and new Physical Layers for operation at 2.5 Gb/s and 5 Gb/s over balanced twisted-pair structured cabling systems.

Cl **FM** *SC* **FM** *P* **12** *L* **37** # i-75

Law, David — Hewlett Packard Enter

Comment Type **E** *Comment Status* **A** *ez*

Since IEEE Std 802.3br-2016 was approved as an IEEE standard on 30th June 2016 and it seems likely that IEEE P802.3bn and IEEE P802.3bz will be published before IEEE P802.3bu add these to the list of prior amendments.

SuggestedRemedy

Add the following text between the IEEE Std 802.3bp-201x entry and the IEEE Std 802.3bu-201x entry:

IEEE Std 802.3br-2016

Amendment 5--This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 99. This amendment adds a MAC Merge sublayer and a MAC Merge Service Interface to support for Interspersing Express Traffic over a single link.

IEEE Std 802.3bn-201X

Amendment 6--This amendment adds the physical layer specifications and management parameters for symmetric and/or asymmetric operation of up to 10 Gb/s on point-to-multipoint Radio Frequency (RF) distribution plants comprising either amplified or passive coaxial media. It also extends the operation of Ethernet Passive Optical Networks (EPON) protocols, such as Multipoint Control Protocol (MPCP) and Operation Administration and Management (OAM).

IEEE Std 802.3bz-201X

Amendment 7-- This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 125 and Clause 126. This amendment adds new rates of 2.5 Gb/s and 5 Gb/s and new Physical Layers for operation at 2.5 Gb/s and 5 Gb/s over balanced twisted-pair structured cabling systems.

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **12** *L* **38** # i-104

Marris, Arthur — Cadence Design Syst

Comment Type **E** *Comment Status* **A** *ez*

Now that 802.3br has been approved add that to the list of approved amendments

SuggestedRemedy

Add after 802.3bp:

IEEE Std 802.3br(TM)-2016
Amendment 5 --This amendment includes changes to IEEE Std 802.3-201x and adds Clause 99. This amendment adds a MAC Merge sublayer and a MAC Merge Service Interface to support for Interspersing Express Traffic over a single link.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: The response to this comment was changed from ACCEPT to REVISED since the adopted text was changed from

"IEEE Std 802.3br(TM)-2016
Amendment 5 --This amendment includes changes to IEEE Std 802.3-201x and adds Clause 99. This amendment adds a MAC Merge sublayer and a MAC Merge Service Interface to support for Interspersing Express Traffic over a single link."

to

"IEEE Std 802.3br(TM)-2016
Amendment 5 --This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 99. This amendment adds a MAC Merge sublayer and a MAC Merge Service Interface to support for Interspersing Express Traffic over a single link."

Cl **FM** *SC* **FM** *P* **12** *L* **38** # i-112

Zimmerman, George — Commscope and Line

Comment Type **E** *Comment Status* **A** *ez*

There are at least 3 more amendments missing which will be ahead of 802.3bu - 802.3br (Amendment 5), which was approved at the June standards board, 802.3bn and 802.3 bz, which has passed its first sponsor recirc with minimal comments.

SuggestedRemedy

Add IEEE Std 802.3br-201x and IEEE Std 802.3bz-201x to the amendments in front of 802.3bu. Descriptive text may be obtained from D3.1 of IEEE Std 802.3bz. Consult IEEE 802.3 leadership for other amendments and any ordering.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The remedy to i-75 applies to this comment as well. The remedy to i-75 is shown below:

Add the following text between the IEEE Std 802.3bp-201x entry and the IEEE Std 802.3bu-201x entry:

IEEE Std 802.3br-2016

Amendment 5--This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 99. This amendment adds a MAC Merge sublayer and a MAC Merge Service Interface to support for Interspersing Express Traffic over a single link.

IEEE Std 802.3bn-201X

Amendment 6--This amendment adds the physical layer specifications and management parameters for symmetric and/or asymmetric operation of up to 10 Gb/s on point-to-multipoint Radio Frequency (RF) distribution plants comprising either amplified or passive coaxial media. It also extends the operation of Ethernet Passive Optical Networks (EPON) protocols, such as Multipoint Control Protocol (MPCP) and Operation Administration and Management (OAM).

IEEE Std 802.3bz-201X

Amendment 7-- This amendment includes changes to IEEE Std 802.3-2015 and adds Clause 125 and Clause 126. This amendment adds new rates of 2.5 Gb/s and 5 Gb/s and new Physical Layers for operation at 2.5 Gb/s and 5 Gb/s over balanced twisted-pair structured cabling systems.

Cl **FM** *SC* **FM** *P* **12** *L* **42** # i-214

Maguire, Valerie

Comment Type **E** *Comment Status* **A** *ez*

The terms "twisted pair" and "twisted-pair" are often used interchangeably throughout the document. Please standardize on one style. "Twisted-pair" is recommended to align with structured cabling Standards.

SuggestedRemedy

Perform a global search for the term "twisted pair" and replace with "twisted-pair" where appropriate.

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **17** *L* **1** # i-105

Marris, Arthur — Cadence Design Syst

Comment Type **E** *Comment Status* **A** *ez*

Add new line after Ethernet in "Draft Standard for Ethernet Amendment:"

SuggestedRemedy

Change to:
Draft Standard for Ethernet
Amendment:

Make the same change on page 1 line 8.

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **17** *L* **13** # i-2

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

Page 17 does not reflect the latest version of the 802.3 boilerplate.

SuggestedRemedy

Change "Implementors" to "Implementers".

Response *Response Status* **C**

ACCEPT.

Cl **0** SC **0** P L # i-53
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *ez*

Has information-byte once and information byte once

SuggestedRemedy

Make consistent - suggest all to information byte

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

The remedy to i-166 applies to this comment as well. The remedy to i-166 is shown below:

Editor to delete "-byte".

Cl **0** SC **0** P L # i-52
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *ez*

Has implementation-specific two times and implementation specific once

SuggestedRemedy

Make consistent - suggest all to implementation-specific

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Editor to change all instances of 'implementation specific' to 'implementation-specific'.

Cl **0** SC **0** P L # i-51
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *ez*

Has falling edge three times and falling-edge once

SuggestedRemedy

Make consistent - suggest all to falling edge

Response *Response Status* **W**

ACCEPT.

Cl **0** SC **0** P L # i-50
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *nonez*

Has constant voltage signature three time and constant-voltage signature twice

SuggestedRemedy

Make consistent - suggest all to constant-voltage signature

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Instances of "constant voltage" and "constant-voltage" have both been changed to "voltage" by the resolution to comment i-106.

Resolution to comment i-106 is:

Adopt http://www.ieee802.org/3/bu/public/jul16/abramson_03bu_01_0716.pdf with changes to page 7 as follows:

Change "…is not enabled." to "…is not performed."

Delete last sentence "If a valid signature is not detected classification is enabled, the PSE shall complete classification."

Cl **0** SC **0** P L # i-55
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *nonez*

Has power up two times and power-up two times

SuggestedRemedy

Make consistent - suggest all to power-up

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Editor to change instances of 'power-up' in 104.5.6.2 and in PIC PD14 to 'application of power'.

Cl **0** *SC* **0** *P* *L* # i-56
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *nonez*

Has pull up two times and pull-up nine times

SuggestedRemedy

Change pull-up at and pull-up within to be pull up at and pull up within

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Editor to change "pull-up at" and "pull-up within" to be "pull up at" and "pull up within".
Editor to change "pull-up VPSE" to "pull up VPSE" on lines 51 and 52 of page 63. Other instances of "pull-up" are adjectives and consistent with the IEEE style guide.

Cl **0** *SC* **0** *P* *L* # i-57
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *ez*

Figures 104-12/13/14 pull down and PULLUP

SuggestedRemedy

change PULLUP to PULL UP

Response *Response Status* **W**

ACCEPT.

Cl **0** *SC* **0** *P* *L* # i-58
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *ez*

rising edge four times and rising-edge two times

SuggestedRemedy

change twice rising-edge at its.. to change rising edge at its..

Response *Response Status* **W**

ACCEPT.

Cl **0** *SC* **0** *P* *L* # i-54
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *nonez*

Has open-circuit voltage once and open circuit voltage two times

SuggestedRemedy

Make consistent - suggest all to open-circuit voltage

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Editor to change all instances of 'open- circuit voltage' to 'open circuit voltage'. This is consistent with usage in IEEE Std 802.3-2015 Clause 33.

Cl **0** *SC* **0** *P* *L* # i-60
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *ez*

sub-clause three times and subclause twelve times

SuggestedRemedy

Be consistent change sub-clause to subclause (three times)

Response *Response Status* **W**

ACCEPT.

Cl **0** *SC* **0** *P* *L* # i-61
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **R** *ez*

behavior(s) eighteen times and behaviour twenty times

SuggestedRemedy

mixture of international and american english. Suggest using behavior throughout

Response *Response Status* **W**

REJECT.

802.3 style guide http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html uses behaviour in Clause 30 and behavior everywhere else.

Cl **0** *SC* **0** *P* *L* # i-59
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *ez*
dropout six times and drop-out twice

SuggestedRemedy
Make consistent - suggest all to dropout

Response *Response Status* **W**
ACCEPT.

Cl **0** *SC* **0** *P* **11** *L* **40** # i-62
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *ez*
twisted pair cabling

SuggestedRemedy
change to twisted-pair cabling (like the other four instances)

Response *Response Status* **W**
ACCEPT.

Cl **0** *SC* **0** *P* **43** *L* **2** # i-63
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *ez*
steady state one and steady-state once

SuggestedRemedy
change has begun steady state operation to has begun steady-state operation

Response *Response Status* **W**
ACCEPT.

Cl **0** *SC* **0** *P* **47** *L* **7** # i-64
Maytum, Michael RETIRED

Comment Type **GR** *Comment Status* **A** *ez*
re-attempting

SuggestedRemedy
change to reattempting (like the other instance)

Response *Response Status* **W**
ACCEPT.

Cl **1** *SC* **1.4** *P* **18** *L* **8** # i-3
Anslow, Peter Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*
References to "Clause xxx" should either be cross-references or be in Forest green.
802.3 should be referred to as "IEEE Std 802.3"

SuggestedRemedy
In 1.4.330a, make "Clause 104" a cross-reference
In 1.4.330b, make "Clause 104" a cross-reference
In 1.4.338, apply character tag External to "Clause 33"
In 1.4.338, make "Clause 104" a cross-reference
In 1.4.415, change "IEEE 802.3" to IEEE Std 802.3"
In 1.4.415, apply character tag External to "Clause 33"

Response *Response Status* **C**
ACCEPT.

Cl **1** *SC* **1.4** *P* **18** *L* **16** # i-227
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*
ROGUE: For consistency, should the definition refer to "A PoDL PSE" instead of "A PSE" ?

SuggestedRemedy
Change "A PSE" to "A PoDL PSE"

Response *Response Status* **C**
ACCEPT.

Cl **1** *SC* **1.4** *P* **18** *L* **19** # i-228
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*
ROGUE: For consistency, should the definition refer to "A PoDL PSE" instead of "A PSE" ?

SuggestedRemedy
Change "A PSE" to "A PoDL PSE"

Response *Response Status* **C**
ACCEPT.

Cl **1** *SC* **1.4** *P* **18** *L* **45** # i-229
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE: Does the second sentence for Type C PoDL System add anything useful. It seems redundant

SuggestedRemedy

Remove Second sentence.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.338** *P* **1** *L* **8** # i-132
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

"balanced" missing

SuggestedRemedy

replace "twisted-pair" with "balanced twisted-pair". S&R document for consistent use of either "twisted pair" or "twisted-pair".

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.338** *P* **18** *L* **24** # i-138
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

DL: The text 'Power Sourcing Equipment (PSE)' (line 24) and 'Type 1 PD' (line 34) should be in bold.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.338** *P* **18** *L* **24** # i-77
Law, David Hewlett Packard Enter

Comment Type **E** *Comment Status* **A** *ez*

The text 'Power Sourcing Equipment (PSE)' (line 24) and 'Type 1 PD' (line 34) should be in bold.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.338** *P* **18** *L* **28** # i-78
Law, David Hewlett Packard Enter

Comment Type **E** *Comment Status* **A** *ez*

Suggest the text '... single twisted-pair (BASE-T1 PHYs), ...' should be changed to read '... single twisted-pair (BASE-T1) PHYs, ...' to match similar text on line 26.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.338** *P* **18** *L* **28** # i-139
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

DL: Suggest the text '... single twisted-pair (BASE-T1 PHYs), ...' should be changed to read '... single twisted-pair (BASE-T1) PHYs, ...' to match similar text on line 26.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.338** *P* **18** *L* **28** # i-115

Zimmerman, George — Commscope and Line

Comment Type **E** *Comment Status* **A** *ez*

Parentheses is in the wrong place. "When used with single twisted-pair (BASE-T1 PHYs)," should be "When used with single twisted-pair (BASE-T1) PHYs,"

SuggestedRemedy

Change "When used with single twisted-pair (BASE-T1 PHYs)," to "When used with single twisted-pair (BASE-T1) PHYs,"

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.338** *P* **18** *L* **30** # i-113

Zimmerman, George — Commscope and Line

Comment Type **E** *Comment Status* **A** *ez*

The descriptions of PSE should note that when a single-pair device is used, it may be referred to as a PoDL PSE.

SuggestedRemedy

Insert "A PSE used with single twisted-pair PHYs is also referred to as a PoDL PSE." following the last sentence of 1.3.338

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.415** *P* **18** *L* **34** # i-24

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

"provides a Class 0, 1, 2 or 3 signature" does not follow apparent style convention.

SuggestedRemedy

Replace with "provides a Class 0, 1, 2, or 3 signature".

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.418c** *P* **18** *L* **46** # i-140

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

AB: The sentence "Type C PoDL system elements are compatible with both 100BASE-T1 and 1000BASE-T1 PHYs." is redundant with the immediately preceding sentence.

SuggestedRemedy

Delete this sentence

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.2.3** *P* **22** *L* **3** # i-141

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **R** *nonez*

DL: Since IEEE P802.3br is currently in its 2nd sponsor recirculation ballot it seems reasonable at this time to assume it will be approved before IEEE P802.3bu. Based on this the DTE system entity relationship diagram needs to be updated to reflect the changes being made to it by IEEE P802.3br to add support for the oMACMergeEntity.

SuggestedRemedy

Please replace Figure 30-3 with the new figure in IEEE_P802d3bu_Clause_30_250416.pdf attached to this comment.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **30** *SC* **30.2.3** *P* **22** *L* **3** # i-86

Law, David — Hewlett Packard Enter

Comment Type **GR** *Comment Status* **A** *ez*

*** Comment submitted with the file 89975600003-IEEE_P802d3bu_Clause_30_250416.pdf attached ***

Since IEEE Std 802.3br-2016 was approved as an IEEE standards on 30th June 2016 the DTE system entity relationship diagram needs to be updated to reflect the changes being made to it by IEEE P802.3br to add support for the oMACMergeEntity.

SuggestedRemedy

Please replace Figure 30-3 with the new figure in IEEE_P802d3bu_Clause_30_250416.pdf attached to this comment.

Response *Response Status* **W**

ACCEPT.

Cl **30** *SC* **30.2.3** *P* **22** *L* **28** # i-4

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

Cross-references external to the draft should be in forest green.
For a "replace" editing instruction, the figure should be as is expected to appear (as far as possible).

SuggestedRemedy

Make "30.14.1" forest green as it is an external cross-reference.
Make the "oPoDLPSE" text and lines black as they will be in the final standard.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.2.5** *P* **23** *L* **25** # i-142

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

sentence is incomplete

SuggestedRemedy

Replace "PSE, PoDL PSE and PD management" with "PSE, PD, PoDL PSE and PoDL PD management"

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.15** *P* **24** *L* **45** # i-5

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

There is no need for "new sub-clause" in the editing instruction.

SuggestedRemedy

Change "Insert new sub-clause 30.15" to "Insert 30.15"

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.15** *P* **29** *L* **14** # i-230

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE: Title is: acPoDLPSEAdminControl. The "c" seems to be a mistake.

SuggestedRemedy

Replace "acPoDLPSEAdminControl" with "aPoDLPSEAdminControl"

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.15.1.1.2** *P* **25** *L* **30** # i-6

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

As documented in http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html "The text contained in the 'BEHAVIOUR DEFINED AS:' description must be terminated by a semi-colon, to not do so would be a syntax error."

SuggestedRemedy

Add a semi-colon after the "." at the end of:
30.15.1.1.2, 30.15.1.1.3, 30.15.1.1.4, 30.15.1.1.5, 30.15.1.1.6, 30.15.1.1.7, 30.15.1.1.8, 30.15.1.1.9, 30.15.1.1.10, 30.15.1.1.11, 30.15.1.2, 30.15.1.3, 30.15.1.4

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.15.1.1.3** *P* **25** *L* **52** # i-143

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

DD: Semantic improvement required. See remedy.

SuggestedRemedy

Replace "the PSE state diagram variable pi_de- tecting or pi_classifying is true" with "either of the PSE state diagram variables pi_de- tecting or pi_classifying is true"

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.15.1.1.3** *P* **25** *L* **53** # i-144

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

"expression" is not the best descriptor here.

SuggestedRemedy

Replace "expression" with "combination"

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.15.1.2** *P* **28** *L* **33** # i-7

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

The structure for 30.9 is:
30.9 Management for DTE Power via MDI
30.9.1 PSE managed object class
30.9.1.1 PSE attributes
30.9.1.1.1 aPSEID
30.9.1.1.2 aPSEAdminState
...
30.9.1.2 PSE actions
30.9.1.2.1 acPSEAdminControl

The structure for 30.15 starts off following this:
30.15 Layer management for Power over Data Lines (PoDL) of Single Balanced Pair Ethernet
30.15.1 PoDL PSE managed object class
30.15.1.1 PoDL PSE attributes
30.15.1.1.1 aPoDLPSEID
...
30.15.1.1.11 aPoDLPSEMaintainFullVoltageSignatureAbsentCounter
but then changes:
30.15.1.2 aPoDLPSEActualPower
30.15.1.3 aPoDLPSEPowerAccuracy
30.15.1.4 aPoDLPSECumulativeEnergy
30.15.2 PoDL PSE actions
30.15.2.1 acPoDLPSEAdminControl

SuggestedRemedy

Change the heading levels of the 5 headings so that they become:
30.15.1.1.12 aPoDLPSEActualPower
30.15.1.1.13 aPoDLPSEPowerAccuracy
30.15.1.1.14 aPoDLPSECumulativeEnergy
30.15.1.2 PoDL PSE actions
30.15.1.2.1 acPoDLPSEAdminControl

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7b** *P* **32** *L* **9** # i-8

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

The P802.3bq draft has inserted Table 45-211a and Table 45-211b in 45.2.7
The P802.3bp draft has inserted Table 45-211c through Table 45-211h in 45.2.7
The P802.3bn draft is inserting 7 further tables after Table 45-211h in 45.2.7a and a comment has been submitted to re-number these as Table 45-211i through Table 45-211o
Consequently, Table 45-211h through Table 45-211k in the P802.3bu draft should be Table 45-211p through Table 45-211s

SuggestedRemedy

Renumber Table 45-211h through Table 45-211k to be Table 45-211p through Table 45-211s

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7b** *P* **32** *L* **19** # i-25

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

The terms "PoDL PSE" and "PoDL PD" are defined and used through all sections of the draft with the exception of Clause 45.2.7b where the undefined term "Single-Pair PSE" is used.

SuggestedRemedy

Replace all instances of "Single-Pair PSE" in 45.2.7b with "PoDL PSE".

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7b.1** *P* **32** *L* **32** # i-9

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

There is no need to capitalise "Enable Power Classification

SuggestedRemedy

Change to "Enable power classification" as per heading 45.2.7b.1.1

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7b.1** *P* **32** *L* **34** # i-10

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

1= PSE Enabled
0= PSE Disabled
Has a spurious indent

SuggestedRemedy

Remove the indent

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7b.2** *P* **33** *L* **21** # i-11

Anslow, Peter — Ciena Corporation

Comment Type **T** *Comment Status* **A** *ez*

For table entries in Clause 45 that define the state of multiple bits, the columns are headed with the bit number to clarify the order. See for example Table 45-7 bits 1.7.5:0

SuggestedRemedy

In Table 45-211j rows for bits 13.1.9:7, 13.1.6:3, and 13.1.2:0 and also in Table 45-211k row for bits 13.2.2:0, add the bit number at the head of each column.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7b.2.1** *P* **33** *L* **45** # i-27

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Missing a space: "Power Denied(13.1.15)"

SuggestedRemedy

Replace with "Power Denied (13.1.15)".

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7b.2.1** *P* **33** *L* **45** # i-12
Anslow, Peter Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

Space missing in "Denied(13.1.15)"

SuggestedRemedy

Change to "Denied (13.1.15)"

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7b.2.1** *P* **33** *L* **47** # i-145
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

DD: Two instances of the word "removed" were not replaced with "denied".

SuggestedRemedy

Replace "removed" and replace with "denied" maintaining capitalization as required.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7b.2.1** *P* **33** *L* **48** # i-13
Anslow, Peter Ciena Corporation

Comment Type **T** *Comment Status* **A** *ez*

"The Power Removed bit shall be ..." should be "The Power Denied bit shall be ..."

SuggestedRemedy

Change "The Power Removed bit shall be ..." to "The Power Denied bit shall be ..."

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7b.2.4** *P* **34** *L* **14** # i-28
Stover, David Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Missing a space: "Class Timeout(13.1.12)"

SuggestedRemedy

Replace with "Class Timeout (13.1.12)".

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7b.2.7** *P* **34** *L* **36** # i-146
Dove, Daniel Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

The PSE Type bits are explicitly defined, but do not include the values for reserved bits.

SuggestedRemedy

Add "Values of 1xx and 011 are reserved.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: the response to this comment was changed from ACCEPT to REVISED since the remedy to this comment was elaborated on by the remedy to comment i-219 which used value 011 to designate a new Type. Consequently the remedy was changed to "Values of 1xx are reserved."

The remedy to comment i-219 was:

Adopt http://www.ieee802.org/3/bu/public/jul16/gardner_3bu_02_0716.pdf with following changes:

On slide 3 change

"Type D PSEs and Type D PDs are not compatible with 100BASE-T1 or 1000BASE-T1 PHYs and may contain no data entity."

to

"Type D PSEs and Type D PDs may be incompatible with IEEE 802.3 PHYs and may lack a data entity."

Change all instances of "...there are three types…" to …there are multiple types…"

On page 5 change

"A PSE, link section, and PD that contain no data entity or are not compatible with 100BASE-T1 or 1000BASE-T1 PHYs."

to

"A PSE, link section, and PD that lack a data entity or are incompatible with IEEE 802.3 PHYs."

Editor's note on page 7: Change Table 45-211-j as follows should reference Type D PSE.

Editors note on page 7 "...and when read as ‘’ a Type D PSE is indicated." should be "...and when read as ‘011’ a Type D PSE is indicated."

Cl **45** SC **45.2.7b.2.8** P **34** L **40** # i-147

Dove, Daniel — Linear Technology

Comment Type **GR** *Comment Status* **A** *nonez*

If a PD does not classify, but the PSE is delivering power due to detection, etc; what would the value of these bits be? I suggest a change to the register bits to include "1111 = Classification not valid", and instruction to address this change.

SuggestedRemedy

Update the table to include "1111 = Classification not valid" and correct the adjacent entries to reconcile that change.

Replace "Bits 13.1.6:3 report the PD Class of a detected PD as specified in 104.5.2. " with "Bits 13.1.6:3 report a value of "1111" until a valid classification has taken place, or if no PD is present. Once a valid classification has occurred, the value of these bits reflect the PD Class of an attached PD as specified in 104.5.2."

Delete "The value in this register is valid while a PD is connected, i.e., while the PSE Status (13.1.2:0) bits are reporting "delivering power"."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add bit to PSE Status Register #2 to reflect Invalid Class detected, as follows:

Insert a new row in Table 45-211k, as shown and adjust reserved row as shown (unchanged rows not shown):

Bit(s) Name Description R/Wa

13.2.15 Invalid Class 1 = Invalid PD class detected

0 = No invalid PD class detected RO/LH

13.2.14:3 Reserved Value always 0 RO

a RO = Read Only, LH = Latching High

Insert Clause 45.2.7b.3.1 as shown and renumber existing 45.2.7b.3.1 as 45.2.7b.3.2:

45.2.7b.3.1 Invalid Class (13.2.15)

When read as a one, bit 13.2.15 indicates that an invalid class has been detected. This bit maps to the PSE state diagram variable valid_class, and latches high when do_classification_done is true and valid_class is false. (see 104.4.3.3). The Invalid Class bit shall be implemented with latching high behavior as defined in 45.2.

Cl **45** SC **45.2.7b.2.8** P **34** L **42** # i-14

Anslow, Peter — Ciena Corporation

Comment Type **T** *Comment Status* **A** *nonez*

To fit with the following text (which doesn't make sense) "When read as '0000' bits 13.1.2:0 a Class 0 PD is indicated," should be "When read as '0000' a Class 0 PD is indicated,".
Also, in the parts that follow, "when read as a 'xxxx'" should be "when read as 'xxxx'".

SuggestedRemedy

Change "When read as '0000' bits 13.1.2:0 a Class 0 PD is indicated," to "When read as '0000' a Class 0 PD is indicated,".
Also, change "when read as a 'xxxx'" to "when read as 'xxxx'" (i.e. delete the "a") in 8 places.

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.7b.2.9** P **34** L **52** # i-148

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

DD: Semantic improvement required. See remedy.

SuggestedRemedy

Replace "When read as '011', bits 13.1.2:0 indicate that pi_detecting or pi_classifying is asserted true." with "When read as '011', bits 13.1.2:0 indicate that either pi_detecting or pi_classifying is are asserted true."

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.7b.2.9** P **34** L **54** # i-149

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

The term "expression" may not be the best term.

SuggestedRemedy

Replace "expression" with "combination"

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.7b.2.9** P **34** L **54** # i-117

Zimmerman, George — Commscope and Line

Comment Type **E** *Comment Status* **A** *ez*

All the states are described in binary order except for Sleeping (001), which is stuck between 101 and 111. (it is OK that the reserved combination is last).

SuggestedRemedy

Move sentence beginning with "When read as "001"..." (L54) between sentences beginning with "When read as "000"..." and "When read as "010"..." (L51)

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.7b.3.1** P **35** L **16** # i-151

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

Update required to address value of "111" and also the validity of classification being essential to reporting this information.

SuggestedRemedy

Replace "Bits 13.2.2:0 report the PD Type of a detected PD as specified in 104.5.1." with "Bits 13.2.2:0 report a value of ""111"" until a valid classification has taken place, or if no PD is present. Once a valid classification has occurred, the value of these bits reflect the PD Type of an attached PD as specified in 104.5.1."

Delete "The value in this register is valid while a PD is connected, i.e., while the PSE Status (13.1.2:0) bits are reporting "delivering power"."

Response *Response Status* **W**

ACCEPT.

Cl **45** SC **45.2.7b.3.1** P **35** L **16** # i-150

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

How does a PSE know what type of PD is attached? This can only be done via classification. Without classification, this register does not have a defined value.

SuggestedRemedy

Add a value of "111 = Unknown", adjust adjacent entries in the table, and add text instructing the user that "a value of 111 indicates that the PSE has not performed classification and therefore cannot indicate the proper value for the PD Type".

Response *Response Status* **W**

ACCEPT.

Cl **45** SC **45.2.7b.3.1** P **35** L **27** # i-15

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

Space missing in "indicated.The"

SuggestedRemedy

Change to "indicated. The"

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.7b1** P **32** L **34** # i-26

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Indentation of "Description" cell for row "13.0.0" is irregular.

SuggestedRemedy

Fix indentation.

Response *Response Status* **C**

ACCEPT.

Cl **104** SC **104** P **37** L **3** # i-118

Zimmerman, George — Commscope and Line

Comment Type **E** *Comment Status* **A** *ez*

Editor's note has served its purpose, delete it

SuggestedRemedy

Delete editors note indicating figures converted to frame

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.1** *P* **37** *L* **10** # i-152

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Some minor editorial changes are required to be more accurate.

SuggestedRemedy

replace "balanced pair" with "balanced twisted-pair"
replace "These entities allow devices to draw/supply power using the same cabling that is used for data transmission. PoDL is intended to provide an Ethernet Physical Layer device with a single interface to both the data it requires and the power to process this data." with "These entities allow devices to *supply/draw* power using the same cabling that *may be* used for data transmission. PoDL is intended to provide a *single balanced twisted-pair* Ethernet Physical Layer device with a single interface to both the data it requires and the power to process this data." (Remove the *'s from this sentence)

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.1** *P* **37** *L* **28** # i-153

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

I propose an addition to the sentence to make it more complete.

SuggestedRemedy

replace "related devices." with "related devices within a PoDL System".

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.1** *P* **37** *L* **33** # i-154

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *nonez*

Incorrect use of the word "systems"

SuggestedRemedy

replace "systems" with "devices" or "components" or "elements". The system includes all of them.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change 104.1.3 as follows:

"A PoDL system, consisting of PHYs, PSE, MDIs, link segment, and a PD is defined as Type A, Type B, or Type C. A Type A system is compatible with 100BASE-T1 PHYs, and a Type B system is compatible with 1000BASE-T1 PHYs. A Type C system is compatible with both 100BASE-T1 and 1000BASE-T1 PHYs."

to

"A PoDL system consists of a PSE, link segment, and a PD. A Type A or Type C PSE and Type A or Type C PD is compatible with 100BASE-T1 PHYs. A Type B or Type C PSE and Type B or Type C PD is compatible with 1000BASE-T1 PHYs. A Type C PSE and Type C PD is compatible with both 100BASE-T1 and 1000BASE-T1 PHYs."

Cl **104** *SC* **104.1.3** *P* **38** *L* **44** # i-155

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **R** *nonez*

DL: Subclause 104.1.3 'PoDL system types' states that 'A PoDL system, consisting of PHYs, PSE, MDIs, link segment, and a PD is defined as Type A, Type B, or Type C.'. It then states that 'A Type A system is compatible with 100BASE-T1 PHYs, and a Type B system is compatible with
1000BASE-T1 PHYs.'. If Type is an attribute of a complete system, how can the system then be compatible with a particular PHY?
Subclause 104.4.6.3 'Power feeding ripple and transients' then states that 'When measuring the ripple voltage for a Type A PSE as specified by Table 104-3 item (4a) ...' and that 'When measuring the ripple voltage for a Type B PSE as specified in Table 104-3 item (4a) ...' and subclause 104.5.6.3 'PD ripple and transients' states that 'The ripple and transient specifications for a Type A PD shall be met for all operating ...' and ' The ripple and transient specifications for a Type B PD shall be met for all operating ...'. This implies that the Type is not defined by the system, but instead an attribute of the PSE and PD.

SuggestedRemedy

Either Type is an attribute of the complete system, and can only be determined by the complete system, or is an attribute of a PSE and PD, and can be determined in isolation. Please clarify which it is and then update text as necessary.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.1.3** *P* **38** *L* **44** # i-119

Zimmerman, George — Commscope and Line

Comment Type **T** *Comment Status* **A** *nonez*

Under this definition, a PoDL system MUST have a PHY. This was not my understanding from other discussions. If a PoDL system can exist without a PHY, the text needs modification to allow for that. Additionally, for consideration, perhaps there is also a Type D, which has no PHY?

SuggestedRemedy

Change "A PoDL system, consisting of PHYs, PSE, ... Is defined..." to "A PoDL system, consisting of PSE, MDIs, link segment, a PD, and optionally a PHY is defined..."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change 104.1.3 as follows:

"A PoDL system, consisting of PHYs, PSE, MDIs, link segment, and a PD is defined as Type A, Type B, or Type C. A Type A system is compatible with 100BASE-T1 PHYs, and a Type B system is compatible with 1000BASE-T1 PHYs. A Type C system is compatible with both 100BASE-T1 and 1000BASE-T1 PHYs."

to

"A PoDL system consists of a PSE, link segment, and a PD. A Type A or Type C PSE and Type A or Type C PD is compatible with 100BASE-T1 PHYs. A Type B or Type C PSE and Type B or Type C PD is compatible with 1000BASE-T1 PHYs. A Type C PSE and Type C PD is compatible with both 100BASE-T1 and 1000BASE-T1 PHYs."

Adopt http://www.ieee802.org/3/bu/public/jul16/gardner_3bu_02_0716.pdf with following changes:

On slide 3 change

"Type D PSEs and Type D PDs are not compatible with 100BASE-T1 or 1000BASE-T1 PHYs and may contain no data entity."

to

"Type D PSEs and Type D PDs may be incompatible with IEEE 802.3 PHYs and may lack a data entity."

Change all instances of "...there are three types…" to …there are multiple types…"

On page 5 change

"A PSE, link section, and PD that contain no data entity or are not compatible with 100BASE-T1 or 1000BASE-T1 PHYs."

to

"A PSE, link section, and PD that lack a data entity or are incompatible with IEEE 802.3 PHYs."

Editor's note on page 7: Change Table 45-211-j as follows should reference Type D PSE.

Editors note on page 7 "...and when read as '' a Type D PSE is indicated." should be "...and when read as '011' a Type D PSE is indicated."

Cl **104** *SC* **104.1.3** *P* **38** *L* **44** # i-80

Law, David — Hewlett Packard Enter

Comment Type **TR** *Comment Status* **A** *nonez*

Subclause 104.1.3 'PoDL system types' states that 'A PoDL system, consisting of PHYs, PSE, MDIs, link segment, and a PD is defined as Type A, Type B, or Type C.'. It then states that 'A Type A system is compatible with 100BASE-T1 PHYs, and a Type B system is compatible with
1000BASE-T1 PHYs.'. If Type is an attribute of a complete system, how can the system then be compatible with a particular PHY?
Subclause 104.4.6.3 'Power feeding ripple and transients' then states that 'When measuring the ripple voltage for a Type A PSE as specified by Table 104-3 item (4a) ...' and that 'When measuring the ripple voltage for a Type B PSE as specified in Table 104-3 item (4a) ...' and subclause 104.5.6.3 'PD ripple and transients' states that 'The ripple and transient specifications for a Type A PD shall be met for all operating ...' and ' The ripple and transient specifications for a Type B PD shall be met for all operating ...'. This implies that the Type is not defined by the system, but instead an attribute of the PSE and PD.

SuggestedRemedy

Either Type is an attribute of the complete system, and can only be determined by the complete system, or is an attribute of a PSE and PD, and can be determined in isolation. Please clarify which it is and then update text as necessary.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change 104.1.3 as follows:

"A PoDL system, consisting of PHYs, PSE, MDIs, link segment, and a PD is defined as Type A, Type B, or Type C. A Type A system is compatible with 100BASE-T1 PHYs, and a Type B system is compatible with 1000BASE-T1 PHYs. A Type C system is compatible with both 100BASE-T1 and 1000BASE-T1 PHYs."

to

"A PoDL system consists of a PSE, link segment, and a PD. A Type A or Type C PSE and Type A or Type C PD is compatible with 100BASE-T1 PHYs. A Type B or Type C PSE and Type B or Type C PD is compatible with 1000BASE-T1 PHYs. A Type C PSE and Type C PD is compatible with both 100BASE-T1 and 1000BASE-T1 PHYs."

Cl **104** *SC* **104.1.3** *P* **38** *L* **44** # i-219

Gardner, Andrew — Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

While there are PoDL types for 100BASE-T1, 1000BASE-T1, and both 100BASE-T1/1000BASE-T1 PSEs and PDs, there is no Type for PoDL PSEs and PDs without a data entity or with a data entity other than 100BASE-T1 or 1000BASE-T1.

SuggestedRemedy

Add a Type D for PoDL PSEs and PDs without a data entity or with a data entity other than 100BASE-T1 or 1000BASE-T1. See gardner_3bu_02_0716.pdf for complete remedy.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt http://www.ieee802.org/3/bu/public/jul16/gardner_3bu_02_0716.pdf with following changes:

On slide 3 change

"Type D PSEs and Type D PDs are not compatible with 100BASE-T1 or 1000BASE-T1 PHYs and may contain no data entity."

to

"Type D PSEs and Type D PDs may be incompatible with IEEE 802.3 PHYs and may lack a data entity."

Change all instances of "...there are three types…" to …there are multiple types…"

On page 5 change

"A PSE, link section, and PD that contain no data entity or are not compatible with 100BASE-T1 or 1000BASE-T1 PHYs."

to

"A PSE, link section, and PD that lack a data entity or are incompatible with IEEE 802.3 PHYs."

Editor's note on page 7: Change Table 45-211-j as follows should reference Type D PSE.

Editors note on page 7 "...and when read as ‘’ a Type D PSE is indicated." should be "...and when read as ‘011’ a Type D PSE is indicated."

Cl **104** *SC* **104.1.3** *P* **39** *L* **15** # i-120

Zimmerman, George — Commscope and Line

Comment Type **E** *Comment Status* **A** *ez*

Note says "PSE interface elements", but aren't these both on the PSE and on the PD?

SuggestedRemedy

Change "PSE interface elements" to "PI interface elements"

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.2** *P* **39** *L* **22** # i-122

Zimmerman, George — Commscope and Line

Comment Type **TR** *Comment Status* **A** *nonez*

Equation 104-1 and its description confuse the requirement on loop resistance, which is in the following paragraph (lines 32-35). The inclusion of the equation adds no requirements and introduces confusion with the actual requirement for loop resistance. The extra tutorial text is not useful, since it is dependent on parameters not used in this standard, such as R_PSE.

SuggestedRemedy

Delete equation 104-1 and descriptive text on page 39 lines 22-27.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.2** *P* **39** *L* **22** # i-121

Zimmerman, George — Commscope and Line

Comment Type **T** *Comment Status* **A** *nonez*

Equation 104-1 and the descriptive text really don't describe the maximum resistance of the wire pair per unit length, but rather the average maximum per unit length (the wire could have higher resistances at some places and lower others and still satisfy Eq 104-1). The length actually falls out of the equation entirely and its inclusion only serves to confuse the reader. What this equation really describes is the relationship of the maximum DC loop resistance to the power system parameters.

SuggestedRemedy

Change "The maximum DC loop resistance of the link segment wire pair (per unit length) as a function of power system parameters" to "The relationship of the maximum DC loop resistance of the link segment to the power system parameters" and change Equation 104-1 by deleting the 1/2L term and changing the units from Ohms/m to Ohms

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete equation 104-1 and descriptive text on page 39 lines 22-27.

Cl **104** *SC* **104.2** *P* **39** *L* **29** # i-156

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

The use of (ohm/m) is lacking a parameter name.

SuggestedRemedy

Replace "(ohm/m)" with "Loop Resistance (ohm/m)"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete equation 104-1 and descriptive text on page 39 lines 22-27.

Cl **104** *SC* **104.2** *P* **39** *L* **30** # i-82

Law, David — Hewlett Packard Enter

Comment Type **T** *Comment Status* **A** *nonez*

I don't believe that [Greek letter omega]/m is the result of the equation, instead it is the units of the result of the equation. However if K is a ratio as stated on line 25, then K x (1-K) x VPSE_OC(min) on the numerator will result in a voltage, when then divided by the power PPD on the denominator, will result in the inverse of current, not a resistance.

SuggestedRemedy

Please verify if the equation is correct.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Equation 104-1 has been deleted in response to comment i-121.

Response to comment i-121 is:

Delete equation 104-1 and descriptive text on page 39 lines 22-27.

Cl **104** *SC* **104.2** *P* **39** *L* **30** # i-158

Dove, Daniel — Linear Technology

Comment Type **T** *Comment Status* **R** *nonez*

DL: I don't believe that [Greek letter omega]/m is the result of the equation, instead it is the units of the result of the equation. However if K is a ratio as stated on line 25, then K x (1-K) x VPSE_OC(min) on the numerator will result in a voltage, when then divided by the power PPD on the denominator, will result in the inverse of current, not a resistance.

SuggestedRemedy

Please verify if the equation is correct.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.2** *P* **39** *L* **30** # i-157

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **R** *nonez*

DL: Please format the equation following subclause 15.3 'Presentation of equations' found in the '2014 IEEE-SA Standards Style Manual' <https://development.standards.ieee.org/myproject/Public/mytools/draft/styleman.pdf>, that is the equation is presented followed by the text 'where' and then the variables are defined in a list.

SuggestedRemedy

See comment.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.2** *P* **39** *L* **30** # i-81

Law, David — Hewlett Packard Enter

Comment Type **E** *Comment Status* **A** *nonez*

Please format the equation following subclause 15.3 'Presentation of equations' found in the '2014 IEEE-SA Standards Style Manual' <https://development.standards.ieee.org/myproject/Public/mytools/draft/styleman.pdf>, that is the equation is presented followed by the text 'where' and then the variables are defined in a list.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Equation 104-1 has been deleted in response to comment i-121.

Response to comment i-121 is:

Delete equation 104-1 and descriptive text on page 39 lines 22-27.

Cl **104** *SC* **104.2** *P* **39** *L* **32** # i-159

Dove, Daniel — Linear Technology

Comment Type **T** *Comment Status* **A** *ez*

The term 'system power Class' (page 39, line 32), 'system class' (page 40, line 49) and 'Class Code' (page 40, line 12) all seem to be used interchangeably.|

SuggestedRemedy

I believe 'system class' is the correct term as Table 104-1 defines more than just power, and while there can be a power associated with a system class, there are other parameters associated with a system class. Please update text as required.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to replace all instances of 'system power Class' and 'Class Code' with 'system class'.

Editor's note added after comment resolution was complete: The resolution to this comment conflicts with the resolution to comment i-83. The resolution to comment i-83 is implemented. The resolution to comment i-83 is:

Editor to replace all instances of 'system power Class' and 'Class Code' with 'Class'.

The commenter to comment i-159 has been consulted and agrees with this response.

Cl **104** *SC* **104.2** *P* **39** *L* **32** # i-83

Law, David — Hewlett Packard Enter

Comment Type **T** *Comment Status* **A** *ez*

The term 'system power Class' (page 39, line 32), 'system class' (page 40, line 49) and 'Class Code' (page 40, line 12) all seem to be used interchangeably.|

SuggestedRemedy

I believe 'system class' is the correct term as Table 104-1 defines more than just power, and while there can be a power associated with a system class, there are other parameters associated with a system class. Please update text as required.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to replace all instances of 'system power Class' and 'Class Code' with 'Class'.

Cl **104** *SC* **104.2** *P* **39** *L* **34** # i-160

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

The term "system power classes" is not used in Table 104-1. I recommend using consistent terminology.

SuggestedRemedy

Replace "system power classes" with "system classes".

Response *Response Status* **C**

ACCEPT.

Editor's note added after comment resolution was complete: The resolution to this comment conflicts with the resolution to comment i-83. The resolution to comment i-83 is implemented. The resolution to comment i-83 is:

Editor to replace all instances of 'system power Class' and 'Class Code' with 'Class'.

The commenter to comment i-160 has been consulted and agrees with this response.

Cl **104** *SC* **104.2** *P* **39** *L* **34** # i-89

Stover, David — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

There is no 48V unregulated power class

SuggestedRemedy

Change the last part of the sentence to "and 48V regulated system power classes"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: The remedy to this comment was found to conflict with the remedy to comment i-83. Consequently the response was changed from ACCEPT to REVISED and the adopted text was changed to "and 48V regulated Classes."

Cl **104** *SC* **104.3** *P* **40** *L* **2** # i-108

Abramson, David — Texas Instruments Inc

Comment Type **ER** *Comment Status* **A** *nonez*

There is not a single sentence in the section, just Table 104-1 with no description. We should add a sentence so the reader understand what the table is trying to convey.

SuggestedRemedy

Add text: "PSEs and PDs are further categorized by their system class. These classes and the relevant electrical specifications are shown in Table 104-1." to beginning of section 104.3.
Note: "sytem class" may not be the correct phrase, editorial licesense is given to pick a more correct name.

Response *Response Status* **C**

ACCEPT.

Add text: "PSEs and PDs are further categorized by their system class. These classes and the relevant electrical specifications are shown in Table 104-1." to beginning of section 104.3.

Cl **104** *SC* **104.3** *P* **40** *L* **6** # i-87

Goergen, Joel — Cisco Systems, Inc.

Comment Type **TR** *Comment Status* **A** *nonez*

The table lists several ampacities that are outside safe operation for multiple bundles or 24awg cables still meeting the maximum loop resistance. Class 3, 7, 8, and 9 all are outside the ampacity defined in NEC 725.144, even though all meet the power exclusion defined in 840.160 of 60 watts.

SuggestedRemedy

There is no environmental section describing limits and other standards to reference. Section similar to .3bt must be added.
There is no limitation on gauge and wire sizing, or reference to NEC for guidance. Presentation to address possible text will be provided.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Append the following sentence to footnote C of Table 104-1:

"Users are cautioned to be aware of the ampacity of cabling, as installed, and local codes and regulations (see 104.7a.1)."

Editor's note: The reference in the adopted text was changed to 104.8.1 since the new Environmental subclause adopted as a remedy for comment i-127 was inserted as 104.8.

Cl **104** *SC* **104.3** *P* **40** *L* **18** # i-161

Dove, Daniel — Linear Technology

Comment Type **ER** *Comment Status* **A** *ez*

AB: In Table 104-1, the numeric entry "1360" does not comply with the IEEE 802 .3 numeric formatting convention.

SuggestedRemedy

Change to "1 360" (i.e. add a space between "1" and "3"

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.3** *P* **40** *L* **21** # i-90

Stover, David — Linear Technology

Comment Type **T** *Comment Status* **A** *ez*

Table 104-3 indicates P_Class (PSE sourced power) is defined in Table 104-1; it is not.

SuggestedRemedy

In Table 104-1, add P_Class and populate the values in the table (TFTD). Also, change all references of P_PD to P_Class_PD.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to add row to Table 104-1 for P_Class and populate with PPSE max. PPSE max is the product of VPSE min and IPI max. For example in Class 5 the power sourced at the PSE PI is 11.7V X 0.339A = 3.97W.

No change to P_PD.

Cl **104** *SC* **104.3** *P* **40** *L* **25** # i-162

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

The word "guaranteed" seems to be an inappropriate term to include in an international standard. It suggests a warranty or promise. In addition, this term is referred to in another section as "maximum average power", which I think is a better term.

SuggestedRemedy

replace "guaranteed" with "maximum average".

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.3.3** *P* **43** *L* **6** # i-216

Gardner, Andrew — Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

The definition of power_available which is true when "the PSE is able to source the required power to the attached PD" needs to include the definition of valid PSE-PD pairings.

SuggestedRemedy

Propose adding a PSE-PD compatibility matrix that clearly defines what class of PSE is allowed to power the attached PD. See gardner_3bu_01_0716.pdf for complete remedy.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's instruction:

Replace the definition of power_available in sub-clause 104.4.3.3 with the following:
power_available : TRUE: A compatible PSE class to PD class pairing exists as defined in Table 104-2 and the PSE is able to source the required voltage and power.
FALSE: A valid PSE class to PD class pairing does not exist as defined in Table 104-2 or the PSE is not able to source the required voltage and power.

Insert Table 104-2 from slide 4 of
http://www.ieee802.org/3/bu/public/jul16/gardner_3bu_01_0716.pdf

Adopt changes to PSE SD as shown on slide 5 of
http://www.ieee802.org/3/bu/public/jul16/gardner_3bu_01_0716.pdf with correstion of "(mr_invalid_signature +
!power_available)*!mr+sccp_enabled" to "(mr_invalid_signature +
!power_available)*!mr_sccp_enabled."

Editor given license to increment tables and table references as needed.

Cl **104** *SC* **104.4** *P* **40** *L* **34** # i-163

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

some minor editorial suggestions are warranted.

SuggestedRemedy

item b) replace "the detected" with "a detected"
item c) replace" power on the" with "power applied to a"

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4** *P* **40** *L* **36** # i-123

Zimmerman, George — Commscope and Line

Comment Type **TR** *Comment Status* **A** *ez*

Here's why explanatory text gets you into trouble... If one of the main function sof the PSE is to monitor the power, I assume a main function is also to remove power in case of an overload, short circuit or other fault. (also, the sentence doesn't have a period at the end)

SuggestedRemedy

Change "To remove the operating voltage when no longer required or when transitioning to the SLEEP state" to "To remove the operating voltage when no longer required, when transition to the SLEEP state, or when a short-circuit or other fault is detected."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: the response to this comment was changed from ACCEPT to REVISED in order to combine this remedy with the remedy to comment i-164. The adopted text is "To remove the full operating voltage when no longer required, when transitioning to the SLEEP state, or when a short-circuit or other fault is detected"

The remedy to comment i-164 is:

Comment: I see an inconsistent use of the term "full voltage" or "operating voltage" in the text when "full operating voltage" has a clear meaning. Other operating voltages for instance include Vsleep.
Suggested Remedy:
replace "Prior to application of operating voltage" with "Prior to application of full operating voltage" search & replace for other instances of "operating voltage" and "full voltage" and replace to ensure consistency

Cl **104** *SC* **104.4.3.1** *P* **41** *L* **3** # i-164

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

I see an inconsistent use of the term "full voltage" or "operating voltage" in the text when "full operating voltage" has a clear meaning. Other operating voltages for instance include Vsleep.

SuggestedRemedy

replace "Prior to application of operating voltage" with "Prior to application of full operating voltage"
search & replace for other instances of "operating voltage" and "full voltage" and replace to ensure consistency.

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.3.1** *P* **41** *L* **11** # i-124
Zimmerman, George — Commscope and Line

Comment Type **TR** *Comment Status* **A** *ez*

It is important to say that the state diagram monitors the current draw as well and removes power in case of a fault.

SuggestedRemedy

Insert new paragraph at end of 104.4.3.1 before 104.4.3.2 "Additionally, while operating voltage is applied, the PSE monitors the current drawn and removes power if it detects an overload, short-circuit or other fault."

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **41** *L* **22** # i-125
Zimmerman, George — Commscope and Line

Comment Type **TR** *Comment Status* **A** *ez*

there is no "idle sequence" defined in the text or diagram, but there is an "idle state".

SuggestedRemedy

change "since the last idle sequence" to "since the last entry to the IDLE state", make change on P41 L22 and L24 ; P42 L6 and L11

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **41** *L* **23** # i-165
Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

A required term is missing.

SuggestedRemedy

replace "result of a valid 22 signature being detected or the tdet_timer timing out." with "result of a valid signature being detected, an invalid signature being detected, or the tdet_timer timing out." in both the TRUE and FALSE definitions.

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **41** *L* **29** # i-166
Dove, Daniel — Linear Technology

Comment Type **G** *Comment Status* **A** *ez*

Super-Nit-Picky - The "information byte" is not a technically correct term given that the information is a word (16 bits)?!?

SuggestedRemedy

delete "-byte". I think the sentence stands that way.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **41** *L* **41** # i-167
Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

There is a reference on the TRUE description, but lacking on the FALSE description?

SuggestedRemedy

add a reference "(see 104.4.6.2.3)"

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **41** *L* **45** # i-168
Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

missing space

SuggestedRemedy

insert a space between" FALSE:" and "the"

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **42** *L* **16** # i-169
Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

I believe that a change to terminology is required.

SuggestedRemedy

Replace "short circuit" with "overload".

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **42** *L* **22** # i-126

Zimmerman, George — Commscope and Line

Comment Type **E** *Comment Status* **A** *ez*

Definition of overload_held simply says "latched", not giving any indication when it is released, and isn't in normal TRUE/FALSE style.

SuggestedRemedy

Change "Latched high version of overload_detected" to describe both TRUE and FALSE values as "overload_detected has been TRUE/FALSE since last entry to the IDLE state."

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **42** *L* **23** # i-170

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

The term "PSE is sleeping" is vague.

SuggestedRemedy

Replace "PSE is sleeping" with "PSE is in the SLEEP state".

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **42** *L* **27** # i-171

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Super-Nit-Picky - A PSE performs classification AT the PI, not through it. The PI is a point on a line. The channel/link-segment is a line.

SuggestedRemedy

Replace "through" with "at" in both definitions.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **43** *L* **20** # i-109

Abramson, David — Texas Instruments Inc

Comment Type **TR** *Comment Status* **A** *nonez*

The current PSE state diagram (and associated text) never checks to see if both the PSE and PD are the same voltage before powering on. We should add the check. We may even want to make sure the PD and PSE are in the same system class category (e.g. 12V regulated).
I have chosen to fix this by changing a variable definition, we could also create a new variable and add it to the state diagram.

SuggestedRemedy

Change definitions for variable "valid_class" to:
TRUE: valid class information was received from the PD during SCCP and the PSE and PD voltage levels match.
FALSE: valid class information was not receivedf rom the PD during SCCP or the PSE and PD voltage levels do not match.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following new paragraph to the end of 104.4.5:

"Valid class information is one which returns one of the defined bit patterns in Table 104-8 with a valid CRC8 result."

Cl **104** *SC* **104.4.3.3** *P* **43** *L* **23** # i-172

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

An odd sentence/structure "the device that contains the PSE overall state diagrams".. I think the issue is "contains". A page contains the state diagrams. A device implements the state diagrams.. or state machines based upon the state diagrams.

SuggestedRemedy

Replace "contains" with "implements".

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **43** *L* **28** # i-92
Stover, David Linear Technology

Comment Type **T** *Comment Status* **A** *ez*

V_good, a PD parameter, is referenced here. I believe V_good_PSE is the intended reference.

SuggestedRemedy

Change both references to "V_good" with "V_good_PSE".

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **43** *L* **28** # i-91
Stover, David Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

No DO_DETECTION state in PSE state diagram, but it is referenced here.

SuggestedRemedy

Change both references to "DO_DETECTION" with "DETECTION".

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.3.3** *P* **43** *L* **52** # i-93
Stover, David Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

TLIM_timer is not mentioned in the state diagram

SuggestedRemedy

T_LIM is the time duration used to derive the short circuit (overload) condition which in turn decides the state of the variable overload_detected. The variable overload_detected is used in the state diagram. Thus the description of TLIM_timer should be removed from the Timers section (104.4.3.4).

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.3.4** *P* **43** *L* **31** # i-33
Stover, David Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Timers do not reference the symbol of the specific parameter to which they refer. In some cases (e.g., tod_timer), the intended symbol is never referenced elsewhere in the document.

SuggestedRemedy

Modify Table references in all PSE timer definitions to include the specific symbol of the parameter to which they refer. For example, modify tod_timer definition as follows:
"A timer used to regulate a subsequent attempt to power a PD after an overload condition that causes a fault; see T_od in Table 104-3."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to add symbols next to Table cross references in all timer definitions in PSE subclause.

Cl **104** *SC* **104.4.3.4** *P* **43** *L* **36** # i-231
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE: tclass should read tClass, according to Table 104-3

SuggestedRemedy

Replace tclass with tClass

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.3.4** *P* **43** *L* **46** # i-232
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE: tinrush should read tInrush, according to Table 104-3

SuggestedRemedy

Replace tinrush with tInrush

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.3.4** *P* **43** *L* **49** # i-233

Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE: tmfvdo should read tMFVDO, according to Table 104-3

SuggestedRemedy

Replace tmfvdo with tMFVDO

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.3.4** *P* **44** *L* **1** # i-234

Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE: toff should read tOFF, according to Table 104-3

SuggestedRemedy

Replace toff with tOFF

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to replace all instances of toff with tOff.

Cl **104** *SC* **104.4.3.4** *P* **44** *L* **6** # i-235

Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE: trestart should read tRestart according to Table 104-3

SuggestedRemedy

Replace trestart with tRestart

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.3.6** *P* **45** *L* # i-174

Dove, Daniel Linear Technology

Comment Type **ER** *Comment Status* **A** *nonez*

AB: When in the POWER_UP state, the lack of a transition when power is stable concurrent with the In-rush timer expiring (i.e. power_stable * tinrush_timer_done) indicates the state machine remains in the POWER_UP state. Such behavior appears to hang the state machine

SuggestedRemedy

Define the expected behavior when this situation occurs - For example, add this as another condition for the POWER_UP to POWER_ON transition

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to change the condition on the arc from the POWER_UP state to the RESTART state from "tinrush_timer_done*!power_stable" to "tinrush_timer_done"

Cl **104** *SC* **104.4.3.6** *P* **45** *L* **15** # i-106

Abramson, David — Texas Instruments Inc

Comment Type **TR** *Comment Status* **A** *nonez*

We should allow a PD that requires classification prior to the application of power to be compliant in order for PDs to be optimized (not all PDs will want to be able to withstand 50V).

SuggestedRemedy

See abramson_01bu_0716.pdf for text and state diagram markups. Many changes are required to implement this comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt http://www.ieee802.org/3/bu/public/jul16/abramson_03bu_01_0716.pdf with changes to page 7 as follows:

Change "…is not enabled." to "…is not performed."

Delete last sentence "If a valid signature is not detected classification is enabled, the PSE shall complete classification."

Add strike through to "constant" in last sentence of first paragraph on slide 10.

Editor's note: In order to adopt the remedy to comment i-65 as well as the remedy to this comment, the text on slide 11 of 14 in http://www.ieee802.org/3/bu/public/jul16/abramson_03bu_01_0716.pdf was changed from:

A PD that does not implement classification shall enable a valid detection signature when VPD is in the range of Vsig_enable. A PD that presents an invalid detection signature greater than Vbad_hi max as specified in Table 104-5 shall implement classification as specified in 104.7.

to:

A PD that does not implement classification shall enable a valid detection signature when VPD is less than Vsig_enable min and may enable a valid detection signature when VPD is less than Vsig_enable max. A PD that presents an invalid detection signature greater than Vbad_hi max as specified in Table 104–8 shall implement classification as specified in 104.7.

Cl **104** *SC* **104.4.3.6** *P* **45** *L* **16** # i-94

Stover, David — Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

The state machine can proceed to POWER_UP state only when power is available

SuggestedRemedy

change the exit condition from DETECTION_EVAL to RESTART to "(mr_invalid_signature + !power_available) * !mr_sccp_enabled". Refer to presentation for additional details

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt slide 5 of http://www.ieee802.org/3/bu/public/jul16/gardner_3bu_01_0716.pdf as remedy.

Cl **104** *SC* **104.4.3.6** *P* **45** *L* **16** # i-225

Stover, David — Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

The state machine can proceed to POWER_UP state only when power is available.

SuggestedRemedy

change the exit condition from DETECTION_EVAL to POWER_UP to "mr_valid_signature * !mr_sccp_enabled * power_available". Refer to presentation for additional details.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt slide 5 of http://www.ieee802.org/3/bu/public/jul16/gardner_3bu_01_0716.pdf as remedy.

Cl **104** *SC* **104.4.3.6** *P* **45** *L* **28** # i-173

Dove, Daniel — Linear Technology

Comment Type **ER** *Comment Status* **R** *nonez*

AB: The far left transition from DETECTION_EVAL to POWER_UP is missing an arrow head

SuggestedRemedy

Add an arrow head to this transition.

Response *Response Status* **C**

REJECT.

The arrow head is already present in D3.0.

Cl **104** *SC* **104.4.3.6** *P* **45** *L* **34** # i-98

Stover, David — Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

The state machine should proceed to RESTART if the power is unavailable when in POWER_ON state

SuggestedRemedy

Add a branch from POWER_ON to RESTART state with an exit condition - "!power_available"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt slide 5 of http://www.ieee802.org/3/bu/public/jul16/gardner_3bu_01_0716.pdf as remedy.

Cl **104** *SC* **104.4.4** *P* **47** *L* **3** # i-128

Zimmerman, George — Commscope and Line

Comment Type **T** *Comment Status* **A** *nonez*

"The PSE shall probe the PI as described in 104.4.4.1." 104.4.4.1 does not describe any probing. It simply states the current requirements for detection and introduces table 104-2. It contains its own Shall. Not clear what additionally is meant by this shall. It may be to include the electrical parameters of the probing current not called out specifically by the other shall. See comment marked GZ1 on Table 104-2.

SuggestedRemedy

Delete "The PSE shall probe the PI as described in 104.4.4.1."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete "The PSE shall probe the PI as described in 104.4.4.1. The PSE is connected to a PD through the PIs and a
link segment. " on lines 3-4 of page 47.

Cl **104** *SC* **104.4.4** *P* **47** *L* **4** # i-175

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

The sentence doesn't clarify WHEN detection takes place.

SuggestedRemedy

Insert "When in the DETECTION state," prior to "The PSE shall..."

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.4** *P* **47** *L* **28** # i-176

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

The values of 4.05 and 5.15 in the table are of the wrong font/style

SuggestedRemedy

Correct the font/style.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.4.1** *P* **47** *L* **12** # i-129

Zimmerman, George — Commscope and Line

Comment Type **T** *Comment Status* **R** *nonez*

(comment GZ1) There are many parameters in Table 104-2 which are not covered by any shall statement. The statement "shall be within the Ivalid current range, as specified in Table 104-2" covers only the Ivalid range in the table, but looks intended to cover the whole set of characteristics. (additionally, some of the "output characteristics" in Table 104-2 are not output characteristics, but are the characteristics of a valid signature - these might need their own table, not addressed in my remedy).

SuggestedRemedy

Change "All detection currents at the PI shall be within the Ivalid current range, as specified in Table 104-2, when connected to a valid PD detection signature as specified in Table 104-4." to read "The PSE PI detection state will have the electrical output characteristics specified in Table 104-2. All detection currents at the PI shall be within the Ivalid current range, as specified in Table 104-2, when connected to a valid PD detection signature as specified in Table 104-4."

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.4.4.1** *P* **47** *L* **12** # i-107

Abramson, David — Texas Instruments Inc

Comment Type **TR** *Comment Status* **A** *nonez*

There are items in Table 104-2 that are never referenced in the text. These parameters do not currently have a "shall" associated with them since there is not a general "shall" for the table.

SuggestedRemedy

Add text: "The detection probe shall conform to Voc, Isc, Islew, and Cout as specified in Table 104-2."
at end of section 104.4.4.1

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.5** *P* **48** *L* **9** # i-16

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

"Table 104-3" should be a cross-reference:
Page 48 line 9, Page 50, line 33
"Table 104-6" should be a cross-reference:
Page 59 lines 10 and 13
"Table 104-2" should be a cross-reference:
Page 71 line 12

SuggestedRemedy

Make "Table 104-3" a cross-reference:
Page 48 line 9, Page 50, line 33
Make "Table 104-6" a cross-reference:
Page 59 lines 10 and 13
Make "Table 104-2" a cross-reference:
Page 71 line 12

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6** *P* **48** *L* **34** # i-177

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

Output Voltage dv/dt is an inaccurate parameter name.

SuggestedRemedy

Replace "Output Voltage dv/dt" with "Output Slew Rate (dv/dt)"

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.6** *P* **48** *L* **34** # i-29

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

"Output voltage dV/dt" parameter is used in the draft but the symbol "|dV_PSE/dt|" is never referenced.

SuggestedRemedy

Remove unused symbol "|dV_PSE/dt|"

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6** *P* **48** *L* **44** # i-178

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

Item 5 Maximum value refers to a non-existent parameter IPI_Class(max).

SuggestedRemedy

Replace "IPI_Class(max)" with "IPI(max)

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.6** *P* **48** *L* **49** # i-30

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Mixed case usage in draft, "T_Inrush" and "T_inrush". "T_Inrush" is the defined symbol.

SuggestedRemedy

Replace all instances of "T_inrush" with "T_Inrush".

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6** *P* **49** *L* **6** # i-31

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Mixed case usage in draft, "T_OFF" and "T_Off". "T_OFF" is the defined symbol.

SuggestedRemedy

Replace all instances of "T_Off" with "T_OFF".

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6** *P* **49** *L* **8** # i-32

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Mixed case usage in draft, "V_Sleep", "V_Sleep_PD" and "V_sleep", "V_sleep_PD". "V_Sleep" and "V_Sleep_PD" are the defined symbols.

SuggestedRemedy

Replace all instances of "V_sleep" and "V_sleep_PD" with "V_Sleep" and "V_Sleep_PD", respectively.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6** *P* **49** *L* **9** # i-217

Gardner, Andrew — Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

The PSE output range during SLEEP is currently specified as 3.1V to 3.45V which translates to a +/-5% range. Suggest opening up the max limit in order reduce burden on PSE implementation.

SuggestedRemedy

Propose relaxing the output range max requirement from 3.45V to 3.575V which yields a +/-7% range for item 10 (VSleep) in Table 104-3 and corresponding item 10 (VSleep_PD) in Table 104-6. VSleep max of 3.575V still leaves adequate margin for differentiating Vsig_disable min of 3.6V.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6** *P* **49** *L* **14** # i-34

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Mixed case usage in draft, "T_Restart" and "T_restart". "T_Restart" is the defined symbol.

SuggestedRemedy

Replace all instances of "T_restart" with "T_Restart".

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6** *P* **49** *L* **22** # i-35

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Mixed case usage in draft, "I_Wakeup" and "I_wakeup". "I_Wakeup" is the defined symbol.

SuggestedRemedy

Replace all instances of "I_wakeup" with "I_Wakeup".

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6** *P* **49** *L* **27** # i-36

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Mixed case usage in draft, "I_wakeup_bad_hi" and "I_Wakeup_bad_hi". "I_wakeup_bad_hi" is the defined symbol.

SuggestedRemedy

Replace all instances of "I_Wakeup_bad_hi" with "I_wakeup_bad_hi".

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6.1** *P* **49** *L* **39** # i-220

Gardner, Andrew — Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

There is no spec for VPSE when a PSE is not delivering any power to the PI, i.e. pi_powered, pi_sleeping, pi_detecting, pi_prebiased, and pi_classifying are all FALSE.

SuggestedRemedy

Insert the following sentence after the first sentence in this subclause. "A PSE shall apply a voltage at the PI in the range of VDisable when in the OVERLOAD, OVERLOAD_DELAY, and DISABLED states (see 104.4.6.5)." Add new line item to Table 104-3 as follows: '21, DC output voltage during the DISABLED, OVERLOAD, and OVERLOAD_DELAY states, VDisable, V, -, 1, All, All, See 104.4.6.1'

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6.1** *P* **49** *L* **44** # i-99

Stover, David — Linear Technology

Comment Type **ER** *Comment Status* **A** *ez*

PSE states SETTLE_SLEEP is referred as SLEEP_SETTLE in error in a few places in the document

SuggestedRemedy

Do a global search-and-replace of SLEEP_SETTLE to SETTLE_SLEEP

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.6.1** *P* **49** *L* **44** # i-179

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

In this subclause, there are multiple instances of "SLEEP_SETTLE" referring to the "SETTLE_SLEEP" state.

SuggestedRemedy

Do a Search & Replace "SLEEP_SETTLE" with "SETTLE_SLEEP" throughout the document.

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.6.2** *P* **50** *L* **1** # i-37

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

"I_inrush is the PSE output current during the POWER_UP state". The symbol "I_inrush" is defined here, but never used anywhere in the draft. This sentence is purely explanatory, and has no purpose when the symbol is not used.

SuggestedRemedy

Strike the aforementioned sentence from the draft.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6.2.1** *P* **48** *L* **47** # i-215

Gardner, Andrew — Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

The 50ms minimum value for TLIM in Table 104-3 is too restrictive, 10ms should be sufficiently large.

SuggestedRemedy

Change the minimum value of TLIM from 50ms to 10ms

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6.2.1** *P* **50** *L* **4** # i-180

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

The name of this subclause is innaccurate.

SuggestedRemedy

Replace "short circuit" with "overload".

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.6.2.1** *P* **50** *L* **7** # i-23

Nikolich, Paul — IEEE member / Self E

Comment Type **E** *Comment Status* **A** *ez*

The "Table 104-3" instance in this line has a link to the Table (which is a useful feature, but the other instances of "Table 104-3" in the document don't have the link.
Why are the instances of "Table 104-3" treated differently?
As a side note, it appears that the instance of "Table 104-3" with the link is not searchable using the PDF search function.

SuggestedRemedy

With respect to linking instances of "Table 104-3", please make them consistent.
Either do it for all of them or none of them. Your choice.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor will link all instances of Table 104-3. Editor to check all cross references and correct linkages as necessary.

Cl **104** *SC* **104.4.6.2.1** *P* **50** *L* **9** # i-100

Stover, David Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

I_PORT is same as current sourced by PSE

SuggestedRemedy

Change I_PORT to I_PSE globally

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6.2.1** *P* **50** *L* **15** # i-181

Dove, Daniel Linear Technology

Comment Type **T** *Comment Status* **A** *ez*

This subclause does not provide direction on how the PSE sets the Overload_Detected variable to TRUE, and that makes the State Diagram more difficult to implement.

SuggestedRemedy

Replace "If the PSE is limiting current in the POWER_UP state, POWER_ON state, or any state when VSleep is 15 applied at the PI, power removal from the PI shall begin within TLIM of the initiation of current limiting." with "If the PSE is limiting current in any state when pi_powered, pi_sleeping or pi_prebias are true, within TLIM of the initiation of current limiting, Overload_Detect is set true and power removal from the PI shall begin."

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6.2.2** *P* **50** *L* **28** # i-38

Stover, David Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

When referencing "min" and "max" corners of symbols, "min" and "max" should not be subscript.

SuggestedRemedy

Remove subscript formatting from "min" and "max" on this line.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.6.3** *P* **50** *L* **46** # i-182

Dove, Daniel Linear Technology

Comment Type **ER** *Comment Status* **A** *ez*

AB: The first usage of the term "DUT" is not defined.

SuggestedRemedy

Based on similar instances in 802.3-2015, change the first instance of "DUT" to "device under test (DUT)".

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.6.3** *P* **50** *L* **48** # i-183

Dove, Daniel Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

There are descriptions of requirements for Type A and Type B PSEs, but not for Type C.

SuggestedRemedy

Replace "Type A" with "Type A or Type C"

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.6.5** *P* *L* # i-221
Gardner, Andrew Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

There is no disable time spec for VPSE when a PSE is not delivering any power to the PI, i.e. pi_powered, pi_sleeping, pi_detecting, pi_prebiased, and pi_classifying are all FALSE.

SuggestedRemedy

Add line item to Table 104-3 as follows: '22, Disable time, TDisable, ms, -, 500, All, All, See 104.4.6.6'.

Increment existing sub-clause 104.4.6.6 to 104.4.6.7 and insert new sub-clause 104.4.6.6 as follows:

'104.4.6.6 Disable time
The specification for TDisable in Table 104-3 shall apply to the discharge time from VPSE to VDisable with a test resistor of 320 kohm attached to the PI. TDisable starts when VPSE drops 1 V below the steady-state value after the pi_powered, pi_classifying, pi_detecting, pi_prebiased, and pi_sleeping variables are cleared (see Figure 104-4). TDisable ends when VPSE less than or equal to VDisable max.'

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add line item to Table 104-3 as follows: '22, Disable time, TDisable, ms, -, 500, All, All, See 104.4.6.6'.

Increment existing sub-clause 104.4.6.6 to 104.4.6.7 and insert new sub-clause 104.4.6.6 as follows:

'104.4.6.6 Disable time
The specification for TDisable in Table 104-3 shall apply to the discharge time from VPSE to VDisable with a test resistor of 320 kohm attached to the PI. TDisable starts when VPSE drops 1 V below the steady-state value after the pi_powered, pi_classifying, pi_detecting, pi_prebiased, and pi_sleeping variables are cleared (see Figure 104-4). TDisable ends when VPSE is less than or equal to VDisable max.'

Editor's note: The remedy to this comment was revised subsequent to comment resolution to incorporate the remedy for comment i-184 and update the table cross reference, i.e. Table 104-4 instead of 104-3. As a result, the text that was adopted for 104.4.6.6 is:

"The specification for TDisable in Table 104–4 shall apply to the discharge time from VPSE to VDisable with a test resistor of 320 kohm attached to the PI. TDisable starts when VPSE drops 1 V below the steady-state value after the pi_powered, pi_classifying, pi_detecting, pi_prebiased, and pi_sleeping variables are set to FALSE (see Figure 104–4). TDisable ends when VPSE is less than or equal to VDisable max."

The remedy for comment i-184 is:

Replace "cleared" with "set to FALSE".

Cl **104** *SC* **104.4.6.5** *P* **52** *L* **2** # i-184
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

The term "cleared" is not consistent with the logic definitions.

SuggestedRemedy

Replace "cleared" with "set to FALSE".

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.4.7** *P* **52** *L* **15** # i-185
Dove, Daniel Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

The organization of this sentence is not optimal, and lacking some required logic.

SuggestedRemedy

Replace "Operating voltage shall be removed from the PSE PI in the absence of the PD MFVS while the PSE is operating in the POWER_ON state." with "While the PSE is operating in the POWER_ON state, full operating voltage shall be removed from the PSE PI in the absence of the PD MFVS or if Overload_Detected is true."

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.4.7** *P* **52** *L* **32** # i-187
Dove, Daniel Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

Missing condition

SuggestedRemedy

Replace "in the PD detection algorithm." with "in the PD detection or classification algorithms."

Response *Response Status* **W**

ACCEPT.

Cl **104** SC **104.5** P **52** L **29** # i-84

Law, David — Hewlett Packard Enter

Comment Type **T** *Comment Status* **A** *nonez*

The text 'A device that is capable of becoming a PD may have the ability to draw power from an alternate power source. A PD requiring power from the PI may simultaneously draw power from an alternate power source.' appears to be duplicative to subclause 104.5.6, but less detailed in respect to the PD drawing none, some, or all of its power from its PI.

SuggestedRemedy

Suggest that this text in subclause 104.5 be deleted.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete "The PD may be capable of drawing power from a local power source. When a local power source is provided,
the PD may draw none, some, or all of its power from its PI." from 104.5.6.

Cl **104** SC **104.5** P **52** L **29** # i-186

Dove, Daniel — Linear Technology

Comment Type **T** *Comment Status* **R** *nonez*

The text 'A device that is capable of becoming a PD may have the ability to draw power from an alternate power source. A PD requiring power from the PI may simultaneously draw power from an alternate power source.' appears to be duplicative to subclause 104.5.6, but less detailed in respect to the PD drawing none, some, or all of its power from its PI.

SuggestedRemedy

Suggest that this text in subclause 104.5 be deleted.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** SC **104.5.3.1** P **53** L **10** # i-39

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Symbol reference to "t_powerdly", which does not exist. The defined symbol is "T_power_dly".

SuggestedRemedy

Replace reference to "t_powerdly" with "T_power_dly"

Response *Response Status* **C**

ACCEPT.

Cl **104** SC **104.5.3.1** P **53** L **11** # i-188

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

the statement "enable MDI power" is not clear

SuggestedRemedy

Insert "to the load" after "MDI power".

Response *Response Status* **C**

ACCEPT.

Cl **104** SC **104.5.3.1** P **53** L **35** # i-189

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

application of "power" is inconsistent with the actual function.

SuggestedRemedy

I believe this should say "application of full operating voltage". Note, other instances of "operating voltage" on this page should be caught with the S&R in my earlier comment.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.3.3** *P* **53** *L* **21** # i-130

Zimmerman, George — Commscope and Line

Comment Type **E** *Comment Status* **A** *ez*

"Disconnect_PD" - normal style is not to capitalize variable names of this sort (voltages like "V_PD" are an exception.

SuggestedRemedy

Change Disconnect_PD to "disconnect_pd" on P53 L21 and Figure 104-8

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.3.3** *P* **53** *L* **50** # i-85

Law, David — Hewlett Packard Enter

Comment Type **T** *Comment Status* **A** *ez*

Suggest that '... wakeup signature current is to be applied ...' should be changed to read '... wakeup signature is to be applied ...'.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.3.3** *P* **53** *L* **50** # i-190

Dove, Daniel — Linear Technology

Comment Type **T** *Comment Status* **A** *ez*

Suggest that '... wakeup signature current is to be applied ...' should be changed to read '... wakeup signature is to be applied ...'.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.3.3** *P* **54** *L* **2** # i-191

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

when referencing the "wakeup signature current" I think it would be helpful to reference the actual parameter Iwakeup_PD

SuggestedRemedy

replace "wakeup signature current" with "wakeup signature current (Iwakeup_PD)

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.3.3** *P* **54** *L* **19** # i-192

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

Missing Variable/Term

SuggestedRemedy

Vpd is referred to in multiple locations, but never defined. Add "Vpd The voltage measured at the PI interface of the PD".

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.5.3.4** *P* **54** *L* **30** # i-43

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Timers do not reference the symbol of the specific parameter to which they refer. In some cases (e.g., sccp_watchdog_timer), the intended symbol (T_SCCP_watchdog) is never referenced elsewhere in the document.

SuggestedRemedy

Add/Modify Table references in all PD timer definitions to include the specific symbol of the parameter to which they refer. For example, modify sccp_watchdog_timer definition as follows:
"A timer used to limit the time in the DO_CLASSIFICATION state in the event serial communication
between the PSE and PD is idle or stalled; see T_SCCP_watchdog in Table 104-6."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to add timer symbols next to Table 104-6 cross references for all timers defined in PD subclause.

Cl **104** *SC* **104.5.3.4** *P* **54** *L* **36** # i-40

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Timer name "tpowerdly_timer" could be made to better reflect parameter symbol.

SuggestedRemedy

Replace all instances of "tpowerdly_timer" in 104.5.3 with "tpower_dly_timer".

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.3.6** *P* **55** *L* **1** # i-222

Gardner, Andrew — Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

PD state diagram behavior in the FAULT state needs to be clarified.

SuggestedRemedy

Propose changing UCT to !fault_detected for arc from FAULT to DISCONNECT. Add enable_mdi_power<=FALSE and present_mfvs<=FALSE to FAULT state assignments. Set pd_fault<=FALSE in the DISCONNECT state. See gardner_3bu_03_0716.pdf for complete remedy.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt remedy as shown on slides 3-4 of http://www.ieee802.org/3/bu/public/jul16/gardner_3bu_03a_0716.pdf.

Cl **104** *SC* **104.5.4** *P* **54** *L* **39** # i-226

Dove, Daniel — Linear Technology

Comment Type **GR** *Comment Status* **R** *nonez*

DA: I would like to see PDs not be required to show a valid signature during detection. This would allow them to only be powered by PSEs that do classification.

SuggestedRemedy

See abramson_01bu_0516.pdf

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.5.4** *P* **55** *L* **39** # i-65

Law, David — Hewlett Packard Enter

Comment Type **T** *Comment Status* **A** *nonez*

Subclause 104.5.4 'PD signature' states that 'A PD shall present a valid detection signature when VPD is less than Vsig_enable.'. Since Vsig_enable is 4.3 V max to 3.6 V min (Table 104-4), this seems to require a valid detection signature to be present from a threshold in the range 4.3 V max to 3.6 V min and any voltage less than that threshold. Subclause 104.5.6.2 'Input current' however states that 'A PD that requires detection and power-up shall draw current in the range of IWakeup_PD for at least TWakeup_PD when Vsleep_PD min < VPD < Vsleep max as specified in Table 104-3 and Table 104-6.'. Since Vsleep max is 3.5 V (Table 104-3, item 10), less than the Vsig_enable min (3.6V). These seems to be conflicting requirements.

SuggestedRemedy

Please clarify.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change 104.5.4:

"A PD shall present a valid detection signature when VPD is less than Vsig_enable."

to

"A PD shall enable a valid detection signature when VPD is less than Vsig_enable min. A PD may enable a valid detection signature when VPD is less than Vsig_enable max."

Editor's note: the remedy to this comment was combined with the remedy to comment i-106. The adopted text for 104.5.4 is

"A PD that does not implement classification shall enable a valid detection signature when VPD is less than Vsig_enable min and may enable a valid detection signature when VPD is less than Vsig_enable max."

Cl **104** *SC* **104.5.4** *P* **55** *L* **39** # i-193

Dove, Daniel — Linear Technology

Comment Type **T** *Comment Status* **R** *nonez*

DL: Subclause 104.5.4 'PD signature' states that 'A PD shall present a valid detection signature when VPD is less than Vsig_enable.'. Since Vsig_enable is 4.3 V max to 3.6 V min (Table 104-4), this seems to require a valid detection signature to be present from a threshold in the range 4.3 V max to 3.6 V min and any voltage less than that threshold. Subclause 104.5.6.2 'Input current' however states that 'A PD that requires detection and power-up shall draw current in the range of IWakeup_PD for at least TWakeup_PD when Vsleep_PD min < VPD < Vsleep max as specified in Table 104-3 and Table 104-6.'. Since Vsleep max is 3.5 V (Table 104-3, item 10), less than the Vsig_enable min (3.6V). These seems to be conflicting requirements.

SuggestedRemedy

Please clarify.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.5.4** *P* **55** *L* **45** # i-194

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

The text says "A valid PD detection signature shall have the characteristics of Table 104-4." which is ambiguous. Does it mean "all of the characteristics" or "at least one"?

SuggestedRemedy

replace with "A valid PD detection signature shall have all of the characteristics of Table 104-4."

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.4** *P* **55** *L* **49** # i-195

Dove, Daniel — Linear Technology

Comment Type **T** *Comment Status* **R** *nonez*

DL: While it is correct that 'A PD that presents a signature within the limits set out in Table 104-4 is assured to pass detection.', it may however be prudent to add that it may not necessarily be powered due to the PSE not having sufficient available power (transition from CLASSIFICATION_EVAL to RESTART due to !power_avalible).

SuggestedRemedy

Suggest the text '... pass detection.' be changed to read '... pass detection, although may not necessarily be powered due to the PSE being unable to source the required power.'.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.5.4** *P* **55** *L* **49** # i-66

Law, David — Hewlett Packard Enter

Comment Type **T** *Comment Status* **R** *ez*

While it is correct that 'A PD that presents a signature within the limits set out in Table 104-4 is assured to pass detection.', it may however be prudent to add that it may not necessarily be powered due to the PSE not having sufficient available power (transition from CLASSIFICATION_EVAL to RESTART due to !power_avalible).

SuggestedRemedy

Suggest the text '... pass detection.' be changed to read '... pass detection, although may not necessarily be powered due to the PSE being unable to source the required power.'.

Response *Response Status* **C**

REJECT.

While the explanatory text is useful, it is inappropriate because it describes PSE behaviour. See 104.4.4.

Cl **104** *SC* **104.5.4** *P* **56** *L* **1** # i-196

Dove, Daniel — Linear Technology

Comment Type **T** *Comment Status* **A** *ez*

Subclause 104.1.2 'Relationship of PoDL to the IEEE 802.3 architecture' states that 'The Power Interface (PI) is the generic term that refers to the mechanical and electrical interface between the PSE or PD and the transmission medium.'. Based on this suggest the term 'PI' should be used rather than 'connector' when referencing a measurement point.

SuggestedRemedy

Suggest that that text '... measured at PD connector' should be changed to read '... measured at PD PI' here and on line 12 as well.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.4** *P* **56** *L* **1** # i-67

Law, David — Hewlett Packard Enter

Comment Type **T** *Comment Status* **A** *ez*

Subclause 104.1.2 'Relationship of PoDL to the IEEE 802.3 architecture' states that 'The Power Interface (PI) is the generic term that refers to the mechanical and electrical interface between the PSE or PD and the transmission medium.'. Based on this suggest the term 'PI' should be used rather than 'connector' when referencing a measurement point.

SuggestedRemedy

Suggest that that text '... measured at PD connector' should be changed to read '... measured at PD PI' here and on line 12 as well.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.6** *P* **57** *L* **6** # i-197

Dove, Daniel — Linear Technology

Comment Type **T** *Comment Status* **R** *ez*

Subclause 104.5.6.1 'PD input voltage' states that 'The PD shall remain off until the input voltage reaches a value in the range of VOn, as specified in Table 104-6, after a delay greater than Tpower_dly.'. For the case of a 12 V unregulated PSE 104-6 however lists Von max as 5.75 V (item 4a).

Subclause 104.5.6.1 however also states that 'The PD shall turn on or off without startup oscillation and within the first trial when a voltage in the range of VPSE (as defined in Table 104-1) is applied with a series resistance within the range of valid channel resistance.'. For the case of a 12 V unregulated PSE Table 104-1 lists VPSE(min) for a Class code 0 PSE as 5.6 V.

Based on the above it appears that a conformant class code 0 PD need not turn on until 5.75 V (Von max), yet Subclause 104.5.6.1 requires that it turn on when a PSE supplies 5.6 V through a series resistance within the range of valid channel resistance.

SuggestedRemedy

Please verify the respective values.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.5.6** *P* **57** *L* **6** # i-41

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Mixed case usage in draft, "V_On" and "V_ON". "V_On" is the defined symbol.

SuggestedRemedy

Replace all instances of "V_ON" with "V_On".

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.6** *P* **57** *L* **6** # i-68

Law, David — Hewlett Packard Enter

Comment Type **T** *Comment Status* **A** *nonez*

Subclause 104.5.6.1 'PD input voltage' states that 'The PD shall remain off until the input voltage reaches a value in the range of VOn, as specified in Table 104-6, after a delay greater than Tpower_dly.'. For the case of a 12 V unregulated PSE 104-6 however lists Von max as 5.75 V (item 4a).

Subclause 104.5.6.1 however also states that 'The PD shall turn on or off without startup oscillation and within the first trial when a voltage in the range of VPSE (as defined in Table 104-1) is applied with a series resistance within the range of valid channel resistance.'. For the case of a 12 V unregulated PSE Table 104-1 lists VPSE(min) for a Class code 0 PSE as 5.6 V.

Based on the above it appears that a conformant class code 0 PD need not turn on until 5.75 V (Von max), yet Subclause 104.5.6.1 requires that it turn on when a PSE supplies 5.6 V through a series resistance within the range of valid channel resistance.

SuggestedRemedy

Please verify the respective values.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The values are correct. Since the open-circuit VPSE min for class 0 is 6V, the PD is assured of being able to turn on if its Von max is 5.75V. After the PD is drawing power from the PI, the VPSE may drop to as low as 5.6V and VPD may drop as low as 4.94V. The PD Voff min of 3.6V ensures that the PD will remain on.

Cl **104** *SC* **104.5.6** *P* **57** *L* **13** # i-69

Law, David — Hewlett Packard Enter

Comment Type **T** *Comment Status* **A** *nonez*

Subclause 104.5.6.1 'PD input voltage' states that 'Once the PD is turned on, the PD may remain on in the input voltage range less than VOn min but greater than VOff.'. Based on this I suspect that there may be an error for the unregulated 24 V class values in Table 104-6 for Von min (item 4d) which is 17.8 V and Voff (item 5d) which is 19.5 V. For this class, unlike all others, the Von min is lower that the Voff value, hence there is no range where VOn min is greater than VOff.

SuggestedRemedy

If these values are correct, the text is subclause 104.5.6.1 may need clarified for the unregulated 24 V class.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete the VOn min specifications from Table 104-6 for all PD classes

Change 104.5.6.1 from

The PD shall remain off until the input voltage reaches a value in the range of VOn, as specified in Table 104–6, after a delay greater than Tpower_dly. Once the PD is turned on, the PD may remain on in the input voltage range less than VOn min but greater than VOff. When the input voltage is less than VOff min, as specified in Table 104–6, the PD shall be turned off.

To

The PD shall turn on at a voltage less than or equal to VOn max and with a delay greater than Tpower_dly min. After the PD turns on, the PD shall stay on over the range from VPD min to VPSE max. The PD shall turn off at a voltage in the range of VPD min to VOff min. Table 104-1 defines the values for VPD min and VPSE max. Table 104-6 defines the values for VOn, Tpower_dly, and Voff.

Cl **104** *SC* **104.5.6** *P* **57** *L* **13** # i-198

Dove, Daniel — Linear Technology

Comment Type **T** *Comment Status* **R** *nonez*

DL: Subclause 104.5.6.1 'PD input voltage' states that 'Once the PD is turned on, the PD may remain on in the input voltage range less than VOn min but greater than VOff.'. Based on this I suspect that there may be an error for the unregulated 24 V class values in Table 104-6 for Von min (item 4d) which is 17.8 V and Voff (item 5d) which is 19.5 V. For this class, unlike all others, the Von min is lower that the Voff value, hence there is no range where VOn min is greater than VOff.

SuggestedRemedy

If these values are correct, the text is subclause 104.5.6.1 may need clarified for the unregulated 24 V class.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.5.6** *P* **57** *L* **30** # i-17

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

The IEEE style manual says "Dashes should never be used because they can be misconstrued as subtraction signs."

SuggestedRemedy

Change "Classes 1-3 and 5-9" to "Classes 1 to 3 and 5 to 9"

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.6** *P* **57** *L* **44** # i-70

Law, David — Hewlett Packard Enter

Comment Type **T** *Comment Status* **A** *ez*

There is no SLEEP and WAKEUP states that I can see in the PD state diagram.

SuggestedRemedy

Suggest that 'Power supply voltage during SLEEP and WAKEUP states' should be changed to read 'Power supply voltage during PD_SLEEP state'.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.6** *P* **57** *L* **44** # i-199

Dove, Daniel — Linear Technology

Comment Type **T** *Comment Status* **A** *ez*

DL: There is no SLEEP and WAKEUP states that I can see in the PD state diagram.

SuggestedRemedy

Suggest that 'Power supply voltage during SLEEP and WAKEUP states' should be changed to read 'Power supply voltage during PD_SLEEP state'.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.6** *P* **58** *L* **11** # i-18

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

The IEEE style manual says "An em dash (--) should be used to indicate the lack of data for a particular cell in a table."

SuggestedRemedy

Insert an em dash (Ctrl-q Shft-q) in Table 104-6, Item 13, Min column and Table 104-7, Item 4, Min column

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.6.1** *P* **58** *L* **22** # i-200

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

The structure of this sentence is not optimum and lacks some specific technical content.

SuggestedRemedy

Replace "The PD shall remain off until the input voltage reaches a value in the range of VOn, as specified in Table 104-6, after a delay greater than Tpower_dly. " with "The PD shall remain off for a time greater than Tpower_dly after the input voltage (Vpd) reaches a value in the range of VOn, as specified in Table 104-6." Add "When the input voltage is greater than vsig_disable, then the signature is disabled."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: The response to this comment was changed from ACCEPT to REVISED. The remedy to this comment was not adopted in its entirety since it conflicts with the remedy for comment i-69. The sentence in the suggested remedy "When the input voltage is greater than vsig_disable, then the signature is disabled." was adopted since that portion of the remedy did not conflict with the remedy to comment i-69. The remedy to comment i-69 is:

Delete the VOn min specifications from Table 104-6 for all PD classes.

Change 104.5.6.1 from

"The PD shall remain off until the input voltage reaches a value in the range of VOn, as specified in Table 104–6, after a delay greater than Tpower_dly. Once the PD is turned on, the PD may remain on in the input voltage range less than VOn min but greater than VOff. When the input voltage is less than VOff min, as specified in Table 104–6, the PD shall be turned off."

To

"The PD shall turn on at a voltage less than or equal to VOn max and with a delay greater than Tpower_dly min. After the PD turns on, the PD shall stay on over the range from VPD min to VPSE max. The PD shall turn off at a voltage in the range of VPD min to VOff min. Table 104-1 defines the values for VPD min and VPSE max. Table 104-6 defines the values for VOn, Tpower_dly, and Voff."

Cl **104** *SC* **104.5.6.1** *P* **58** *L* **28** # i-71

Law, David — Hewlett Packard Enter

Comment Type **T** *Comment Status* **A** *nonez*

Subclause 104.5.6.1 'PD input voltage' requires that a voltage '... is applied with a series resistance within the range of valid channel resistance. While I see that subclause 104.2 'Link segment' defines a maximum DC loop resistance, I'm not able to find a definition of the 'valid channel resistance'.

SuggestedRemedy

Please add a cross reference to the subclause where valid channel resistance is defined.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to replace all instances of "channel resistance" with "DC loop resistance" and include cross reference to 104.2.

Cl **104** *SC* **104.5.6.1** *P* **58** *L* **28** # i-201

Dove, Daniel — Linear Technology

Comment Type **T** *Comment Status* **R** *ez*

DL: Subclause 104.5.6.1 'PD input voltage' requires that a voltage '... is applied with a series resistance within the range of valid channel resistance. While I see that subclause 104.2 'Link segment' defines a maximum DC loop resistance, I'm not able to find a definition of the 'valid channel resistance'.

SuggestedRemedy

Please add a cross reference to the subclause where valid channel resistance is defined.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.5.6.2** *P* **58** *L* **40** # i-103

Stover, David — Linear Technology

Comment Type **ER** *Comment Status* **A** *ez*

V_Sleep max refers to the PD voltage

SuggestedRemedy

"...when V_PD is within the range of V_Sleep_PD"

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.5.6.3** *P* **58** *L* **47** # i-202
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Missing term

SuggestedRemedy

Replace "to the voltage at the PD PI" with "to the voltage or current at the PD PI"

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.6.3** *P* **59** *L* **11** # i-236
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE: No PICS entry for this shall

SuggestedRemedy

PICS editor to create entry for this shall

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to add new entry to PICs table per input provided by PICS editor.

Editor's note: Changes to Clause 104 PICs for D3.1 are shown in the D3.1 to D3.0 compare file that can be found at "http://www.ieee802.org/3/bu/private/index.html"

Cl **104** *SC* **104.5.6.3** *P* **59** *L* **14** # i-237
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE: No PICS entry for this shall

SuggestedRemedy

PICS editor to create entry for this shall

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to add new entry to PICs table per input provided by PICS editor.

Editor's note: The new D3.1 PICs entries regarding this comment are PD21 and PD22.

Cl **104** *SC* **104.5.6.5** *P* **59** *L* **46** # i-203
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

The structure of this sentence is not optimum and lacks specifics.

SuggestedRemedy

Replace the sentence with "When any voltage between VPSE min and VPSE max (with Rloop_max in series) is applied to the PI of the PD, PPD is defined as shown in Equation (104-5);

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.5.7** *P* **60** *L* **9** # i-204
Dove, Daniel Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

Missing information

SuggestedRemedy

Insert "signal the PSE to" between the words "In order to... and ... maintain full operating voltage". Note, delete "input" also.

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.5.7** *P* **60** *L* **12** # i-205
Dove, Daniel Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

extra word, missing details

SuggestedRemedy

replace "full input operating voltage shall" with "full operating voltage at the PI shall"

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.6.1** *P* **60** *L* **20** # i-206

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

The requirement of a test voltage of greater than 5V does not prohibit or exclude 1,000,000 volts for the requirement.

SuggestedRemedy

replace "using at least a 5V source voltage." with "using a 5V+- 20% source voltage."

Response *Response Status* **W**

ACCEPT.

Cl **104** *SC* **104.6.2** *P* **60** *L* **27** # i-110

Abramson, David — Texas Instruments Inc

Comment Type **GR** *Comment Status* **A** *nonez*

There is no reason to include the fault tolerances from clause 96 in this clause.
These requirements apply to the appropriate applications by their inclusion in clause 96.
Leaving them in clause 104 only adds them as a requirement to applications that may not require them.

SuggestedRemedy

Remove sentence: "The PI shall meet the fault tolerance requirements as specified in 96.8.3."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt http://www.ieee802.org/3/bu/public/jul16/gardner_3bu_02_0716.pdf with following changes:

On slide 3 change

"Type D PSEs and Type D PDs are not compatible with 100BASE-T1 or 1000BASE-T1 PHYs and may contain no data entity."

to

"Type D PSEs and Type D PDs may be incompatible with IEEE 802.3 PHYs and may lack a data entity."

Change all instances of "...there are three types…" to …there are multiple types…"

On page 5 change

"A PSE, link section, and PD that contain no data entity or are not compatible with 100BASE-T1 or 1000BASE-T1 PHYs."

to

"A PSE, link section, and PD that lack a data entity or are incompatible with IEEE 802.3 PHYs."

Editor's note on page 7: Change Table 45-211-j as follows should reference Type D PSE.

Editors note on page 7 "...and when read as ‘’ a Type D PSE is indicated." should be "...and when read as ‘011’ a Type D PSE is indicated."

Cl **104** *SC* **104.6.2** *P* **60** *L* **30** # i-19

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

IEEE does not precede references to other subclauses with "sub-clause"

SuggestedRemedy

Change "in sub-clause 104.4" to "in 104.4" here and on Page 75, line 47

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.6.3** *P* **60** *L* **31** # i-207

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **R** *nonez*

DL: This requirements in this subclause can't 'supersede' requirements elsewhere in IEEE Std 802.3 as 'supersede' has the special meaning that one standard has replaced the other, for example IEEE Std 802.3-2015 supersedes IEEE Std 802.3-2012 and all its amendments. I believe instead that this requirement is in addition to the 100BASE-T1 requirements for a 100BASE-T1 associated with a PoDL PD or PSE. In other words a 100BASE-T1 PHY has to always meet 96.5.4.1, but a 100BASE-T1 PHY associated with a PoDL PD or PSE has to also meet 104.6.3.1.1.

SuggestedRemedy

Since the last sentence of 104.1.2 states that 'The PI is encompassed within the MDI.' suggest that the subclause text be replaced with 'Subclauses 104.6.3.1 and 104.6.3.2 define additional requirements for a 100BASE-T1 PHY with a MDI that incorporates a PI.'

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.6.3** *P* **60** *L* **31** # i-72

Law, David — Hewlett Packard Enter

Comment Type **TR** *Comment Status* **A** *nonez*

This requirements in this subclause can't 'supersede' requirements elsewhere in IEEE Std 802.3 as 'supersede' has the special meaning that one standard has replaced the other, for example IEEE Std 802.3-2015 supersedes IEEE Std 802.3-2012 and all its amendments. I believe instead that this requirement is in addition to the 100BASE-T1 requirements for a 100BASE-T1 associated with a PoDL PD or PSE. In other words a 100BASE-T1 PHY has to always meet 96.5.4.1, but a 100BASE-T1 PHY associated with a PoDL PD or PSE has to also meet 104.6.3.1.1.

SuggestedRemedy

Since the last sentence of 104.1.2 states that 'The PI is encompassed within the MDI.' suggest that the subclause text be replaced with 'Subclauses 104.6.3.1 and 104.6.3.2 define additional requirements for a 100BASE-T1 PHY with a MDI that incorporates a PI.'

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In 96.5.4.1 change

"The test mode 1 output droop is illustrated in Figure 96–23. With the transmitter in test mode 1 and using the transmitter test fixture 1, the magnitude of both the positive and negative droop measured with respect to an
initial peak value after the zero crossing and the value 500 ns after the initial peak, shall be less than 45%."

to

"The test mode 1 output droop is illustrated in Figure 96-23. With the transmitter in test mode 1 and using the transmitter test fixture 1, the magnitude of both the positive and negative droop measured with respect to an
initial peak value after the zero crossing and the value 500 ns after the initial peak, shall be less than 45%.

When a Clause 104 Type A or Type C PI is encompassed within the MDI, the magnitude of both the positive and negative droop measured with respect to an
initial peak value after the zero crossing and the value 500 ns after the initial peak, shall be less than 60%."

Add following text to end of 96.8.2.1:

"When a Clause 104 Type A or Type C PI is encompassed within the MDI, The MDI return loss (RL) shall meet or exceed Equation (96-11a) for all frequencies from 1 MHz to 66 MHz (with 100 ohm reference impedance) at all times when the PHY is transmitting data or control symbols."

Insert equation 104-6 as new equation 96-11a.

Delete 104.6.3 and all subclauses.

Cl **104** *SC* **104.6.3.1** *P* **60** *L* **34** # i-208

Dove, Daniel Linear Technology

Comment Type **TR** *Comment Status* **R** *nonez*

DL: I don't see a ' Type A PoDL transmitter' defined anywhere.

SuggestedRemedy

Based on the title of subclause 104.6.3.2 being 'MDI return loss', and assuming my comment to change this subclause to only be required for a 100BASE-T1 PHY with a MDI that incorporates a PI, suggest that:

[1] This title be changed to read 'Transmitter output droop'.
[2] The text 'With the Type A PoDL transmitter in test ... ' be changed to read 'With the transmitter in test ...'.
[3] The text 'This requirement supersedes the transmitter output droop requirement in clause 96' be deleted.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.6.3.1** *P* **60** *L* **34** # i-73

Law, David Hewlett Packard Enter

Comment Type **TR** *Comment Status* **A** *nonez*

I don't see a ' Type A PoDL transmitter' defined anywhere.

SuggestedRemedy

Based on the title of subclause 104.6.3.2 being 'MDI return loss', and assuming my comment to change this subclause to only be required for a 100BASE-T1 PHY with a MDI that incorporates a PI, suggest that:

[1] This title be changed to read 'Transmitter output droop'.
[2] The text 'With the Type A PoDL transmitter in test ... ' be changed to read 'With the transmitter in test ...'.
[3] The text 'This requirement supersedes the transmitter output droop requirement in clause 96' be deleted.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In 96.5.4.1 change

"The test mode 1 output droop is illustrated in Figure 96–23. With the transmitter in test mode 1 and using the transmitter test fixture 1, the magnitude of both the positive and negative droop measured with respect to an
initial peak value after the zero crossing and the value 500 ns after the initial peak, shall be less than 45%."

to

"The test mode 1 output droop is illustrated in Figure 96–23. With the transmitter in test mode 1 and using the transmitter test fixture 1, the magnitude of both the positive and negative droop measured with respect to an
initial peak value after the zero crossing and the value 500 ns after the initial peak, shall be less than 45%.

When a Clause 104 Type A or Type C PI is encompassed within the MDI, the magnitude of both the positive and negative droop measured with respect to an
initial peak value after the zero crossing and the value 500 ns after the initial peak, shall be less than 60%."

Add following text to end of 96.8.2.1:

"When a Clause 104 Type A or Type C PI is encompassed within the MDI, The MDI return loss (RL) shall meet or exceed Equation (96–11a) for all frequencies from 1 MHz to 66 MHz (with 100 □ reference impedance) at all times when the PHY is transmitting data or control symbols."

Insert equation 104-6 as new equation 96-11a.

Delete 104.6.3 and all subclauses.

Cl **104** *SC* **104.6.3.1.1** *P* **60** *L* **43** # i-74

Law, David — Hewlett Packard Enter

Comment Type **E** *Comment Status* **A** *nonez*

Assume that 'transmitter test fixture 1' is the text fixture found in figure 96-20. If so a cross-reference should be added.

SuggestedRemedy

Suggest the text '... transmitter test fixture 1, ...' should be changed to read '... transmitter test fixture 1 (see Figure 96-20), ...'.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In 96.5.4.1 change

"The test mode 1 output droop is illustrated in Figure 96–23. With the transmitter in test mode 1 and using the transmitter test fixture 1, the magnitude of both the positive and negative droop measured with respect to an
initial peak value after the zero crossing and the value 500 ns after the initial peak, shall be less than 45%."

to

"The test mode 1 output droop is illustrated in Figure 96–23. With the transmitter in test mode 1 and using the transmitter test fixture 1, the magnitude of both the positive and negative droop measured with respect to an
initial peak value after the zero crossing and the value 500 ns after the initial peak, shall be less than 45%.

When a Clause 104 Type A or Type C PI is encompassed within the MDI, the magnitude of both the positive and negative droop measured with respect to an
initial peak value after the zero crossing and the value 500 ns after the initial peak, shall be less than 60%."

Add following text to end of 96.8.2.1:

"When a Clause 104 Type A or Type C PI is encompassed within the MDI, The MDI return loss (RL) shall meet or exceed Equation (96–11a) for all frequencies from 1 MHz to 66 MHz (with 100 □ reference impedance) at all times when the PHY is transmitting data or control symbols."

Insert equation 104-6 as new equation 96-11a.

Delete 104.6.3 and all subclauses.

Cl **104** *SC* **104.6.3.1.1** *P* **60** *L* **43** # i-209

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **R** *nonez*

DL: Assume that 'transmitter test fixture 1' is the text fixture found in figure 96-20. If so a cross-reference should be added.

SuggestedRemedy

Suggest the text '... transmitter test fixture 1, ...' should be changed to read '... transmitter test fixture 1 (see Figure 96-20), ...'.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **104** *SC* **104.6.3.1.1** *P* **60** *L* **47** # i-210

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

I believe this spec should apply to Type A or Type C

SuggestedRemedy

Replace "Type A" with "Type A or Type C"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: The response to this comment was changed from ACCEPT to REVISED since comment i-74 resulted in the deletion of sub-clause 104.6.3 and all subordinate sub-clauses.

Cl **104** *SC* **104.6.3.2** *P* **61** *L* **24** # i-211

Dove, Daniel — Linear Technology

Comment Type **TR** *Comment Status* **A** *ez*

The spec doesn't articulate whether it applies only to Type A, Type A and Type C

SuggestedRemedy

Insert "Type A and Type C" before "MDI Return Loss" in the title of the subclause. Also replace "Type A" with "Type A or Type C" in the text.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: The response to this comment was changed from ACCEPT to REVISED since comment i-74 resulted in the deletion of sub-clause 104.6.3 and all subordinate sub-clauses.

Cl **104** SC **104.6.3.2** P **61** L **28** # i-20

Anslow, Peter — Ciena Corporation

Comment Type **E** *Comment Status* **A** *ez*

"in clause 96" should be "in Clause 96" where the word "Clause" is in forest green

SuggestedRemedy

Change "in clause 96" to "in Clause 96" where the word "Clause" is in forest green

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: The response to this comment was changed from ACCEPT to REVISED since comment i-74 resulted in the deletion of sub-clause 104.6.3 and all subordinate sub-clauses.

Cl **104** SC **104.6.3.2** P **61** L **29** # i-131

Zimmerman, George — Commscope and Line

Comment Type **T** *Comment Status* **A** *ez*

"Type A (100BASE-T1)..." shouldn't this requirement also apply to Type C (100BASE-T1 and 1000BASE-T1)?

SuggestedRemedy

Change Type A to "Type A and Type C"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: The response to this comment was changed from ACCEPT to REVISED since comment i-74 resulted in the deletion of sub-clause 104.6.3 and all subordinate sub-clauses.

Cl **104** SC **104.6.3.2** P **62** L **11** # i-21

Anslow, Peter — Ciena Corporation

Comment Type **T** *Comment Status* **A** *ez*

In Figure 104-11:
The title "Return loss calculated using Equation (104-3)" should be "Return loss calculated using Equation (104-6)" where "Equation (104-6)" is a cross-reference.
"frequency (Mhz)" should be "Frequency (MHz)"
"dB" should be "Return loss (dB)"

SuggestedRemedy

In Figure 104-11, change:
The title "Return loss calculated using Equation (104-3)" to "Return loss calculated using Equation (104-6)" where "Equation (104-6)" is a cross-reference.
"frequency (Mhz)" to "Frequency (MHz)"
"dB" to "Return loss (dB)"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: Response was changed from ACCEPT to REVISED. The suggested remedy was not implemented because the remedy to comments i-72, i-73, and i-74 deleted sub-clause 104.6.3 and moved Equation (104-6) to Clause 96 as Equations (96-11a). There is no figure associated with Equations (96-11) or (96-11a) in Clause 96.

Cl **104** SC **104.7** P **63** L **21** # i-44

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

"SCCP is a current-sinking, wire-OR..." I believe the correct term is, "wired-OR".

SuggestedRemedy

Replace "wire-OR" with "wired-OR".

Response *Response Status* **C**

ACCEPT.

Cl **104** SC **104.7.1.1** P **63** L **35** # i-212

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Figure 104-12 is out of place. It should be dropped below the first sentence in 104.7.1.1 to allow the reader to read the description and look at the figure simultaneously.

SuggestedRemedy

Move the figure per the comment.

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.7.1.1** *P* **63** *L* **37** # i-213

Dove, Daniel — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Semantic improvement required. See remedy.

SuggestedRemedy

Replace "the PSE shall transmit the reset pulse by first pulling VPSE low and then pull-up at tRSTL. The PSE shall then go into receive mode (RX)." with "the PSE shall transmit the reset pulse by first *driving* VPSE low and then releasing to the pull-up at tRSTL. The PSE shall then go into receive mode (RX)."

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.7.1.2** *P* **63** *L* **53** # i-45

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

"...during a write 1 or write 0 operation." Capitalization.

SuggestedRemedy

"...during a Write 1 or Write 0 operation."

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.7.1.4** *P* **64** *L* **4** # i-46

Stover, David — Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

"All voltages are referenced to the PI minus terminal" seems strange. The only instance of definition I've found is Figure 104-3, which depicts "PI-".

SuggestedRemedy

"All voltages are referenced to PI- as shown in Figure 104-3."

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.7.2.4** *P* **67** *L* **5** # i-22

Anslow, Peter — Ciena Corporation

Comment Type **T** *Comment Status* **A** *ez*

In Table 104-8, alternative values are given for b[15:12] and b[9:0]. However it is not clear which bits correspond to which columns

SuggestedRemedy

Remove "Type:" and replace it with the bit number for each column (space the columns out by adding spaces as in Table 45-77).
Remove "Class:" and replace it with the bit number for each column (space the columns out by adding spaces).

Response *Response Status* **C**

ACCEPT.

Cl **104** *SC* **104.7.2.4** *P* **67** *L* **10** # i-223

Gardner, Andrew — Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

pd_fault bit behavior needs to be clarified.

SuggestedRemedy

Change name from pd_fault to pd_faulted. Change description to read "When read as a one indicates that a PD fault has been detected. This bit shall be set to true when pd_fault transitions from FALSE to TRUE. The pd_faulted bit shall be implemented with latching high behavior as defined in 45.2." Change bit type from RO to RO/LH. See gardner_3bu_03_0716.pdf for complete remedy.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt remedy as shown on slides 3-4 of http://www.ieee802.org/3/bu/public/jul16/gardner_3bu_03a_0716.pdf.

Cl **104** SC **104.7a** P **68** L **23** # i-127
Zimmerman, George Commscope and Line

Comment Type **TR** *Comment Status* **A** *nonez*

This standard is missing the usual "environmental" and "general safety" sections found in other 802.3 PHY and PoE standards. Specifically the guidance for local, regional and national safety specifications.

SuggestedRemedy

Recommended text will be provided in a contribution, formed from a combination of the environmental sections of Clause 33 (PoE) and the BASE-T1 PHY clauses.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt text of http://www.ieee802.org/3/bu/public/jul16/zimmerman_3bu_01_0716.pdf

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Cl **104** SC **104.8** P **69** L **1** # i-224
Gardner, Andrew Linear Technology

Comment Type **TR** *Comment Status* **A** *nonez*

PICs need to be updated.

SuggestedRemedy

Update PICs as needed.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

PICs editor to to review and update PICs table per input as needed.

Editor to add list of changes to this response prior to upload to MY BALLOT.

Editor's note: Changes to Clause 104 PICs for D3.1 are shown in the D3.1 to D3.0 compare file that can be found at "http://www.ieee802.org/3/bu/private/index.html"

Cl **104** SC **104.8.4.2** P **70** L **46** # i-238
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE The wrong table is referenced. It should be 104 -1

SuggestedRemedy

Replace 104 -2 with 104 - 1

Response *Response Status* **C**

ACCEPT.

Cl **104** SC **104.8.4.2** P **72** L **21** # i-239
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE: There is no shall associated with this entry anymore

SuggestedRemedy

Delete this PICS item

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Submitted by Craig Chabot.

Cross reference needs to be updated to point to 104.4.6.5 instead of 104.4.6.4.

Editor's note: Craig's suggested remedy was correct; there is no shall associated with 104.4.6.5 so the PIC item in question was deleted.

Cl **104** SC **104.8.4.3** P **73** L **30** # i-48
Stover, David Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Referenced symbol is "t_power_dly" but defined symbol is "T_power_dly".

SuggestedRemedy

Replace reference to "t_power_dly" with "T_power_dly".

Response *Response Status* **C**

ACCEPT.

Cl **104** SC **104.8.4.3** P **74** L **1** # i-240
Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

ROGUE: This is now split into two different shalls. One is for Type A and the other for TypeB

SuggestedRemedy

PICS editor to split this into two separate PICS items

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: The response to this comment was changed from ACCEPT to REVISED. The PICs editor has provided updated PICs PD18 and PD19 in D3.1 that address this comment.

Cl **104** *SC* **104.8.4.3** *P* **74** *L* **12** # i-49

Stover, David Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

Referenced symbol is "I_Hold_PD" but defined symbol is "I_hold_PD".

SuggestedRemedy

Replace reference to "I_Hold_PD" with "I_hold_PD".

Response *Response Status* **C**

ACCEPT.

Cl **Intro** *SC* **Intro** *P* **11** *L* **5** # i-135

Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

The term "Single-Pair Power over Data Lines" is inconsistent with the title of the document.

SuggestedRemedy

Replace "Single-Pair Power over Data Lines "Single Balanced Twisted Pair Power over Data Lines"

Response *Response Status* **C**

ACCEPT.

Cl **Intro** *SC* **Intro** *P* **17** *L* **8** # i-137

Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

The title of the amendment is not explicitly defined to support "twisted" pair despite alignment with PHY projects that only support twisted-pair.

SuggestedRemedy

Replace "Single Balanced Pair Ethernet" with "Single Balanced Twisted Pair Ethernet".

Response *Response Status* **C**

ACCEPT.

Cl **na** *SC* **na** *P* **1** *L* **15** # i-133

Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

The title of the amendment is not explicitly defined to support "twisted" pair despite alignment with PHY projects that only support twisted-pair.

SuggestedRemedy

Revise the title, and do S&R through document to replace "Single Balanced Pair Ethernet" with "Single Balanced Twisted Pair Ethernet". Also search for "Balanced Pair" and replace with "Balanced Twisted Pair" and search for "pair" and replace with "twisted pair" where appropriate

Response *Response Status* **C**

ACCEPT.

Cl **na** *SC* **na** *P* **9** *L* **3** # i-134

Dove, Daniel Linear Technology

Comment Type **E** *Comment Status* **A** *ez*

I presume the list of sponsor ballot participants will be given to the editor and included in D3.1

SuggestedRemedy

Please include Sponsor Ballot participants

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor's note: The response to this comment was changed from ACCEPT to REVISED, and this comment was not implemented. During comment resolution on D3.0, the remedy to comment i-134 "Please include Sponsor Ballot participants" was accepted, however, the editor does not have the authority to add this list of names at this time. It will be completed at closure of Sponsor Ballot by IEEE-SA".