IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

Maguire, Valerie
Copperopolis; aff'li w/ CME Consulting

Comment Type E
Comment Status X

"Half duplex" appears 282 times in 802.3-2022 and "half-duplex" appears 37 times.

SuggestedRemedy
Grant Editor's license to replace all occurrences of "half-duplex" with "half duplex".

Locations found with a search include: P38 - L8, P38 - L9, P54 - L24, P56 - L10 (2 locations)

Proposed Response Response Status O

Maguire, Valerie
Copperopolis; aff'li w/ CME Consulting

Comment Type E
Comment Status X

This condition is an event in time, not in location.

SuggestedRemedy
Replace "Where the MPD PI..." with "When the MPD PI..."

Proposed Response Response Status O

Maguire, Valerie
Copperopolis; aff'li w/ CME Consulting

Comment Type E
Comment Status X

A short description of the operation of 10BASE-T1M is provided.

SuggestedRemedy
Delete Editor's note on line 3-7.

Proposed Response Response Status O

Jones, Chad
Cisco Systems, Inc.

Comment Type E
Comment Status X

off page connectors are not consistent. On page 42, they have arrows into the pentagon, on page 43 they do not. Looking at Clause 145, the convention should be to have the arrow head. Therefore, they need added to Figure 148-4 part b in 4 places
We could decide to remove the arrows, but that means all my follow on comments will have to be AIP and swapped to give instructions to remove the arrowheads that I am not commenting on.

SuggestedRemedy
add arrowheads to the lines going to the off page connectors in 4 places:
pg 43, line 18 ("C"); line 22 ("B"); line 29 ("D"); line 52 ("B")

Proposed Response Response Status O

Jones, Chad
Cisco Systems, Inc.

Comment Type E
Comment Status X

the transition from COMMIT to ABORT, the arrowhead does not touch the boundary of ABORT.

SuggestedRemedy
make arrowhead for the transition from COMMIT to ABORT touch the boundary of ABORT.

Proposed Response Response Status O

Jones, Chad
Cisco Systems, Inc.

Comment Type E
Comment Status X

this off page connector is a circle. Should be a pentagon? Does the circle mean something different?
Also, the pentagons on this page "point" the wrong way. The tip of the pentagon should point the same way as the arrow?

SuggestedRemedy
fix the off page connectors in Fig 168-5, part a (pg 65): B (line 4) is a pentagon pointing in, C (line 22) and A (line 51) are pointing out part b (pg 66): A (line 1) and C (line 9) pentagon pointing in, B (line 34) pentagon pointing out

Proposed Response Response Status O
Comment Type E  Comment Status X

off page connectors, circles and pentagons pointing the wrong way

SuggestedRemedy

fix the off page connectors in Fig 168-7, part a (pg 70): B (line 6) is a pentagon pointing in, D (line 17) and A (line 48) are pointing out
part b: A (line 1) and D (line 26) pentagon pointing in, B (line 22), B (line 35), B (line 44) pentagon pointing out

Comment Type E  Comment Status X

Didn't we agree to delete this editors note last cycle? Regardless, this note has served its purpose and is no longer needed. Delete

SuggestedRemedy

Delete the editors note on pg 83, line 3

Comment Type E  Comment Status X

rouge "0" and "180" floating in the drawing. Delete these.

SuggestedRemedy

Delete the "0" and "180" that seem to have no purpose in Fig 168-13

Comment Type E  Comment Status X

Text is awkwardly spaced, looks like spacing setting is set to "justify" instead of "align left". Also on page 87, line 5

SuggestedRemedy

change line spacing attributes to match the surrounding text, i.e. "align left" instead of "whole line justify".

Comment Status D/ dispatched  A/ accepted  R/ rejected  RESPONSE STATUS: O/ open  W/ written  C/ closed  Z/ withdrawn  SORT ORDER: Comment ID
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

Proposed Response

**Comment 169**

**SC 169.1**

**P96**

**L9**

**# [175]**

Jones, Chad
Cisco Systems, Inc.

**Comment Type** E

**Comment Status** X

"MPoE is intended to provide a single pair Ethernet Physical Layer device with an interface to both the power and data." - we have a way to power SPE devices in clause 104. This is powering multidrop SPE devices, so we need to add multidrop to this sentence.

**Suggested Remedy**

add multidrop to sentence: MPoE is intended to provide a MULTIDROP single pair Ethernet Physical Layer device with an interface to both the power and data.

**Proposed Response**

Response Status O

---

**Comment 169.1.2**

**P96**

**L41**

**# [175]**

Jones, Chad
Cisco Systems, Inc.

**Comment Type** E

**Comment Status** X

"MPoE is an optional power entity to be used in conjunction with supported single pair Ethernet Physical Layers." - do we need multidrop in this sentence?

**Suggested Remedy**

add multidrop to sentence: MPoE is an optional power entity to be used in conjunction with supported MULTIDROP single pair Ethernet Physical Layers.

**Proposed Response**

Response Status O

---

**Comment 169.1.2**

**P96**

**L43**

**# [177]**

Jones, Chad
Cisco Systems, Inc.

**Comment Type** E

**Comment Status** X

We've added MPI and the first appearance is in Fig 169-1 but we don't define it.

**Suggested Remedy**

Add a new second-to-last sentence in the first paragraph of 169.1.2: The power is applied to the Multidrop Power Interface (MPI).

**Proposed Response**

Response Status O

---

**Comment 169.4**

**SC 169.4**

**P98**

**L42**

**# [179]**

Jones, Chad
Cisco Systems, Inc.

**Comment Type** E

**Comment Status** X

item e), we added react in the last cycle. Reading again it should have been "react to".

**Suggested Remedy**

Add "to" in item e): "To sense, react TO, and recover from…"

**Proposed Response**

Response Status O

---

**Comment 169.4.3**

**SC 169.4.3**

**P99**

**L18**

**# [180]**

Jones, Chad
Cisco Systems, Inc.

**Comment Type** E

**Comment Status** X

PI should be MPI.

**Suggested Remedy**

replace PI with MPI.

**Proposed Response**

Response Status O
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

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

More off page transitions without arrowhead on the connecting lines.

*Suggested Remedy*

- add arrowhead in 5 places: Pg 103 A (line 52) and C (line 52); page 104 A (line 41), D (line 43), D (line 52)

**Proposed Response  Response Status: O**

---

**Comment ID: 182**

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

Should we point the readers where to find info about overload, short circuit, or other fault? Additionally, we remove power because of the absence of MPS (or TPS). Add that here too.

*Suggested Remedy*

- change to: "Additionally, while voltage is applied, the MPSE monitors the current drawn and removes power if it detects an overload (see 169.4.9), short-circuit or other fault (see 169.4.10), or for the absence of MPS (See 169.4.11)" [or TPS - dependent on other decisions].

**Proposed Response  Response Status: O**

---

**Comment ID: 183**

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

the text "is presenting a discover low event voltage in a DISCOVERY_LOW ..."we have several DISCOVERY_LOW states. Should we be more explicit?

Seems to be a convention in the next paragraph to simply put an "x" at the end.

*Suggested Remedy*

- change DISCOVERY_LOW to DISCOVERY_LOWx

**Proposed Response  Response Status: O**
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

**Comment ID 187**

**Comment Type**: E

**Comment Status**: X

**Proposed Response**

Jones, Chad  
Cisco Systems, Inc.

- PI should be MPI.
- Change PI to MPI

**Comment ID 188**

**Comment Type**: E

**Comment Status**: X

- Need an "if" before "short_circuit_detected is true" but I think this is better as a bulleted list.
- Either add to "...if overload_detected is TRUE, IF short_circuit_detected is TRUE, or if...
- OR bulleted:
  - Full operating voltage shall be removed from the TCI for any of the following reasons:
    - In the absence of the MPD MPS
    - If overload_detected is TRUE
    - If short_circuit_detected is TRUE
    - If commanded to do so by a management entity.

**Proposed Response**

Jones, Chad  
Cisco Systems, Inc.

- Add comma after TRUE on line 1.
- Add comma after FALSE on line 4.
- Delete extra period at end of line 5.

**Comment ID 190**

**Comment Type**: E

**Comment Status**: X

- "Where the MPD PI is not exposed, current values are calculated from observable currents at TC1 and TC2." Don’t we also need to know the voltages?

**Suggested Remedy**

- Change to: "Where the MPD PI is not exposed, values are calculated from observable voltages and currents at TC1 and TC2."

**Proposed Response**

Jones, Chad  
Cisco Systems, Inc.

- Add arrowhead in 56 places: part a page 113, C (line 51), A and B (line 53); part b page 114, A (line 47), B (line 52); part c page 115, B (line 38)

**Comment ID 191**

**Comment Type**: E

**Comment Status**: X

- More off page transitions without arrowhead on the connecting lines.

**Suggested Remedy**

- Add arrowhead in 56 places: part a page 113, C (line 51), A and B (line 53); part b page 114, A (line 47), B (line 52); part c page 115, B (line 38)

**Proposed Response**

Jones, Chad  
Cisco Systems, Inc.

- Three things here:
  - Need a comma after TRUE in the first paragraph.
  - Need a comma after FALSE in the second paragraph.
  - Two periods at the end of the second paragraph.

**Suggested Remedy**

- Add comma after TRUE on line 1. Add comma after FALSE on line 4. Delete extra period at end of line 5.

**Proposed Response**

Jones, Chad  
Cisco Systems, Inc.
Comment Type: E  Comment Status: X

the text "...until VMPD crosses Vtype0_th and Tinrush_backoff time...", the table above has Vtype0_th and Vtype1_th. Need to genericize.

SuggestedRemedy
change "Vtype0_th" to "VtypeX_th"

Proposed Response Response Status O

Comment Type: T  Comment Status: X

last cycle we changed MPS to TPS (likely an attempt to prevent confusing MPS and MPSE). I don’t mind either term but we need to pick one and be consistent. The PSE section had MPS.

SuggestedRemedy
Either search document for MPS and replace with TPS, with editorial license to adjust any text around (i.e. to replace “maintain” with “transmit” as needed)
OR
replace transmit with maintain and TPS with MPS in this section, with editorial license to adjust any other occurrences of TPS outside of 169.5.5.3. (search implies TPS is only found in 169.5.5.3)

Proposed Response Response Status O

Comment Type: T  Comment Status: X

"An MPSE may transition between Type 0 and Type 1 during IDLE"*: no reason to enumerate type 0 and type 1 in this sentence. Genericizing this prepares the text for added types, in case we expand voltage or current.

SuggestedRemedy
change: "An MPSE may transition between Type 0 and Type 1 during IDLE" to: "An MPSE may transition between types during IDLE"

Proposed Response Response Status O

Comment Type: T  Comment Status: X

Table 169-1. As the channel is the same for each type, there is no reason one could supply 1A and the other could not. Also, typo in variable name: ITCI_MSPE(min) - MSPE should be MPSE.

SuggestedRemedy
Change 941 to 1000 in ITCI_MSPE(min)
Change ITCI_MSPE(min) to ITCI_MPSE(min)

Proposed Response Response Status O

Comment Type: T  Comment Status: X

having the unit loads set to 1 and 2 W means systems cannot fully allocate the available power. Need to lower this to something that allows finer adjusts.

SuggestedRemedy
Change “For Type 0 MPDs, one unit load represents 1W. For Type 1 MPDs, one unit load represents 2W.
To: "For all MPD Types 1, one unit load represents 0.5W.” AND change last row of Table 169-1 to from 1 and 2 to one merged cell of 0.5.

Proposed Response Response Status O

Comment Type: T  Comment Status: X

Table 169-1. See related presentation.
With the change to 1A for both types, several items in this table change.

SuggestedRemedy
for 26V min PSEs, VMPDmin is 14V, PMPSE(min) is 14W, new item PMPSE(max) is 24.8W
for 45V min PSEs, VMPDmin is 33V, PMPSE(min) is 33W, new item PMPSE(max) is 43.8W

Proposed Response Response Status O
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

**Comment ID 199**

<table>
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<th>L</th>
<th>Comment Type</th>
<th>Comment Status</th>
<th>Suggested Remedy</th>
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</table>
| 169 | 169.3 | P98 | 22 | T | X | Suggest NOT naming system types a generic 0 or 1. Expansion will not be logical (i.e. in order from lowest to highest). If this is successful, we WILL be asked to add more types. I recommend we name the type based on the minimum PSE voltage followed by the current.

**Proposed Response**

**Response Status**

O

---

**Comment ID 200**

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<th>Suggested Remedy</th>
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</table>
| 169 | 169.5.4.8 | P107 | 9 | T | X | Table 169-1 system type row. Change "0" to "26-1" Change "1" to "45-1" editors given license to change throughout clause 169 in case some are not captured by subsequent comments.

**Proposed Response**

**Response Status**

O

---

**Comment ID 201**

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</table>
| 169 | 169.5.1 | P108 | 27 | T | X | if comment against pg 98 line 22 was accepted, change: "Type 0" to "Type 26-1", "Type 1" to "Type 45-1" item 2: change P(MPSE_16U) to P(MPSE) item 2: change 26 to 14, change 42 to 33, change 100 for type 0 to 24.8, change 100 for type 1 to 43.8

**Proposed Response**

**Response Status**

O

---

**Comment ID 202**

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<th>Comment Status</th>
<th>Suggested Remedy</th>
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</table>
| 169 | 169.5.5 | P117 | 10 | T | X | Table 169-1 needs updates if previous comments were accepted.

**Proposed Response**

**Response Status**

O

---

**Comment ID 203**

<table>
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<th>SC</th>
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<th>Suggested Remedy</th>
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</table>
| 169 | 169.5.5.2 | P118 | 11 | T | X | if lowering PSE unit load to 0.5W was accepted, need the same change here.

**Proposed Response**

**Response Status**

O
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

**Comment ID 204**

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<th>P9</th>
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**Comment Type** E  **Comment Status** X

- Stds board secretary is now Alpesh Shah

**SuggestedRemedy**
Change Konstantinos Karachalios to Alpesh Shah

**Proposed Response**  **Response Status** O

---

**Comment ID 205**

<table>
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**Comment Type** E  **Comment Status** X

- "and optional provision of power over single balanced pair multidrop mixing segments based on the 10BASE-T1S specified in Clause 147 of IEEE Std 802.3-2022" doesn't read right, it sounds like the Provision of power is based on clause 147

**SuggestedRemedy**
Replace Amendment description with "Amendment X- This amendment includes changes to IEEE Std 802.3-2022 and adds Clause 168 and Clause 169. This amendment adds Physical Layer specifications and management parameters for enhancement of multidrop 10 Mb/s operation based on the 10BASE-T1S PHY specified in Clause 147 of IEEE Std 802.3-2022, and specifies optional provision of power over single balanced pair mixing segments.

**Proposed Response**  **Response Status** O

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**Comment ID 206**

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

- Noone has suggested new normative references.

**SuggestedRemedy**
Delete Section 1.3 and editing instruction (lines 3 to 7) from the draft.

**Proposed Response**  **Response Status** O

---

**Comment ID 207**

<table>
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**Comment Type** E  **Comment Status** X

- Multidrop Powered Device and Multidrop Power Sourcing Equipment definitions need to be bold.

**SuggestedRemedy**
Change format so the words defined in 1.4.405a and 1.4.405b are bold.

**Proposed Response**  **Response Status** O

---

**Comment ID 208**

<table>
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**Comment Type** T  **Comment Status** X

- Editor's note has served its purpose of evaluation by several cycles.

**SuggestedRemedy**
delete editors note

**Proposed Response**  **Response Status** O

---

**Comment ID 209**

<table>
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**Comment Type** E  **Comment Status** X

- The new text here is just a duplicate of the table. The change is good, as the paragraph is clunky, but perhaps we can do better. Suggest we do not duplicate the contents of Table 47-178.

**SuggestedRemedy**
Replace "The mapping of bits is as follows:..." (and subsequent list) with "See description in Table 45-178 for the mapping of bits."

**Proposed Response**  **Response Status** O
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

Comment ID 210

Zimmerman, George
CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type E Comment Status X

Editing instruction is imprecise. The new section will not be right after 79.3.8, but rather, after the last subsection in 79.3.8, which is 79.3.8.3

Suggested Remedy
Change 79.3.8 to 79.3.8.3 in editing instruction.

Proposed Response Response Status O

Comment ID 211

Zimmerman, George
CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type T Comment Status X

"of the local IEEE 802.3 LAN" - what is the "local LAN" I think this should say the "local IEEE 802.3 LAN station" as 79.3.9.1 says, but I'm still not sure what "local LAN station" is.

Suggested Remedy
Insert "station" after LAN on line 45. Consider whether the word "local" is needed on lines 41 and 45

Proposed Response Response Status O

Comment ID 212

Zimmerman, George
CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type T Comment Status X

"An LLDPDU should contain no more than one PLCA TLV" - can it contain more than one? If so, how is that represented? I thought one node has one PLCA node ID...

Suggested Remedy
Change "should contain no more than one" to "shall contain no more than one"

Proposed Response Response Status O

Comment ID 213

Zimmerman, George
CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type E Comment Status X

"The TSSI is defined for 10BASE-T1S (see Clause 147) in full-duplex and point-to-point half-duplex modes of operation, as well as Clause 168 in half-duplex operation, and for other PHY types in full-duplex mode." - if it works for clause 168, it works for clause 147 in multidrop mode; I believe the reason 802.3.de did not add in multidrop here was because of the project being scope-limited to point-to-point.

Suggested Remedy
Change sentence to read "The TSSI is defined for 10BASE-T1S (see Clause 147) in full-duplex and point-to-point half-duplex modes of operation, as well as 10BASE-T1S / M (Clause 147 and Clause 168) in half-duplex multidrop operation, and for other PHY types in full-duplex mode;"

Proposed Response Response Status O

Comment ID 214

Zimmerman, George
CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type E Comment Status X

After having reviewed the draft, Delete item 3 in editor's note - no longer needed.

Suggested Remedy
Delete item 3 in editor's note

Proposed Response Response Status O

Comment ID 215

Zimmerman, George
CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type E Comment Status X

Note has been answered with text and is no longer needed.

Suggested Remedy
Delete Editor's note at 168.2

Proposed Response Response Status O
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

Cl 168 SC 168.4.4 P36 L36 # 216
Zimmerman, George  CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type  T  Comment Status  X
Register 45.2.3.1.2 doesn't reference clause 168 or even clause 147. This needs fixing.

Suggested Remedy
Add 45.2.3.1.2 to the draft, with an instruction to change as follows: (<UL> indicates underline start or stop)
"When the <UL>10BASE-T1M/S, <UL>100BASE-T1, any MultiGBASE-T, or the 5/10GBASE-R mode of operation is selected for the PCS using the PCS type selection field (3.7.3.0), the PCS shall be placed in a loopback mode of operation when bit 3.0.14 is set to a one. When bit 3.0.14 is set to a one, the <UL>10BASE-T1M/S, <UL>100BASE-T1, 5/10GBASE-R, or any PCS in the MultiGBASE-T set shall accept data on the transmit path and return it on the receive path. The speed of the loopback is selected by the PCS control 1 (register 3.0) defined in 45.2.3.1. The specific behavior of the 10BASE-T1S PCS during loopback is specified in 147.3.4. The specific behavior of the 10BASE-T1M PCS during loopback is specified in 168.4.4.<UL> the 100BASE-T1 PCS during loopback is specified in 96.3.5. The specific behavior of the 5/10GBASE-R PCS during loopback is specified in 49.2. The specific behavior for the 10GBASE-T PCS during loopback is specified in 55.3.7.3. The specific behavior for the 25GBASE-T and 40GBASE-T PCS during loopback is specified in 113.3.7.3. The specific behavior for the 2.5GBASE-T or 5GBASE-T PCS during loopback is specified in 126.3.7.3. For all other port types, the PCS loopback functionality is not applicable and writes to this bit shall be ignored and reads from this bit shall return a value of zero."

Proposed Response  Response Status  O

Cl 168 SC 168.6.2 P76 L9 # 218
Zimmerman, George  CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type  E  Comment Status  X
TBDs are not needed, name of the register is 10BASET1M/S test mode register, and the location should be 45.2.1.236

Suggested Remedy
Delete TBDs (2 places), change "10BASE-T1M test mode control" to "10BASE-T1M/S test mode control", and change 45.2.1.186.1.1 to an active xref to 45.2.1.236
Make same changes in PICS PMAE2 (168.12.4.5.2, P92 L9)

Proposed Response  Response Status  O

Cl 168 SC 168.8 P81 L28 # 219
Zimmerman, George  CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type  E  Comment Status  X
Editor's note has been answered by text, no longer needed.

Suggested Remedy
Delete editor's note below 3rd paragraph of 168.8 (lines 27-32)

Proposed Response  Response Status  O

Cl 168 SC 168.8 P81 L21 # 220
Zimmerman, George  CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type  T  Comment Status  X
We no longer specify anything to TC3. Referencing it here has no purpose.

Suggested Remedy
Delete "(TC3)" from 2nd paragraph of 168.8 (P81 L21), also delete TC3 from Figure 168-17

Proposed Response  Response Status  O
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

Comment Type: E
Comment Status: X

Zimmerman, George
CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Rewrite to make it clear that a stub is not part of the mixing segment:

SuggestedRemedy
Change "where each TCI has two connections on the mixing segment, one facing in the direction of left edge termination of the mixing segment (TC1), and one facing in the direction of the right edge termination of the mixing segment (TC2), and a two-conductor connection facing the PMA (and any associated stub or service loop) (TC3) (see Figure 168–18)." to "where each TCI has two connections on the mixing segment, one facing in the direction of left edge termination of the mixing segment (TC1), and one facing in the direction of the right edge termination of the mixing segment (TC2), and a two-conductor connection facing the PMA (see Figure 168-18)."

If implemented with an associated stub or service loop, that wiring is specified specifically to the DTE, and compliance of the attached DTE specified at points TC1 and TC2, including the stub or service loop."

Proposed Response
Response Status: O

Comment ID: 222
Page 11 of 19
6/9/2024 8:23:53 AM

TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Comment ID
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

**Comment 227**

**Comment ID:** 227  
**Author:** Zimmerman, George  
**Affiliation:** CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem  
**Comment Type:** E  
**Comment Status:** X  
**Suggested Remedy:** 
- Editor's note has been answered by text, no longer needed.

**Proposed Response:**

**Response Status:** O

**Comment 228**

**Comment ID:** 228  
**Author:** Zimmerman, George  
**Affiliation:** CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem  
**Comment Type:** T  
**Comment Status:** X  
**Suggested Remedy:** 
- Delete editor's note at 169.1.2 (P96 L35-39)
  
**Proposed Response:**

**Response Status:** O

**Comment 229**

**Comment ID:** 229  
**Author:** Zimmerman, George  
**Affiliation:** CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem  
**Comment Type:** E  
**Comment Status:** X  
**Suggested Remedy:** 
- The Editor's note should be represented in the figure.
  
**Proposed Response:**

**Response Status:** O

**Comment 230**

**Comment ID:** 230  
**Author:** Zimmerman, George  
**Affiliation:** CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem  
**Comment Type:** E  
**Comment Status:** X  
**Suggested Remedy:** 
- The top row of Table 169-1 got messed up. The word contact should not be there, and System type should not be bold.
  
**Proposed Response:**

**Response Status:** O

**Comment 231**

**Comment ID:** 231  
**Author:** Zimmerman, George  
**Affiliation:** CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem  
**Comment Type:** E  
**Comment Status:** X  
**Suggested Remedy:** 
- The top row of Table 169-1 got messed up. The word contact should not be there, and System type should not be bold.
  
**Proposed Response:**

**Response Status:** O

**Comment 232**

**Comment ID:** 232  
**Author:** Zimmerman, George  
**Affiliation:** CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem  
**Comment Type:** T  
**Comment Status:** X  
**Suggested Remedy:** 
- I believe V_MPD is a variable, not a constant.
  
**Proposed Response:**

**Response Status:** O
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Cl 169</th>
<th>SC 169.5.3.2</th>
<th>P109</th>
<th>L37</th>
<th># 233</th>
</tr>
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<tr>
<td>Zimmerman, George</td>
<td>P802.3da D1.2</td>
<td>IEEE</td>
<td>10 Mbps Multidrop Enhancements</td>
<td>Proposed Response</td>
<td>Response Status</td>
</tr>
</tbody>
</table>

Comment Type: T Comment Status: X
V_Discovery_th is missing from the constants

Suggested Remedy:
Add V_Discovery (in alphabetic order) to 169.5.3.2 with definition "Mark discovery threshold voltage (see Table 169-7)"

<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Cl 169</th>
<th>SC 169.5.3.3</th>
<th>P110</th>
<th>L42</th>
<th># 234</th>
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<td>Proposed Response</td>
<td>Response Status</td>
<td>O</td>
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</tbody>
</table>

Comment Type: T Comment Status: X
V_Mark_th, V_Off_MPD, V_Reset_th, V_type0_th, and V_type1_th are constants, they are listed in the constant section. They can't also be variables.

Suggested Remedy:
Delete V_Mark_th, V_Off_MPD, V_Reset_th, V_type0_th, and V_type1_th from the variables section (along with their descriptions - (P110 L42 through P111 L5, except P110 L49-51 (V_MPD)...)

<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Cl 169</th>
<th>SC 169.5.3.6</th>
<th>P115</th>
<th>L17</th>
<th># 236</th>
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<td>Proposed Response</td>
<td>Response Status</td>
<td>O</td>
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</tbody>
</table>

Comment Type: E Comment Status: X
Vtype1_th should be have type1_th in subscript

Suggested Remedy:
Change Vtype1_th to V_type1_th (subscript type1_th) on output branches of PON_EVAL and PON_LOAD_ON (6 instances)

<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Cl 169</th>
<th>SC 169.5.3.6</th>
<th>P115</th>
<th>L36</th>
<th># 237</th>
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<td>Proposed Response</td>
<td>Response Status</td>
<td>O</td>
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</tbody>
</table>

Comment Type: T Comment Status: X
V_reset is not defined, probably should be V_Reset_th

Suggested Remedy:
Change V_reset to V_Reset_th

<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Cl 169</th>
<th>SC 169.5.5</th>
<th>P117</th>
<th>L25</th>
<th># 238</th>
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<tr>
<td>Zimmerman, George</td>
<td>CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem</td>
<td>Proposed Response</td>
<td>Response Status</td>
<td>O</td>
<td></td>
</tr>
</tbody>
</table>

Comment Type: E Comment Status: X
V_TYPE0_TH and V_TYPE1_TH have case inconsistent with variables in state diagrams

Suggested Remedy:
Make V_TYPE0_TH and V_TYPE1_TH V_type0_th and V_type1_th as in state diagrams

<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Cl 169</th>
<th>SC 169.5.5</th>
<th>P117</th>
<th>L39</th>
<th># 239</th>
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<td>Proposed Response</td>
<td>Response Status</td>
<td>O</td>
<td></td>
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</tbody>
</table>

Comment Type: E Comment Status: X
I_MPD_DISABLED has case inconsistent with other values

Suggested Remedy:
Change I_MPD(DISABLED) to I_MPD_Disabled in Table 169-8 and 169.5.5.1 (P118 L2)
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

**Comment ID: 240**

<table>
<thead>
<tr>
<th>Cl 169</th>
<th>SC 169.5.3.3</th>
<th>P110</th>
<th>L35</th>
<th># 240</th>
</tr>
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<tbody>
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<td>CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem</td>
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</tbody>
</table>

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

Reference point for power is MPI, not TC3.

**Suggested Remedy:**
Change TC3 to MPI (5 instances) P110 L35-41

**Proposed Response**

**Response Status:** O

---

**Comment ID: 241**

<table>
<thead>
<tr>
<th>Cl 169</th>
<th>SC 169.5.3.3</th>
<th>P110</th>
<th>L51</th>
<th># 241</th>
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</tbody>
</table>

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

MPD TC should be MPD MPI.

**Suggested Remedy:**
Change MPD TC to MPD MPI.

**Proposed Response**

**Response Status:** O

---

**Comment ID: 242**

<table>
<thead>
<tr>
<th>Cl 169</th>
<th>SC 169.5.5</th>
<th>P117</th>
<th>L36</th>
<th># 242</th>
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<td></td>
</tr>
</tbody>
</table>

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

MPD TC3 capacitance should be MPD MPI capacitance.

**Suggested Remedy:**
Change MPD TC3 to MPD MPI.

**Proposed Response**

**Response Status:** O

---

**Comment ID: 243**

<table>
<thead>
<tr>
<th>Cl 168</th>
<th>SC 169.9.2</th>
<th>P85</th>
<th>L19</th>
<th># 243</th>
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</table>

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

Adopt proposal for TCI return loss in zimmerman_3da_01_06112024 (pending presentation)

**Proposed Response**

**Response Status:** O

---

**Comment ID: 244**

<table>
<thead>
<tr>
<th>Cl 168</th>
<th>SC 168.12.4.6</th>
<th>P94</th>
<th>L16</th>
<th># 244</th>
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</table>

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

No need for TBD in Value/Comment since the section is referenced.

**Suggested Remedy:**
Delete TBD from Value/Comment.

**Proposed Response**

**Response Status:** O

---

**Comment ID: 245**

<table>
<thead>
<tr>
<th>Cl FM</th>
<th>SC FM</th>
<th>P8</th>
<th>L12</th>
<th># 245</th>
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</tr>
</tbody>
</table>

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

"Task Force name" should not be in Chair's title...

**Suggested Remedy:**
Delete "Task Force name" on P8 L12 from chair's title

**Proposed Response**

**Response Status:** O

---

**Comment ID: 246**

<table>
<thead>
<tr>
<th>Cl 169</th>
<th>SC 169.4.3</th>
<th>P99</th>
<th>L30</th>
<th># 246</th>
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</thead>
<tbody>
<tr>
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<td>CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

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

when TC1 and TC2 differ in voltage, and the MPI is not accessible, we need clarity on how to determine voltage.

**Suggested Remedy:**
Change "For compliance, voltage specifications shall be met at both TC1 and TC2 independently." to "For compliance, voltage specifications shall be met at both TC1 and TC2 independently. When the MPI is not accessible, compliance to voltage specifications for a minimum or maximum of the voltage at TC1 and TC2, depending on whether the specification in question is for a maximum value or a minimum threshold value, respectively."

**Proposed Response**

**Response Status:** O
### IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

**Cl 79 SC 79.3.9.3 P37 L11 # 247**

Brandt, David  
Rockwell Automation

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

Table 79-21, Bit 2 should refer to DPLCA per 30.16.1.1.14

*Suggested Remedy*

- Change "Field definitions" for Bit 2 to: "Bit 2: DPLCA supported"

*Proposed Response*  
Response Status: O

---

**Cl 79 SC 79.3.9.3 P37 L13 # 248**

Brandt, David  
Rockwell Automation

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

Table 79-21, Bit 3 should refer to DPLCA per 30.16.1.1.11

*Suggested Remedy*

- Change "Field definitions" for Bit 3 to: "Bit 3: DPLCA..."

*Proposed Response*  
Response Status: O

---

**Cl 79 SC 79.3.9.3 P37 L8 # 249**

Brandt, David  
Rockwell Automation

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

Table 79-21, Bit 1 is described as "status", but refers to AdminState.

*Suggested Remedy*

- Change "Notes" for Bit 1 to: "30.16.1.2" (i.e., aDPLCASStatus)

*Proposed Response*  
Response Status: O

---

**Cl 90 SC 90.1 P38 L9 # 251**

Brandt, David  
Rockwell Automation

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

Clause 168 ONLY operates in half-duplex.

*Suggested Remedy*

- Change from "Clause 168 in half-duplex operations" to "Clause 168".

*Proposed Response*  
Response Status: O

---

**Cl 22 SC 22.1 P22 L22 # 252**

Brandt, David  
Rockwell Automation

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

Figure 22-1 shows 10BASE-T1M with an MDI, whereas Figure 168-1 shows the new TCI. (We do later state that the TCI is an MDI.)

*Suggested Remedy*

- Suggest changing "MDI" between PMD and MEDIUM to "MDI or TCI" and having 2 lists below MEDIUM "TCI: 10BASE-T1" and "MDI: 10BASE-T1L, 10BASE-T1S, ...

*Proposed Response*  
Response Status: O

---
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

Cl 168 SC 168.1.1 P55 L16 # 253
Brandt, David Rockwell Automation
Comment Type T Comment Status X
Figure 168-1 shows no PMD in the stack, whereas Figure 22-1 shows a PMD. OPEN
Alliance invented a PMD as a preferred implementation.
SuggestedRemedy
Group to discuss whether we want a PMD definition as an "enhancement" in Clause 168.
Proposed Response Response Status O

Cl 168 SC 168.2 P56 L12 # 254
Brandt, David Rockwell Automation
Comment Type E Comment Status X
Units should have space.
SuggestedRemedy
Change "50m" to "50 m".
Proposed Response Response Status O

Cl 168 SC 168.6.3 P77 L32 # 255
Brandt, David Rockwell Automation
Comment Type E Comment Status X
Figure 168-13, 180 is misplaced from the BALUN.
SuggestedRemedy
Move "180" to just below "0".
Proposed Response Response Status O

Cl 168 SC 168.6.4 P77 L45 # 257
Brandt, David Rockwell Automation
Comment Type T Comment Status X
It is not clear that it is required to test transmitter electrical specifications at both TC1 and
TC2 for PMAE11 through PMAE14
SuggestedRemedy
Suggest adding at line 45: "Transmitter electrical specifications shall be measured at both
TC1 and TC2."
Proposed Response Response Status O

Cl 168 SC 168.9 P84 L30 # 258
Brandt, David Rockwell Automation
Comment Type E Comment Status X
Possibly I don't understand the examples. It is stated that "[1] The TCI may physically be
implemented as a two-conductor connection to the DTE or [2] as an adapter separate from
the DTE's PMA assembly or [3] the TCI and the PMA of the DTE may be located within a
single assembly." then we state "The latter configuration presents a negligible stub length
when the PMA attachment is open circuit." It is unclear how in [3], the PMA can be
separated. I would read [1] as a T with some drop to the DTE, [2] as a kind of DTE plug
with TC1/TC1 and no drop, and [3] as TC1 and TC2 built into the DTE.
SuggestedRemedy
Suggest "The second configuration may present a negligible stub length when the PMA
attachment is open circuit."
Proposed Response Response Status O
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

**Proposed Response**

**Comment ID 259**

**Cl 168 SC 168.9.2**

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

Brandt, David  Rockwell Automation

**Comment**

Missing word.

**Suggested Remedy**

- Change "determined Equation" to "determined using Equation".

**Proposed Response**  **Response Status** O

---

**Comment ID 260**

**Cl 169 SC 169.6.1**

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

Potterf, Jason  Cisco

**Comment**

- Isolation clause is absent. The proposed isolation clause is adapted from 4-Pair PoE Clause 145.4.1 Electrical isolation and PoDL 104.6.1 Isolation.

**Suggested Remedy**

- Adopt isolation clause in attached document - SPMD_Potterf_D1P2_Comment_Sub-Clause_169p6p1_Isolation_2024-06-07.docx

**Proposed Response**  **Response Status** O

---

**Comment ID 261**

**Cl 169 SC 169.7**

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

Potterf, Jason  Cisco

**Comment**

- Environmental Clause is absent. The proposed isolation clause is adapted from 4-Pair PoE Clause 145.6 Environ,mental and PoDL 104.8 Environmental.

**Suggested Remedy**

- Adopt environmental clause in attached document - SPMD_Potterf_D1P2_Comment_Sub-Clause_169p7_Environmental_2024-06-07.docx

**Proposed Response**  **Response Status** O

---

**Comment ID 262**

**Cl 148 SC 148.4.7.5**

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

Baggett, Tim  Microchip

**Comment**

- Transition into DISABLED state has mispelled variable "ldplca_en" in second term. Term should refer to variable "dplca_en"

**Suggested Remedy**

- Change "plca_reset + !ldplca_en + !plca_en" to "plca_reset + !dplca_en + !plca_en"

**Proposed Response**  **Response Status** O

---

**Comment ID 263**

**Cl 148 SC 148.4.7.5**

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

Baggett, Tim  Microchip

**Comment**

- Second entry in LEARNING state refers to DPLCA_AGING in caps. This is a variable (defined in 148.4.7.2 P47L52) and not a constant. As such it should be in lower case letters.

**Suggested Remedy**

- Change "DPLCA_AGING" to "dplca_aging"

**Proposed Response**  **Response Status** O

---

**Comment ID 264**

**Cl 148 SC 148.4.7.1**

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

Baggett, Tim  Microchip

**Comment**

- Second sentence of paragraph should probably refer to "nodes" in plural. "D-PLCA enables node to select a unique node ID..."

**Suggested Remedy**

- Change: "D-PLCA enables node to select a unique node ID..."

  To: "D-PLCA enables nodes to select a unique node ID..."

  Or: "D-PLCA enables a node to select a unique node ID..."

**Proposed Response**  **Response Status** O
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

Cl 148 SC 148.4.4.6 P42 L4 # 265
Baggett, Tim Microchip

Comment Type E Comment Status X
Cl 1.2: Qualifiers described by short phrases are enclosed in parentheses. The Term "dplca_en" should be enclosed in parenthesis. More examples are identified in the PDF related to this comment.

SuggestedRemedy
See Baggett_3da_D1p2_CL148_StateDiagrams.pdf and enclose highlighted terms with parenthesis.

This change applies to:
Fig 148-3 P42
Fig 148-4 P43
Fig 148-8 P50

In general, if the transition contained only a single boolean term such as "variable" or "variable = CONST" I then left it alone and unhighlighted as this seemed to be consistent and more readable.

Proposed Response Response Status O

Cl 168 SC 168.2 P56 L9 # 266
Baggett, Tim Microchip

Comment Type E Comment Status X
Sentence incorrectly refers to the "10BASE-T1S PHY defined in Clause 148". Clause 148 is PLCA. The 10BASE-T1S reference should be to Clause 147.

When corrected, the sentence will still be awkwardly repetitive referring to the "10BASE-T1S PHY defined in Clause 147 when the Clause 147 PHY is running half-duplex in multidrop mode". Delete repetition.

Finally, "operation ON the" is awkward and should probably be "operation OF the".

SuggestedRemedy
Change: "The 10BASE-T1M PHY builds on the operation on the 10BASE-T1S PHY defined in Clause 148 when the Clause 147 PHY is running half-duplex in multidrop mode."
To: "The 10BASE-T1M PHY builds on the operation of the 10BASE-T1S PHY defined in Clause 147 when running half-duplex in multidrop mode."

Proposed Response Response Status O

Cl 45 SC 45.2.1.234 P30 L3 # 267
Baggett, Tim Microchip

Comment Type E Comment Status X
Change 10BASE-T1M/T1S to 10BASE-T1S/T1M. I expect that users of the 802.3 specification will make extensive use of the search function. The current use of 10BASE-T1M/T1S breaks this ability, even if it is alphabetical.

SuggestedRemedy
Change 10BASE-T1M/T1S to 10BASE-T1S/T1M throughout the document.

Proposed Response Response Status O

Cl FM SC FM P13 L3 # 268
Baggett, Tim Microchip

Comment Type E Comment Status X
Sentence incorrectly refers to the "10BASE-T1S PHY defined in Clause 148". Clause 148 is PLCA. The 10BASE-T1S reference should be to Clause 147.

When corrected, the sentence will still be awkwardly repetitive referring to the "10BASE-T1S PHY defined in Clause 147 when the Clause 147 PHY is running half-duplex in multidrop mode". Delete repetition.

Finally, "operation ON the" is awkward and should probably be "operation OF the".

SuggestedRemedy
Change: "The 10BASE-T1M PHY builds on the operation on the 10BASE-T1S PHY defined in Clause 148 when the Clause 147 PHY is running half-duplex in multidrop mode."
To: "The 10BASE-T1M PHY builds on the operation of the 10BASE-T1S PHY defined in Clause 147 when running half-duplex in multidrop mode."

Proposed Response Response Status O

Cl 79 SC 79.3.9.3 P37 L10 # 269
Schreiner, Stephan Rosenberger Hochfrequenztechnik

Comment Type E Comment Status X
Table 79-21: Bit 0 and Bit 2 as well as Bit 1 and Bit 3 have the same Field definitions.

SuggestedRemedy
Bit 2 and Bit 3 should be D-PLCA instead of PLCA

Proposed Response Response Status O
IEEE P802.3da D1.2 10 Mbps Multidrop Enhancements

Cl 168 SC 168.8.1 P82 L33 # 270
Schreiner, Stephan Rosenberger Hochfrequenztechnik
Comment Type E Comment Status X
Text uses the word “dummy load”. However, 168.9.1 introduces the word PMA load for the same type of load.

Suggested Remedy
Replace “dummy load” by PMA load within document

Proposed Response Response Status O

Cl 168 SC 168.12.4.7 P94 L27 # 271
Schreiner, Stephan Rosenberger Hochfrequenztechnik
Comment Type T Comment Status X
Item TCI1 Feature says without PMA loading. This is in contradiction to e.g. 168.9.1 “PMA loads specified for the TCI are to be connected if the DTE is electrically disconnected from the TCI.”. Similiar for TCI3

Suggested Remedy
Remove TCI1 and TCI3 from table

Proposed Response Response Status O

Cl 168 SC 168.8.1 P82 L39 # 272
Brandt, David Rockwell Automation
Comment Type T Comment Status X
Equation 168-3 has an error in transcribing what was adopted. The sign is wrong for the first term for the upper frequency range. +27 should be -27, otherwise the IL is allowed to be 54 dB larger.

Suggested Remedy
Change “27 - (53log10(f))…” to “-27 - (53log10(f))…”.

Proposed Response Response Status O

Cl 168.8 SC 168.8.1 P82 L39 # 273
DiMinico, Christopher PHY-SI/SenTekse/MC Communications
Comment Type TR Comment Status X LATE
Equation 168-3 [27] should be [-27]

Suggested Remedy
change [27] to [-27]

Proposed Response Response Status O

Cl 168.9 SC 168.9.1.1 P85 L9 # 274
DiMinico, Christopher PHY-SI/SenTekse/MC Communications
Comment Type TR Comment Status X LATE
Error in equation 168-5

Suggested Remedy
Change equation 168-5. IL \( \leq 0.16 \) dB 1 \( \leq f < 10 \) 
\(-0.454 + 0.22 \div f + 0.63 \times \sqrt{f} - 0.18 \times f + 0.004 \times f^2 \) 10 \( \leq f \leq 24 \)
\( IL \leq 0.3 \) \( \leq f < 1 \) (TBD)
\( 24 < f \leq 40 \) (TBD)
\( f=MHz \)
See diminico_SPMD_01_0624.pdf for TBD

Proposed Response Response Status O

Cl 168.9 SC 168.9.2 P85 L27 # 275
DiMinico, Christopher PHY-SI/SenTekse/MC Communications
Comment Type TR Comment Status X LATE
Equation 168-6 is TBD

Suggested Remedy
Use RL equation slide 11

Proposed Response Response Status O