

IEEE P802.3bu D1.3 Single Pair Power over Datalines 5th Task Force review comments

CI 104 SC 104.6 P 39 L 36 # 2
 Carlson, Steven HSD

Comment Type TR Comment Status D

IEEE 802.3 defines point to point links with a single station at each end of the link. This subclause indicates that a "multi-drop" mode is present for multiple PDs within a PI. This is not compatible with the IEEE 802.3 architecture.

As this is a Task Force review, this will be a general comment on 104.6 SCCP.

1. What is the rational for multi-drop mode?
2. Diagrams and explanation read like an IC data sheet, e.g. implied implementation, not an interoperability specification
3. Use of 64-bit addressing seems wildly unnecessary and inefficient
4. Requirement for 64-bit address requires RAC action
5. PAR Section 6.1b should be a "Yes". It is currently a "No"
6. PD is burdened with a complex Layer 1 signature and classification mechanism
7. SCCP seems to be envisioned as a full communications scheme if the PSE is not powering the link. This is beyond the scope of the PAR.

SuggestedRemedy

Eliminate addressing scheme, which also eliminates the need for RAC action
 Eliminate multi-drop mode
 Redo figures and text to meet IEEE style
 If SCCP is desired as a full communications scheme when the PSE is not powering the link segment, change PAR to reflect this.

Proposed Response Response Status W

CI 104 SC 104.3.3.3 P 24 L 45 # 3
 Chabot, Craig UNH-IOL

Comment Type E Comment Status D

The text refers to section 104.3.6.4. This section does not appear to apply to any of the text describing the wakeup_detected variable.

SuggestedRemedy

Remove "See 104.3.6.4"
 or
 Reference appropriate section.

Proposed Response Response Status W

CI 104 SC 104.3.3.3 P 24 L 43 # 4
 Chabot, Craig UNH-IOL

Comment Type E Comment Status D

"A Boolean variable indicating that the PD is requesting full power at the PI or an external wakeup request has been received by the PSE and that the PSE shall forward the request to the PD."
 is confusing. The Shall only seems to apply to the external wakeup request, and this sentence makes it difficult to write the PICS item.

SuggestedRemedy

Change:
 "A Boolean variable indicating that the PD is requesting full power at the PI or an external wakeup request has been received by the PSE and that the PSE shall forward the request to the PD."
 To:
 "A Boolean variable indicating that the PD is requesting full power at the PI or an external wakeup request has been received by the PSE. If an external wakeup request has been received by the PSE, it shall forward the request to the PD."

OR

Change:
 "A Boolean variable indicating that the PD is requesting full power at the PI or an external wakeup request has been received by the PSE and that the PSE shall forward the request to the PD."
 To:
 ""A Boolean variable indicating that the PD is requesting full power at the PI or an external wakeup request has been received by the PSE."
 and move
 "If an external wakeup request has been received by the PSE, it shall forward the request to the PD."
 to the text for the external_wakeup variable.

Proposed Response Response Status W

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CI 104 SC 104.3.3.3 P 23 L 1 # 5
 Chabot, Craig UNH-IOL

Comment Type E Comment Status D
 All variables should explicitly state the meaning of their possible values.
 For example:
 "option_detect_ted
 This variable indicates if detection can be performed by the PSE during the ted_timer interval.
 Values:FALSE:Do not perform detection during ted_timer interval.
 TRUE:Perform detection during ted_timer interval."
 -from page 631 of 802.3-2012 standard

SuggestedRemedy
 Populate the meaning of values for variables in subclauses 104.3.3.3 and 104.4.3.3.

Proposed Response Response Status W

CI 104 SC 104.4.7 P 39 L 48 # 6
 Chabot, Craig UNH-IOL

Comment Type E Comment Status D
 Poor language in:
 "The MFVS shall consist of current draw equal to or above Ihold_PD for a minimum duration of TMFVS_PD measured at the PD PI followed by an optional MPS dropout for no longer than TMFVDO_PD."

SuggestedRemedy
 Change:
 "equal to or above"
 To:
 "equal to or greater than"

Proposed Response Response Status W

CI 104 SC 104.3.6.2 P 31 L 3 # 7
 Chabot, Craig UNH-IOL

Comment Type ER Comment Status D
 Use of MPS still in text.
 This also occurs on:
 Page35, Line29
 Page35, Line22
 Page35, Line9
 Page39, Line50

SuggestedRemedy
 Change all instances of MPS to MFVS

Proposed Response Response Status W

CI 104 SC 104.7.4 P 51 L 12 # 8
 Chabot, Craig UNH-IOL

Comment Type ER Comment Status D
 The many changes from D1.2 to D1.3 have consequently necessitated changes to the PICS. I have drafted a new, corrected version of the PICS tables.

SuggestedRemedy
 See chabot_3bu_1_1015

Proposed Response Response Status W

CI 104 SC 104.6.3 P 41 L 3 # 9
 Law, David HP Ltd

Comment Type E Comment Status D
 The text 'SCCP communication protocol uses the ...' expanded out would read ' Serial communication classification protocol communication protocol ...' which would seem repetitively redundant.

SuggestedRemedy
 Suggest the text 'SCCP communication protocol uses the ...' be changed to read 'The SCCP uses the ...'.

Proposed Response Response Status W

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CI 104 SC 104.6 P 39 L 33 # 10
 Law, David HP Ltd

Comment Type T Comment Status D

The text seems to currently use PSE and master, and PD and slave, interchangeably. Suggest that the text be written in the terms of a PSE and a PD, and what their requirements are during the SCCP exchange.

See also comment that SCCP is being used of a point to point link.

SuggestedRemedy

- [1] Suggest the first paragraph of subclause 104.6 be changed to read 'The PSE acts as a master during the SCCP exchange, controlling the PD that acts as the slave device.'
- [2] Suggest that the third sentence of the second paragraph of subclause 104.6 be changed to read 'The PD can derive power from the PSE's pull-up current during the SCCP exchange.'
- [3] Suggest that the title of subclause 104.6.1 'SCCP master' be changed to read 'PSE SCCP requirements'.
- [4] Suggest that the text 'The master device shall source a pull-up current in ...' in subclause 104.6.1 be changed to read 'During the SCCP exchange the PSE shall source a pull-up current in ...'.
- [5] Suggest that the sentence '104-7 illustrates the master device block diagram.' in subclause 104.6.1 be changed to read '104-7 illustrates the PSE SCCP block diagram.'
- [6] Suggest the title of Figure 104-7 'SCCP master block diagram' be changed to read 'PSE SCCP block diagram'.
- [7] Suggest that the title of subclause 104.6.2 'SCCP slave' be changed to read 'PD SCCP requirements'.
- [8] Suggest the text ' Slave devices that derive their power from the master's pull-up current should utilize a charge reservoir ...' in the first sentence of subclause 104.6.2 be changed to read 'PDs that derive their power from the PSE's pull-up current during the SCCP exchange should utilize a charge reservoir ...'.
- [9] Suggest the title of Figure 104-8 'SCCP slave block diagram' be changed to read 'PD SCCP block diagram'.
- [10] In subclause 104.6.3 'SCCP signaling' and 104.6.4 'Serial communication classification protocols' replace all instances of 'master' with 'PSE' and 'slave' with 'PD'.

Proposed Response Response Status W

CI 104 SC 104.5 P 38 L 35 # 11
 Law, David HP Ltd

Comment Type T Comment Status X

Subclause 10.2.2 'Shall, should, may, and can' of the '2014 IEEE-SA Standards Style Manual' reads 'Note that the use of the word must is deprecated and shall not be used when stating mandatory requirements; must is used only to describe unavoidable situations.'. As the text is currently written it doesn't seem to describe an unavoidable situation, therefore suggest it be re-written to do so.

SuggestedRemedy

Suggest the text '... the MDI leads must provide isolation between all accessible external conductors, including frame ground (if any), and the non-MDI connector.' be changed to read '... the MDI leads must provide isolation between all accessible external conductors, including frame ground (if any), and the non-MDI connector, so as not to negate the DC isolation provided by the PD.'

Proposed Response Response Status O

CI 104 SC 104.5 P 38 L 35 # 12
 Law, David HP Ltd

Comment Type TR Comment Status X

To ensure application of PoDL power is a broad set of applications suggest that isolation requirements be placed on both PSEs as well as PDs.

SuggestedRemedy

Change the text 'A PD shall ...' to read 'PDs and PSEs shall ...' and the text '... to a PD through ...' to read '... to a PD or PSE through ...'.

Proposed Response Response Status O

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CI 104 SC 104.6 P 39 L 33 # 13
 Law, David HP Ltd

Comment Type T Comment Status D

Since the SCCP is used on a point to point link, I don't see the need to support multiple salve devices and, as far as I can see, the PSE can only accept a single information byte with a PD class since it isn't capable of process multiple PD class responses from a PD.

Further, the inclusion an address in the SCCP message seems unnecessary on a point to point link, and would require a registration process to be defined to allocate these 48 bit addresses, assuming that each address is to be unique. I would note that at the moment the response to item 6.1.b. on the approved IEEE P802.3bu PAR, 'Is the Sponsor aware of possible registration activity related to this project?', is 'No'.

Finally, the exchange of this data to communicate a 8-bit information byte from the PD seems to take in the region of 7.5ms of the 25ms I understand that PoDL has been allocated from the overall maximum 100ms start up time.

SuggestedRemedy

Suggest that SCCP be changed to be based on a master (PSE) communicating with a single slave device (PD) which will remove the need for an address in the exchange and speed up the start up process.

Proposed Response Response Status W

CI 104 SC 104.3.4.1 P 28 L 6 # 14
 Law, David HP Ltd

Comment Type E Comment Status D

Subclause 104.3.3.4 'Timers' defines 'det_timer' as 'A timer used to limit the time for attempting to detect a PD.'

SuggestedRemedy

Based on this suggest that 'Detection timing' should be changed to read 'Detection timer'.

Proposed Response Response Status W

CI 104 SC 104.3.3.3 P 23 L 12 # 15
 Law, David HP Ltd

Comment Type T Comment Status D

The only fault defined for the variable 'fault_detected' is overload, and therefor the only condition that can result in the entry to the 'ERROR' state in the state diagram is an overload.

SuggestedRemedy

Suggest that either the variable 'fault_detected' be renamed 'overload' and the state 'ERROR' be renamed 'OVERLOAD' or addition conditions be added that result in 'fault_detected' being set 'true' such as a short circuit condition.

Proposed Response Response Status W

CI FM SC FM P 3 L 16 # 16
 Law, David HP Ltd

Comment Type ER Comment Status D

The frontmatter text is no up to date.

SuggestedRemedy

Please update the frontmatter text from page 3, line 16 through page 4 line 38 with the content found at <http://ieee802.org/3/WG_tools/templates/index.html>.

Proposed Response Response Status W

CI 1 SC 1.4 P 14 L 7 # 17
 Law, David HP Ltd

Comment Type ER Comment Status D

Suggest that in general definitions that are unique to 1-Pair Power over Data Lines be qualified by the prefix PoDL.

SuggestedRemedy

- [1] Change 'Regulated PSE' to read 'PoDL Regulated PSE' here an throughout the draft.
- [2] Change 'Unregulated PSE' to read 'PoDI Unregulated PSE' here and throughout the draft.

Proposed Response Response Status W

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CI 1 SC 1.4 P 14 L 7 # 18
 Law, David HP Ltd
 Comment Type ER Comment Status D
 I believe that we should be specifying interoperability requirements for a PSE, not the design of the PSE.
 SuggestedRemedy
 [1] Suggest that the text '... that is designed to regulated ...' should be changed to read '... that is required to regulate ...'.
 [2] Suggest that the text '... that is not designed to regulated ...' should be changed to read '... that is not required to regulate ...'.
 Proposed Response Response Status W

CI FM SC FM P 1 L 1 # 21
 Law, David HP Ltd
 Comment Type ER Comment Status D
 IEEE Std 802.3-2012, and its amendments, have all now been superseded by IEEE Std 802.3-2105 approved by the IEEE-SA Standards Board on 3rd September 2015, for the time all references to IEEE Std 802.3-2012 should be changed to read IEEE Std 802.3-201X.
 SuggestedRemedy
 Change IEEE Std 802.3-2012 to read IEEE Std 802.3-201X here and throughout the draft.
 Proposed Response Response Status W

CI 1 SC 1.5 P 14 L 26 # 19
 Law, David HP Ltd
 Comment Type ER Comment Status D
 Suggest that the following be added to the Abbreviations.
 [1] Add 'PoDL Power over Data Lines'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status W

CI 1 SC 1.4 P 14 L 7 # 22
 Law, David HP Ltd
 Comment Type ER Comment Status D
 Subclause 104.1.3 'Relationship of Single-Pair PoDL to the IEEE802.3 architecture' states that 'The PI is encompassed within the MDI' therefore it doesn't seem correct to refer to the 'MDI/PI' and instead.
 SuggestedRemedy
 Change references to 'MDI/PI' to read 'PI'.
 Proposed Response Response Status W

CI FM SC FM P 1 L 7 # 20
 Law, David HP Ltd
 Comment Type ER Comment Status D
 The title of the draft should be updated to closely match the PAR.
 SuggestedRemedy
 Update the title to read 'Draft Standard for Ethernet Amendment: Physical Layer and Management Parameters for Single-Pair Power over Data Lines' here and on page 13, line 6.
 Proposed Response Response Status W

CI 104 SC 104.1 P 19 L 6 # 23
 Law, David HP Ltd
 Comment Type T Comment Status X
 It doesn't seem correct that a 'Power Interface (PI)' is an 'optional entity' since it is an interface, not an entity, and it isn't an option on its own since a PSE or PI always has a PI, although in soem cases the PI may be not be physically instantiated.
 SuggestedRemedy
 Suggest that the first sentence of the first paragraph of subclause 104.1 Overview be changed to read 'This clause defines the functional and electrical characteristics of two optional power entities, a Powered Device (PD) and Power Sourcing Equipment (PSE), for use with supported Ethernet physical layers.'
 Proposed Response Response Status O

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Cl 104 SC 104.3.1 P 22 L 18 # 39
 Law, David HP Ltd

Comment Type E Comment Status X

Subclause 104.3.1 'types' states that '... there are two types of PSEs: a type A PSE ... a type B PSE ... A type A+B ...'. Similarly subclause 104.4.1 'PD types' states that 'There are two types of PDs: a type A ... a type B PD ... A type A+B ...'. in both cases there seem to be three, A, B and A+B.

SuggestedRemedy

Reword as three types, or clarify that a PD or PSE can be both a Type A and a Type B.

Proposed Response Response Status O

Cl 104 SC 104.3.3.5 P 25 L 28 # 40
 Law, David HP Ltd

Comment Type E Comment Status X

The 'PD_information_byte' function points states it is a variable that contains the '... type and class of the PD.' And provides a pointer to Table 104-8 '... for a description of the content' however Table 104-8 then states for the 'Power class' see Table 104-1.

SuggestedRemedy

Suggest a direct pointer to Table 104-1 for 'Power class'.

Proposed Response Response Status O

Cl 104 SC 104.1.4 P 21 L 8 # 41
 Law, David HP Ltd

Comment Type T Comment Status X

I believe that the PHY MDI pins are labelled 'MDI+' and 'MDI-' for 1000BASE-T1 (see Figure 97-2).

SuggestedRemedy

Change 'PHY+' to read 'MDI+' and 'PHY-' to read 'MDI-'.

Proposed Response Response Status O

Cl 104 SC 104.3.1 P 27 L 18 # 42
 Law, David HP Ltd

Comment Type T Comment Status X

Wouldn't a type A PSE that is compatible with a 100BASE-T1 PHY not also be compatible with a 1000BASE-T1 PHY, while a type B PSE would only be compatible with 1000BASE-T1 PHYs?

SuggestedRemedy

See comment.

Proposed Response Response Status O

Cl 104 SC 104.2 P 21 L 29 # 43
 Law, David HP Ltd

Comment Type T Comment Status X

It is not clear to me what the '(a)' and '(b)' in the third row of Table 104-1 is in reference to.

SuggestedRemedy

Please clarify.

Proposed Response Response Status O

Cl 104 SC 104.1.1 P 19 L 32 # 44
 Dove, Daniel Dove Networking Solut

Comment Type E Comment Status X

The double-negative is a bit questionable.

SuggestedRemedy

"Ensures SELV (Safe...)"

Proposed Response Response Status O

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Cl 104 SC 104.1.1 P 19 L 32 # 45
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 Should there be a reference/citation to SELV?
 SuggestedRemedy
 Reference IEC 62282-5-1, ed. 2.0 (2012-09)?
 Proposed Response Response Status **O**

Cl 104 SC 104.3.3.1 P 22 L 33 # 49
 Gardner, Andrew Linear Technology Cor
 Comment Type **ER** Comment Status **X**
 Remove extra 'of' in first sentence of subclause.
 SuggestedRemedy
 See comment.
 Proposed Response Response Status **O**

Cl 104 SC 104.1.1 P 19 L 38 # 46
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 The term "largely unaffected" may draw concerns in WG ballot.
 SuggestedRemedy
 Can we state "will continue to meet BER and other performance requirements"?
 Proposed Response Response Status **O**

Cl 104 SC 104.3.3.3 P 22-24 L # 50
 Gardner, Andrew Linear Technology Cor
 Comment Type **ER** Comment Status **X**
 Arrange state machine variables in alphabetical order.
 SuggestedRemedy
 See comment.
 Proposed Response Response Status **O**

Cl 104 SC 104.1.4 P 21 L 4 # 47
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 Inconsistent capitalization;
 SuggestedRemedy
 Search and Replace "single-pair" with "Single-Pair", also S&R "Single-pair"
 Proposed Response Response Status **O**

Cl 104 SC 104.3.3.3 P 24 L 3 # 51
 Gardner, Andrew Linear Technology Cor
 Comment Type **ER** Comment Status **X**
 'ramp' should be 'ramp-up'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status **O**

Cl 104 SC 104.1.4 P 21 L 4 # 48
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 Inconsistent capitalization;
 SuggestedRemedy
 Search and Replace "single-pair" with "Single-Pair", also S&R "Single-pair"
 Proposed Response Response Status **O**

Cl 104 SC 104.3.3.4 P 24 L 51 # 52
 Gardner, Andrew Linear Technology Cor
 Comment Type **ER** Comment Status **X**
 'a error' should be 'an error'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status **O**

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Cl 104 SC 104.3.3.5 P 25 L 23 # 53
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 do_classification.' should be 'do_classification'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.1.4 P 20 L 20 # 57
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Capitalize type in 'type A' and 'type B'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.3.5 P 25 L 24 # 54
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Remove extra carriage return
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.2 P 22 L 24 # 58
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Cross reference 'Table 104-1.'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.3.5 P 25 L 26 # 55
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Remove extra carriage return
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.3 P 22 L 29 # 59
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Cross reference 'Figure 104-4.'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.3.5 P 25 L 27 # 56
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Add tab before PD_information byte
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.3 P 23 L 42 # 60
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Cross reference '104.3.6.4.'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

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Cl 104 SC 104.3.3 P 24 L 20 # 61
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Cross reference '104.3.6.4'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.4.6.2 P 37 L 31 # 65
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 3.1V<VPI(PD)<3.5 should be in Table 104-6
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.3 P 24 L 37 # 62
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Cross reference '104.3.6.4'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.4.6.2 P 37 L 25 # 66
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 Max PD input current during inrush should be specified here.
 SuggestedRemedy
 See gardner_3bu_x_1015 presentation.
 Proposed Response Response Status O

Cl 104 SC 104.4.3.1 P 32 L 46 # 63
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 tpwr_delay' should be 'tpower_dly'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104A SC 104A.1 P 57 L 9 # 67
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 The informative annex as written is not applicable to the PoDL phantom power architecture.
 SuggestedRemedy
 Either re-write or delete this annex.
 Proposed Response Response Status O

Cl 104 SC 104.4.4 P 35 L 20 # 64
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 Table 104-4 Isignature limit, should be 'Vconnector<Vsig_disable max'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.4.6.5 P 38 L 1 # 68
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Equation 104-1 is truncated by the left margin.
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

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Cl 104 SC 104.4.6.5 P 38 L 14 # 69
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 See comment regarding relevance of 104A.1
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.6 P 28 L 53 # 73
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 n should be 'in'
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.1 P 22 L 16 # 70
 Gardner, Andrew Linear Technology Cor
 Comment Type T Comment Status X
 This subclause is redundant with 104.1.4
 SuggestedRemedy
 Delete 104.3.1
 Proposed Response Response Status O

Cl 104 SC 104.3.6.6 P 31 L 29 # 74
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Table reference needs to be linked.
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.4.1 P 27 L 32 # 71
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Both table references need to be linked.
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.6.8 P 31 L 47 # 75
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 See comment regarding relevance of 104A.1
 SuggestedRemedy
 If 104A.1 is removed, delete this subclause.
 Proposed Response Response Status O

Cl 104 SC 104.3.6 P 28 L 53 # 72
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Table reference needs to be linked.
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.6 P 29 L 14 # 76
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Table reference needs to be linked.
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

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Cl 104 SC 104.3.6.4 P 29 L 52 # 77
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 Subclause 104.3.6.4 is referenced by Ilim in Table 104-3 but there is not baseline text regarding Ilim.
 SuggestedRemedy
 See gardner_3bu_x_1015 presentation.
 Proposed Response Response Status O

Cl 104 SC 104.3.6 P 30 L 25 # 81
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 Subclause 104.3.6.5.1 does not exist.
 SuggestedRemedy
 reference 104.3.6.2.1
 Proposed Response Response Status O

Cl 104 SC 104.3.6 P 30 L 7 # 78
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 Should be 104.3.6.5 instead of 104.3.6.6
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.1 P 19 L 9 # 82
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 Should be 'an' Ethernet physical...
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.3.6 P 30 L 9 # 79
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 Should be 104.3.6.6 instead of 104.3.6.7
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.4.1 P 32 L 23 # 83
 Gardner, Andrew Linear Technology Cor
 Comment Type E Comment Status X
 This subclause is redundant with 104.1.4
 SuggestedRemedy
 Delete 104.4.1
 Proposed Response Response Status O

Cl 104 SC 104.3.6 P 30 L 13 # 80
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 Should be 104.3.6.6 instead of 104.3.6.7
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.4.1 P 32 L 23 # 84
 Gardner, Andrew Linear Technology Cor
 Comment Type ER Comment Status X
 There are 'three' types of PDs.
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

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Cl 104 SC 104.4.3.3 P 33 L 6 # 85
 Gardner, Andrew Linear Technology Cor
 Comment Type T Comment Status X
 The variable 'disconnect' could be confused with the 'DISCONNECT' state
 SuggestedRemedy
 Rename the variable as disconnect_PD?
 Proposed Response Response Status O

Cl 104 SC 104.3.4.3 P 28 L 31 # 89
 Gardner, Andrew Linear Technology Cor
 Comment Type T Comment Status X
 Cbad in Table 104-5 is TBD.
 SuggestedRemedy
 Is Cbad required to fail detection. The tdet_timer should suffice. Consider removing Cbad.
 Proposed Response Response Status O

Cl 104 SC 104.4.3 P 34 L 16 # 86
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 The variable 'present_mvfs' is not used in the PD state machine diagram Figure 104-6.
 SuggestedRemedy
 Replace 'present_mps' with 'present_mvfs' in Figure 104-6.
 Proposed Response Response Status O

Cl 104 SC 104.3.6 P 30 L 36 # 90
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 Reference should be to 104.3.6.2.
 SuggestedRemedy
 See comment.
 Proposed Response Response Status O

Cl 104 SC 104.4.3 P 34 L 36 # 87
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 The function 'do_sccp' is not defined.
 SuggestedRemedy
 Add definition for 'do_sccp.'
 Proposed Response Response Status O

Cl 104 SC 104.3.3 P 23 L 12 # 91
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 fault_detected variable definition needs to be expanded to support faults during sleep.
 SuggestedRemedy
 Add '...or if the PSE is in a current limiting mode for at least TCUT.'
 Proposed Response Response Status O

Cl 104 SC 104.4.4 P 35 L 36 # 88
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 Cbad in Table 104-5 is TBD.
 SuggestedRemedy
 Is Cbad required to fail detection. The tdet_timer should suffice. Consider removing Cbad.
 Proposed Response Response Status O

Cl 104 SC 104.3.3 P 26 L 10 # 92
 Gardner, Andrew Linear Technology Cor
 Comment Type TR Comment Status X
 The potential exists for the PSE to source VSLEEP into a short indefinitely during the IDLE state.
 SuggestedRemedy
 Add fault_detected arc out of the PSE IDLE state.
 Proposed Response Response Status O

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Cl 104 SC 104.3.6.5 P 31 L 21 # 93
 Gardner, Andrew Linear Technology Cor
 Comment Type **TR** Comment Status **X**
 The tinrush timer and tpon timer seem to be redundant.
 SuggestedRemedy
 See gardner_3bu_x_1015 presentation.
 Proposed Response Response Status **O**

Cl 104 SC 104.6.3 P 41 L 3 # 97
 Gardner, Andrew Linear Technology Cor
 Comment Type **ER** Comment Status **X**
 'communication protocol' is redundant.
 SuggestedRemedy
 'SCCP uses the"
 Proposed Response Response Status **O**

Cl 104 SC 104.5.1 P 38 L 35 # 94
 Gardner, Andrew Linear Technology Cor
 Comment Type **TR** Comment Status **X**
 Need to resolve use of must in this subclause.
 SuggestedRemedy
 Define a level of DC isolation (Volts and ohms?) and use 'shall.'
 Proposed Response Response Status **O**

Cl 104 SC 104.6.3.4 P 43 L 1 # 98
 Gardner, Andrew Linear Technology Cor
 Comment Type **TR** Comment Status **X**
 The timing parameters as defined for SCCP are not consistent with the detection current and PSE output and PD input capacitances.
 SuggestedRemedy
 re-work timing to be consistent with PoDL system paramters or remove SCCP from the standard.
 Proposed Response Response Status **O**

Cl 104 SC 104.5.3 P 38 L 38 # 95
 Gardner, Andrew Linear Technology Cor
 Comment Type **TR** Comment Status **X**
 Need to add DC isolated PHY transmitter test fixtures to Clause 104.
 SuggestedRemedy
 See comment.
 Proposed Response Response Status **O**

Cl 104 SC 104.6.4.4 P 47 L 13 # 99
 Gardner, Andrew Linear Technology Cor
 Comment Type **TR** Comment Status **X**
 SCCP function commands are TBD.
 SuggestedRemedy
 Add a function commands that allow the PSE to readback PD status and perform mutual identification.
 Proposed Response Response Status **O**

Cl 104 SC 104.6 P 39 L 36 # 96
 Gardner, Andrew Linear Technology Cor
 Comment Type **E** Comment Status **X**
 First sentence, use serial communication instead of SCCP.
 SuggestedRemedy
 See comment.
 Proposed Response Response Status **O**

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Cl 104 SC 104.3.4.1 P 28 L 7 # 100
 Gardner, Andrew Linear Technology Cor
 Comment Type **TR** Comment Status **X**
 The max value for Tdet is TBD.
 SuggestedRemedy
 See gardner_3bu_x_1015 presentation.
 Proposed Response Response Status **O**

Cl 104 SC 104.4.6 P 36 L 50 # 101
 Gardner, Andrew Linear Technology Cor
 Comment Type **TR** Comment Status **X**
 Cin,detect is TBD.
 SuggestedRemedy
 See gardner_3bu_x_1015 presentation.
 Proposed Response Response Status **O**

Cl 104 SC 104.4.6 P 36 L 53 # 102
 Gardner, Andrew Linear Technology Cor
 Comment Type **TR** Comment Status **X**
 tpwr_dly is TBD
 SuggestedRemedy
 See gardner_3bu_x_1015 presentation.
 Proposed Response Response Status **O**

Cl 104.3 SC table 104-3 P 23 L 16 # 103
 Matola, Larry Delphi
 Comment Type **TR** Comment Status **X**
 clause may be wrong as I am commenting early (draft 1.2) due to vacation unable to wait for draft 1.3
 sleep voltage left on from PSE to bias PD typically in Autoomotive applications hot plug is not doen with live voltage. Open circuit voltage can also lead to service accidents (stray screwdriver) and potential galvanic corrosion (unprotected open connector exposed to moisture)

SuggestedRemedy
 suggest adding timer to turn off sleep bias if relatively low resistance is detected as falut mode (short circuit up to some small resistance TBD) to help prevent condition listed
 Proposed Response Response Status **O**

Cl 104 SC 104.4.3.1 P 26 L 27 # 104
 Matola, Larry Delphi
 Comment Type **TR** Comment Status **X**
 clause and page may be wrong due to comment against draft 1.2 will be out of office during 1.3 voting period
 requirement for PoDL poer to be isolated from chassis (isolated to data lines) may be problematic if adding Ethernet to existing design. Typical Auto design standards allow DC groud to chassis (most times encourage local grounding for EMC reasons)
 SuggestedRemedy
 suggest putting DC isolation as prt of optional or reference design at PD or PSE (whichever is more cost effective) so potential circuitry does not have to be redesigned or revalidated. If isolation was added PSE or PD ethernet circuit existing module circuitry would not need to be revised.
 Proposed Response Response Status **O**

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Cl 104 SC 104.3.1 P 22 L 19 # 106
 Wienckowski, Natalie General Motors
 Comment Type E Comment Status X
 The text does not use consistent wording.
 SuggestedRemedy
 Change: A type A+B PSE is compatible with both 100BASE-T1 Ethernet and 1000BASE-T1 PHYs.
 To: A type A+B PSE is compatible with both 100BASE-T1 PHYs and 1000BASE-T1 PHYs.
 Proposed Response Response Status O

Cl 104 SC 104.3.3.1 P 22 L 33 # 107
 Wienckowski, Natalie General Motors
 Comment Type E Comment Status X
 Unintended duplicate word.
 SuggestedRemedy
 Change: "Prior to application of normal operating voltage at the PI, the PSE performs detection in order to verify that a valid PD is present."
 To: "Prior to application of the normal operating voltage at the PI, the PSE performs detection in order to verify that a valid PD is present."
 Proposed Response Response Status O

Cl 104 SC 104.3.3.4 P 24 L 51 # 108
 Wienckowski, Natalie General Motors
 Comment Type E Comment Status X
 Incorrect use of "a" instead of "an".
 SuggestedRemedy
 Change: "A timer used to regulate a subsequent attempt to power a PD after a error condition that causes a fault."
 To: "A timer used to regulate a subsequent attempt to power a PD after an error condition that causes a fault."
 Proposed Response Response Status O

Cl 104 SC 104.3.6 P 28 L 53 # 109
 Wienckowski, Natalie General Motors
 Comment Type E Comment Status X
 typo
 SuggestedRemedy
 Change: "When the PSE provides power to the PSE PI, it shall conform to the electrical limits n Table 104-3."
 To: "When the PSE provides power to the PSE PI, it shall conform to the electrical limits in Table 104-3."
 Proposed Response Response Status O

Cl 104 SC 104.4.3.3 P 33 L 29 # 110
 Wienckowski, Natalie General Motors
 Comment Type E Comment Status X
 There is a space after "PD" before the "." as the "." is on the next line.
 SuggestedRemedy
 Remove extra space at end of sentence before "."
 Proposed Response Response Status O

Cl 104 SC 104.4.6.5 P 38 L 1 # 111
 Wienckowski, Natalie General Motors
 Comment Type E Comment Status X
 There seems to be some kind of formatting issue or pdf conversion issue. The start of Pport_PD is missing.
 SuggestedRemedy
 Correct formatting issue.
 Proposed Response Response Status O

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CI 104 SC 104.2 P 21 L 29 # 112
 Wienckowski, Natalie General Motors
 Comment Type T Comment Status X
 Table 104-1: Do the "(a)" and "(b)" refer to the "A" and "B" system types defined in 104.1.4? If they do change "(a)" to "A" and "(b)" to "B" in the column headings. If they do not, change "(a)" to "(i)" and "(b)" to "(ii)" or some other designation that cannot be confused with the types.
 SuggestedRemedy
 See options in Comment.
 Proposed Response Response Status O

CI 104 SC 104.4.6 P 36 L 13 # 113
 Wienckowski, Natalie General Motors
 Comment Type T Comment Status X
 What kind of Unit is "App"?
 Is this supposed to represent "Amps peak-peak"?
 SuggestedRemedy
 Change to Ap-p, where "p-p" is a subscript.
 Proposed Response Response Status O

CI 104 SC 104.3.6.6 P 31 L 23 # 114
 Gardner, Andrew Linear Technology
 Comment Type TR Comment Status X
 Tinrush and Tpon appear to be overlapping timers. In the PSE state machine, Tpon is used to limit the power-up timer, but subclause 104.3.6.6 refers to Tinrush instead.
 SuggestedRemedy
 Rename Tpon Tinrush in the state machine, and delete the Tpon timer definition.
 Proposed Response Response Status O

CI 104 SC 104.3.3.3 P 24 L 34 # 115
 Gardner, Andrew Linear Technology
 Comment Type TR Comment Status X
 wakeup_detected is not used by the PSE state machine.
 SuggestedRemedy
 Delete this variable definition.
 Proposed Response Response Status O

CI 104 SC 104.3.6 P 29 L 46 # 116
 Gardner, Andrew Linear Technology
 Comment Type TR Comment Status X
 The range of lcut is too wide.
 SuggestedRemedy
 See gardner_3bu_x_1015.pdf
 Proposed Response Response Status O

CI 104 SC 104.2 P 21 L 21 # 132
 Dove, Daniel Dove Networking Solut
 Comment Type TR Comment Status X
 I have a concern about putting Link Segment first as it calls for the various system classes to define critical parameters, but you have not defined the system classes yet.
 SuggestedRemedy
 Move it behind the system class info.
 Proposed Response Response Status O

CI 104 SC 104.3 P 22 L 15 # 133
 Dove, Daniel Dove Networking Solut
 Comment Type TR Comment Status X
 "no longer required" does not prevent application of power/voltage to the PD
 SuggestedRemedy
 replace "no longer required" with "not to be applied".
 Proposed Response Response Status O

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CI 104 SC 104.3 P 22 L 19 # 134
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 the spec directs electrical and logical behavior
 SuggestedRemedy
 replace "electrical" with "electrical and logical"
 Proposed Response Response Status **O**

CI 104 SC 104.3.3.4 P 25 L 6 # 137
 Dove, Daniel Dove Networking Solut
 Comment Type **ER** Comment Status **X**
 A timer limits the time allowed for an operation to occur
 SuggestedRemedy
 replace "time for" with "time allowed for"
 Proposed Response Response Status **O**

CI 104 SC 104.3.3.3 P 23 L 24 # 135
 Dove, Daniel Dove Networking Solut
 Comment Type **T** Comment Status **X**
 This may be too general of a statement. There are other sources of fault that may not cause this specific signal, right?
 SuggestedRemedy
 I don't have a specific recommendation other than to ensure this text covers all cases, or is specifically accurate.
 Proposed Response Response Status **O**

CI 104 SC 104.3.3.5 P 26 L 1 # 138
 Dove, Daniel Dove Networking Solut
 Comment Type **ER** Comment Status **X**
 There is no subclause identified for the state diagram itself. It shows up in the functions subclause.
 SuggestedRemedy
 Add a subclause for the state diagram
 Proposed Response Response Status **O**

CI 104 SC 104.3.3.4 P 25 L 3 # 136
 Dove, Daniel Dove Networking Solut
 Comment Type **ER** Comment Status **X**
 A timer limits the time allowed for an operation to occur
 SuggestedRemedy
 replace "time for" with "time allowed for"
 Proposed Response Response Status **O**

CI 104 SC 104.3.3.5 P 26 L 1 # 139
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 Should Fault_Detected=FALSE be asserted here?
 SuggestedRemedy
 Add Fault_Detected=FALSE
 Proposed Response Response Status **O**

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CI 104 SC 104.3.6 P 28 L 13 # 140
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 TBD in table
 SuggestedRemedy
 All TBDs must be removed prior to D2.0. I don't have the replacement value, just wanted to identify this point. Search & Insert values for all TBDs.
 Proposed Response Response Status **O**

CI 104 SC 104.3.6.1 P 31 L 25 # 143
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 "may remove" does not indicate any requirement. Is there a requirement? If so, a shall statement should apply.
 SuggestedRemedy
 If a "shall remove" requirement exists, please insert.
 Proposed Response Response Status **O**

CI 104 SC 104.3.6.1 P 30 L 52 # 141
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 It seems that a time value should be identified here. It does not constrain how fast or slow this value shall decay.
 SuggestedRemedy
 Insert a time value or reference the appropriate time value
 Proposed Response Response Status **O**

CI 104 SC 104.3.6.1 P 31 L 25 # 144
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 "remove power" - I notice that globally the term apply and remove power has been changed to "normal operating voltage" and so I assume this was missed.
 SuggestedRemedy
 If appropriate, replace "power" with "normal operating voltage" or equivalent.
 Proposed Response Response Status **O**

CI 104 SC 104.3.6.1 P 31 L 6 # 142
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 It seems that a time value should be identified here. It does not constrain how fast or slow this value shall decay.
 SuggestedRemedy
 Insert a time value or reference the appropriate time value
 Proposed Response Response Status **O**

CI 104 SC 104.6.1 P 42 L 44 # 145
 Dove, Daniel Dove Networking Solut
 Comment Type **TR** Comment Status **X**
 and ROM... is this essential? It could be PROM, RAM, etc. I think that all falls under the term LOGIC, so would delete this.
 SuggestedRemedy
 Delete words "and ROM"
 Proposed Response Response Status **O**

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CI 104 SC 104.6.1 P 42 L 44 # 146

Dove, Daniel Dove Networking Solut

Comment Type TR Comment Status X

and ROM... is this essential? It could be PROM, RAM, etc. I think that all falls under the term LOGIC, so would delete this.

SuggestedRemedy

Delete words "and ROM"

Proposed Response Response Status O