Cl **189** *SC* **189.3** *P* **112** *L* **26** # 1

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

Insert space between value and unit

SuggestedRemedy

Replace "30V" with "30 V" and "50V" with "50 V"

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4** *P* **23** *L* **37** # 2

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

The general style for Definitions in 802.3-2022 is to reference the uppermost Clause number (no precedent for a specific subclause reference).

SuggestedRemedy

Replace, "(see IEEE Std 802.3, 188.9)" with "(see IEEE Std 802.3, Clause 188)"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.17.1.1.3** *P* **29** *L* **14** # 3

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

A combination of things infers plurality

SuggestedRemedy

Replace "MPD(s)" with "MPDs"

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.3** *P* **112** *L* **11** # 4

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

MPD types is a broad topic, so "discussion of" would be grammatically preferred.

SuggestedRemedy

Replace "for further discussion on MPD types" with "for further discussion of MPD types"

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.5.4** *P* **130** *L* **40** # 5

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

A comma always follows "i.e."

SuggestedRemedy

Replace "i.e." with "i.e.,"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.235.4** *P* **38** *L* **5** # 6

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

If 10BASE-T1M PHYs always indicate a zero in bit 1.2298.8, then reference to the T1M PHY is not needed in the first two sentences.

SuggestedRemedy

Revert the first two sentences in 45.2.1.235.4 back to the original text (and delete all revision marks) as follows, "When read as a one, bit 1.2298.9 indicates that the 10BASE-T1S PMA has the ability to detect a fault condition on the receive path."

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.17.1.1.3** *P* **29** *L* # 7

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

189.5.1 refers to MPD types

SuggestedRemedy

Replace, "MPD Class(s)" with "MPD type(s)"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3** *P* **43** *L* **3** # 8

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

The last row in Table 79-1 that's being revised was for "9 to 255"

SuggestedRemedy

Change Editing Instruction from, "Change the row for subtypes 10 to 255" to "Change the row for subtypes 9 to 255"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.1** *P* **62** *L* **37** # 9

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

Shrinks is more commonly associated with making something physically smaller as opposed to reducing the number of things

SuggestedRemedy

Replace " also shrinks" with "also reduces"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.1** *P* **63** *L* **1** # 10

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

The phrase "at any time" is not needed here.

SuggestedRemedy

Replace "If at any time BEACONs cease to be regularly" with "If BEACONs cease to be regularly"

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.5.3** *P* **90** *L* # 11

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

It's unclear what exactly "the PMA and PCS Receive functions have at most 800 ns from when the first DME symbol after SILENCE is detected to find the 5B boundary, and to synchronize on the DME stream respectively" is requiring.

SuggestedRemedy

Replace "In order to meet the specifications of 188.6.5.1, the PMA and PCS Receive functions have at most 800 ns from when the first DME symbol after SILENCE is detected to find the 5B boundary, and to synchronize on the DME stream respectively."

with "In order to meet the specifications of 188.6.5.1, the PMA and PCS Receive functions must find the 5B boundary and synchronize on the DME stream within 800 ns of when the first DME symbol after SILENCE is detected."

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.1** *P* **134** *L* **35** # 12

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

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

This requirement is really confusing. I will try to parse what I think it means, but this deserves careful review.

SuggestedRemedy

Replace "When the MPI is a TCI, the TCI return loss at TC1 and TC2 shall meet the values determined using Equation (188–7) with the other trunk TC (i.e., TC2 or TC1, respectively) terminated in 100 W with a DTE or simulated DTE load present at the TCI, plus 10log10(N_load), where N_load is the maximum number of unit loads for the DTE."

with "When the MPI is also a TCI, the TCI return loss at TC1 and TC2 shall meet the values determined using Equation (188–7) + 10log10(N_load), where N_load is the maximum number of unit loads for the DTE. TC1 and TC2 shall meet the values when the other trunk TC (i.e., TC2 or TC1, respectively) is terminated in 100 W with a DTE or simulated DTE load present at the TCI."

note: W = ohms symbol

Proposed Response *Response Status* **O**

Cl **188** SC **188.9.1.2** P **137** L # 13

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco

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

"e.g.," examples should be contained within parenthesis.

SuggestedRemedy

Replace ", e.g., NFPA70– the National Electrical Code® (NEC®) relevant to the maximum class supported." with " (e.g., NFPA70– the National Electrical Code® (NEC®) relevant to the maximum class supported)."

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.3.73.2** P **41** L **1** # 14

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco

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

"that" typically refers to a specific subset, while "which" is more commonly used in relative statements to provide extra information not essential to the meaning of the sentence.

SuggestedRemedy

Replace "PHYs, which do not" with "PHYs that do not" (keep text in underline)

Proposed Response *Response Status* **O**

Cl **30** SC **30.17.2.1.1** P **31** L **13** # 15

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco

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

Type, by itself, is not a proper noun.

SuggestedRemedy

Replace "indicates the MPD Type" with "indicates the MPD type"

Proposed Response *Response Status* **O**

Cl **189** SC **189.7.8** P **138** L **13** # 16

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco

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

"Category" is not capitalized in the ANSI/TIA-568 series of Standards unless it appears at the start of a sentence.

SuggestedRemedy

Replace "TIA Category" with "TIA category"

Proposed Response *Response Status* **O**

Cl **79** SC **79.1** P **42** L **28** # 17

Regev, Alon Keysight

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

While I agree that using the "Nearest bridge" group MAC address group is appropriate, I disagree with making this change just for 10BASE-T1S and 10BASE-T1M

A maintenance request should be filed to
1) change the reference from 802.1AB-2009 to 802.1AB-2016 (as 802.1AS-2009 was superceded by 802.1AB-2016)
2) require all 802.3 LLDP messages use the "Nearest bridge" group MAC addresses as they are not intended to cross bridges (for example, frame preemption capability needs to be negotiated between both partners in a link and cannot pass through ANY bridge).

SuggestedRemedy

Remove the change to 79.1.1.1

Proposed Response *Response Status* **O**

Cl **79** SC **79.3** P **43** L **8** # 18

Regev, Alon Keysight

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

There seem to be two sets of editing instrucitons, one that adds subtype 9 and changes the "Reserved" row and a secon that adds rows 9-12 and updates the "Reserved" field. If both editing insturctions are followed then we will end up with 2 rows for subtype 9.

SuggestedRemedy

remove the first set of editing instructions, but leave the second

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.2** *P* **63** *L* **15** # 19

Regev, Alon Keysight

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

COR should be CRS (2 locations)

SuggestedRemedy

change "COR" to "CRS" on page 63 lines 15 and 16

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.2** *P* **55** *L* **9** # 20

Regev, Alon Keysight

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

three state machines seem to have slgihtly different definitions for COL and CRS. It would be good to harmonize these as they refer to the same signals.

Current data in 148.4.4.2:
COL
The MII signal COL.
Values: TRUE or FALSE
CRS
The MII signal CRS.
Values: TRUE or FALSE
RX_DV
The MII signal RX_DV.
Values: TRUE or FALSE
TX_EN
The MII signal TX_EN.
Values: TRUE or FALSE

Current data in 148.4.5.2:
COL
The MII signal COL specified in 22.2.2.12.
CRS
The MII signal CRS (see 22.2.2.11).
TXD□
The MII signals TXD<3:0> specified in 22.2.2.4.
TX_EN
The MII signal TX_EN specified in 22.2.2.3.
TX_ER
The MII signal TX_ER specified in 22.2.2.5.

Current data in 148.4.7.2;
COL
The MII signal COL.
Values: TRUE or FALSE
COR
The MII signal COR.
Values: TRUE or FALSE

SuggestedRemedy

change all 3 locations (148.4.4.2, 148.4.5.2, and 148.4.7.2) to the following defintions (only populate these where used):

COL
The MII signal COL (see 22.2.2.12).
Values: TRUE or FALSE
CRS□

The MII signal CRS (see 22.2.2.11).
Values: TRUE or FALSE
RX_DV
The MII signal RX_DV.
Values: TRUE or FALSE
TXD□
The MII signals TXD<3:0> (see 22.2.2.4).
TX_EN
The MII signal TX_EN.(see 22.2.2.3)
Values: TRUE or FALSE
TX_ER
The MII signal TX_ER (see 22.2.2.5)
Values: TRUE or FALSE

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.6** *P* **67** *L* **19** # 21

Regev, Alon Keysight

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

The multi-level IF-THEN-ELSE-END statement in the TXOP_STATE does not have consistent indentation, making it confusing to read

SuggestedRemedy

change
"
IF dplca_txop_id = 0 THEN
IF short_cnt = soft_aging_cycles THEN
CLEAR_SOFT_CLAIMS(txop_claim_table)
CLEAR_SOFT_CLAIMS(txop_claim_table_new)
short_cnt <= 0
ELSE
short_cnt <= short_cnt + 1
END
IF long_cnt = hard_aging_cycles THEN
txop_claim_table <= txop_claim_table_new
CLEAR_TXOP_TABLE(txop_claim_table_new)
dplca_new_age <= TRUE
long_cnt <= 0
ELSE
long_cnt <= long_cnt + 1
END
END"

to
"
IF dplca_txop_id = 0 THEN
IF short_cnt = soft_aging_cycles THEN
CLEAR_SOFT_CLAIMS(txop_claim_table)
CLEAR_SOFT_CLAIMS(txop_claim_table_new)
short_cnt <= 0
ELSE
short_cnt <= short_cnt + 1
END

IF long_cnt = hard_aging_cycles THEN
txop_claim_table <= txop_claim_table_new
CLEAR_TXOP_TABLE(txop_claim_table_new)
dplca_new_age <= TRUE
long_cnt <= 0
ELSE
long_cnt <= long_cnt + 1
END
END"

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.4.2.2** *P* **77** *L* **36** # 22

Regev, Alon Keysight

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

The defintion of TX_ER is somewhat outdated. TX_ER does not necessarily indicate an errored transmission (errors are indicated if BOTH TX_EN and TX_ER are asserted), but rather it is also used (typically more commonly) for COMMIT, BEACON, and LPI indications

SuggestedRemedy

change
"TX_ER□
The TX_ER signal of the MII as specified in 22.2.2.5.
When set to FALSE it indicates a non-errored transmission.
When set to TRUE it indicates an errored transmission.
Values: TRUE or FALSE"

to:
"TX_ER□
The TX_ER signal of the MII as specified in 22.2.2.5 and 22.2.2.4.
When set to TRUE it indicates an errored transmission (if TX_EN is TRUE) or a special indication (if TX_EN is FALSE)
When set to FALSE it indicates a non-errored transmission and no special incation
Values: TRUE or FALSE"

altenatively, remove these details from TX_ER (and TX_EN) and refer to clause 22.2.2.4 and 22.2.2.5 which define the behavior.

Note that even though 22.2.2.4 definex TX_EN, I think that TX_ER should also reference this clause as all the indications using combinations of TX_ER and TX_EN is in section 22.2.2.4 and not 22.2.2.5.

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.4.2.7** *P* **80** *L* **16** # 23

Regev, Alon Keysight

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

The "COMMIT" state is not setting tx_sym so based on the current state machine, COMMIT will never be transmitted (instead SILENCE will continue during the commit cycle

SuggestedRemedy

Add "tx_sym <= COMMIT" in the COMMIT state

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.1** *P* **134** *L* **38** # 24

Zimmerman, George CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

"When the MPI is a TCI" raises the issue that the TCI return loss is related to power. An unpowered MPI might not be considered an MPI, but when it is a TCI it still needs to connect a compliant mixing segment. The TCI Return Loss needs to apply regardless of whether the DTE is powered or not. This is true whether or not power is supplied over the mixing segmen

SuggestedRemedy

Insert the following text at the end of the first paragraph 189.6.1. "This requirement applies independent of whether the TCI and PMA are powered."

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.17.1.1.9** *P* **30** *L* **23** # 25

Zimmerman, George CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

"A count of the cumulative energy" - you don't count energy.

SuggestedRemedy

Change "A count of the cumulative energy" to "The value of the counter represents the cumulative energy"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.17.1.1.10** *P* **30** *L* **32** # 26

Zimmerman, George CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

typo - "MEASUREMENT" (not "MEASURMENT", missing the E before the M). This occurs twice.

SuggestedRemedy

Change MEASURMENT to MEASUREMENT at P30 L32 & P33 L17 (30.17.2.1.11)

Proposed Response *Response Status* **O**

Cl **30** SC **30.17.1.1.7** P **30** L **3** # 27

Zimmerman, George CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

typo "Capabilties" should be "Capabilities" (missing the "l" between the l and the t) this occurs 6 times.

SuggestedRemedy

Change "Capabilties" to "Capabilities" at P30 L3, P30 L14, P30 L25, P32 L39, P32 L50, P33 L10.

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.4.1** P **54** L **28** # 28

Zimmerman, George CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

"The PLCA node should be
configured appropriately before transmit functions are enabled to achieve error free operation when
D-PLCA is not enabled." reads odd. The condition usually goes first.

SuggestedRemedy

Change "The PLCA node should be
configured appropriately before transmit functions are enabled to achieve error free operation when
D-PLCA is not enabled." to "When D-PLCA is not enabled, the PLCA node should be configured appropriately before transmit functions are enabled."

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.4.6** P **56** L **6** # 29

Zimmerman, George CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

typo "TRASNSMIT"

SuggestedRemedy

change "TRASNSMIT" to "TRANSMIT"

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.7.2** P **63** L **14** # 30

Zimmerman, George CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

typo - "COR" should be "CRS". (2 instances)

SuggestedRemedy

change "COR" and "The MII signal COR." to "CRS" and "The MII signal CRS."

Proposed Response *Response Status* **O**

Cl **189** SC **189.1** P **110** L **8** # 31

Zimmerman, George CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

The defined entities are listed as MPD & MPSE (in that order), but are described in the reverse order (supply power / draw power).

SuggestedRemedy

Change "These entities allow devices to supply/draw power using the..." to "These entities allow devices to draw power or supply power using the …"

Proposed Response *Response Status* **O**

Cl **189** SC **189.1.1** P **110** L **32** # 32

Zimmerman, George CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

"that incorporate compliant MPoE TCIs" - we call these "MPIs that are also TCIs" and they are "also compatible" with thir Physical Layer standards.

SuggestedRemedy

Change "DTEs that incorporate compliant MPoE TCIs are compatible …" to "DTEs that incorporate MPIs that are also TCIs are also compatible…"

Proposed Response *Response Status* **O**

Cl **189** SC **189.1.2** P **110** L **42** # 33

Zimmerman, George — CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

We only have one pair, so why do we say "over the same pairs as data"?

SuggestedRemedy

P110 L42 change "pairs as the data" to "pair as the data" and "dedicated pairs" to "dedicated pair"
P110 L44 Change "When power is provided over the same pairs as data" to "When power is provided over the same pair as data"

Proposed Response *Response Status* **O**

Cl **189** SC **189.4.4.2** P **114** L **44** # 34

Zimmerman, George — CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

state names should be all caps (4 instances), also , high state name is incorrect (3 instances)

SuggestedRemedy

change "most recent discover_high or discover_low" state to most recent "DISCOVERY_HIGH_MARK or DISCOVERY_LOW state" (P114 L44, 48, and 51)
Change "later discovery_low" to "later DISCOVERY_LOW" (P115 L2

Proposed Response *Response Status* **O**

Cl **188** SC **188.9.1.2** P **100** L **22** # 35

Zimmerman, George — CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

"When the TCI is not an MPI," raises the issue that the TCI return loss is related to power. The TCI Return Loss needs to apply regardless of whether the DTE is powered or not. This is true whether or not power is supplied over the mixing segment.

SuggestedRemedy

Insert the following text at the end of the first paragraph 188.9.1.2. "This requirement applies independent of whether the TCI and PMA are powered."

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.4** P **58** L **24** # 36

Zimmerman, George — CME Consulting/ADI,APLgp,Cisco,Marvell,Onsemi,Sor

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

The left hand exit arc from COMMIT to itself cannot ever be true. When the PLCA Control diagram enters COMMIT, committed gets set to true, and the PLCA Data state diagram exits the HOLD state to tag "B". This sets packetPending to FALSE, making the arc impossible. The assertion of COL will drop TXEN causing the right hand branch to be taken to ABORT.

SuggestedRemedy

Delete the left hand recirculating branch on COMMIT.

Proposed Response *Response Status* **O**

Cl **189** SC **189.3** P **112** L **15** # 37

Jones, Chad — Cisco Systems, Inc.

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

"The sum of unit load levels on a mixing segment shall not exceed 16"
This shall is the only statement that would make engineered systems non-compliant. I'd like to soften the statement (make it optional) such that someone that has taken the time to understand the limitations and designed a system to exceed 16 unit loads can call it complian This statement prevents them from being compliant and simultaneously limits a Type 0 system to 16 W of MPD load and a Type 1 system to 32 W of MPD load (while being able to provide 26 W and 45 W respectively).
As I look at it, the leading text states that a mixing segment can support 16 unit loads and therefore, deletion of this sentence is all the softening needed.

SuggestedRemedy

Delete "The sum of unit load levels on a mixing segment shall not exceed 16"

Proposed Response *Response Status* **O**

Cl **189** SC **189.4.5** P **120** L **19** # 38

Jones, Chad — Cisco Systems, Inc.

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

paragraph justification has left this line with HUGE spaces. Please fix.

SuggestedRemedy

Fix spacing of paragraph.

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.5** *P* **120** *L* **27** # 39

Jones, Chad — Cisco Systems, Inc.

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

Need the oxford comma after DISCOVERy_LOWx, other wise the sentence can be read to say that all the discovery events are DISCOVERY_LOWx and DISCOVER_HIGH_MARKx.

SuggestedRemedy

please add comma

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.5** *P* **121** *L* **2** # 40

Jones, Chad — Cisco Systems, Inc.

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

Table 189-3. The additional information column has problems and I think the best way to solv them is to delete the column.
First, item 9 includes "I[Tare]" which appears no where else in this document. Therefore it should be deleted.
Item 8 has I[Discovery] - I[Mark] with no explanation. Not sure this provides any service to the reader.
The note in item 11 does have a little information but not sure it's required. We could move it to a footnote of the table if we wanted to keep it, but I'm going to just suggest to delete the column in my remedy.
Lastly, I'd request that we use the width of the deleted column to widen the "Symbol" column so that the names didn't break across lines.

SuggestedRemedy

Delete additional information column. Widen "Symbol" column so that names don't break across lines.

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.5** *P* **121** *L* **25** # 41

Jones, Chad — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **X**

symbol name of item 9 missing a 't' at the end: I[Type_presen] should be I{Type_present]

SuggestedRemedy

Change I[Type_presen] to
I[Type_present]

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.8** *P* **122** *L* **53** # 42

Jones, Chad — Cisco Systems, Inc.

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

"The minimum value of I[CUT] is P[MPSE] min/V[MPSE] to ..."
P[MPSE] min contradicts Table 189-5 item 11. Either we need to add min to the table or delete it here. I think it needs added to the table and that's gonna be ugly as we need to wider the "min" column to prevent it from breaking the line.

SuggestedRemedy

Change "P[MPSE]" to "P[MPSE] min" in Table 189-5 item 11.

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.6** *P* **122** *L* **14** # 43

Jones, Chad — Cisco Systems, Inc.

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

Table 189-5, items 2 and 4 contradict each other, specifically the max power 100 W numbers in item 2.
If my short circuit current is 1.4 A, that means the max power I can deliver is 36.4 W and 63 W from Type 0 and Type 1 MPSEs respectively (and only if I[LIM] is set at the top end of the range, it can be as low as 28.6 and 49.5 W if I[LIM] is 1.1 A). I think we should leave the max power unspecified in the table, replacing 100 with an emdash. Additional information points the reader to 189.4.7 and I think we add a sentence there explaining why it is undefined in the table (we already talk about this a little, just need a few more words).

SuggestedRemedy

Table 189-5, item 2, replace "100" with "-" in two spots.
Page 122, line 45, add "(P[MPSE] max)" after "…MPSE can supply…"
Page 122, line 47, add the sentence: "Therefore, P[MPSE] max is left undefined in Table 189.5."

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.5.4** *P* **129** *L* **50** # 44

Jones, Chad — Cisco Systems, Inc.

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

"...MPI enters the V[MPD_mark] specification as defined in Table 189–7..."
not sure how we 'enter a specification', I think we meant 'enter the range'.

SuggestedRemedy

replace 'specification' with 'range'

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.5.5** *P* **131** *L* **47** # 45

Jones, Chad — Cisco Systems, Inc.

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

last cycle we added Type 0/1 to the document. Table 189-9 item 6 and 7 define the Type voltage threshold, but we make no mention of Type 0/1. It should go without saying that the Type 0/1 should conform to the requirements of the MPD Type that is compatible with the MPSE Type powering the mixing segment. We can make that clear by adding a footnote to the table.

SuggestedRemedy

add a superscript 'a' to the parameter column for items 6 and 7.
add note at bottom of table: '^a Type 0/1 MPDs conform to the thresholds compatible with the MPSE type powering the mixing segment."

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.5.5** *P* **132** *L* **11** # 46

Jones, Chad — Cisco Systems, Inc.

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

Revisiting the 180uF max Cport value. I calculated charging times for these caps using our inrush limitations. At 10 mA, we can only charge 10 uF in the 50 ms of minimum inrush time (this is Type 1, 0 to 50V. For Type 0, it's 16.7 uF). Once out of inrush, an MPD can now start drawing operation power. For a one unit load MPD, that would be 40 mA (the rest of the analysis is T1 only. I've left T0 as an exercise for the reader). It would take an additional 212 ms to finish charging the 180 uF at 40 mA. Alternately, an MPD IC could choose to enforce the 10 mA inrush until Cport is fully charged, which would take 900 ms.
The 180 uF number came from the 4P PoE chapters, and that number was picked to signify the point where a PD IC wouldn't need any special inrush consideration, but Iinrush is 400 mA in those chapters. If we are following that lead, we've failed the reader. To make this match the concept in Clause 33 and 145, 180 should be reduced to 10. And I'd make it 10 per unit load, such that higher power MPDs can have more Cport. We can break item 10 into T0 and Type one and make it 16.7 and 10 if desired.
We can add a new section 189.5.5.5 to explain if needed.

SuggestedRemedy

In Table 189-9, item 10, change "180" to "10".
In item 10, additional information, add "per unit load. See 189.5.5.5
add new section 189.5.5.5 as found in companion document cjones_da_01_0325_V0.pdf.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.1.1.1** *P* **42** *L* **23** # 47

Jones, Peter — Cisco Systems

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

Define LLDP Destination Address field for 10BASE-T1S/M.

SuggestedRemedy

Make the change to 79.1.1.1 as shown in lines 23-31

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.9.3** *P* **45** *L* **8** # 48

Jones, Peter — Cisco Systems

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

Delete un-needed text. The LLDP DA is now defined in 79.1.1.1.

SuggestedRemedy

Delete "Since this TLV is intended to inform a link partner of capabilities, the PLCA TLV should be sent in an LLDPDU addressed to the Nearest Bridge group address (see IEEE 802.1Q)."

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.1** *P* **62** *L* **15** # 49

Jones, Peter — Cisco Systems

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

Improve text clarity

SuggestedRemedy

Change
"When using D-PLCA with statically assigned IDs, values in the range of 0 to 7 should be use first. "
to
"When using D-PLCA with statically assigned IDs, values in the range of 0 to 7 should be assigned first. "

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.7.1** P **62** L **26** # 50

Jones, Peter Cisco Systems

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

Align text with state diagram terminology

SuggestedRemedy

Replace "switches" with "transitions"

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.7.1** P **62** L **28** # 51

Jones, Peter Cisco Systems

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

Align text with state diagram terminology

SuggestedRemedy

Replace "switching " with "transitioning"

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.7.1** P **62** L **34** # 52

Jones, Peter Cisco Systems

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

Align text with state diagram terminology

SuggestedRemedy

Replace "will switch" with "transitions"

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.7.1** P **62** L **39** # 53

Jones, Peter Cisco Systems

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

Align text with state diagram terminology

SuggestedRemedy

Replace "will switch" with "transitions"

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.7.1** P **62** L **48** # 54

Jones, Peter Cisco Systems

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

Align text with state diagram terminology

SuggestedRemedy

Replace "switch" with " transition"

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.7.1** P **63** L **1** # 55

Jones, Peter Cisco Systems

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

Align text with state diagram terminology

SuggestedRemedy

Replace "will switch" with "transition"

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.7.3** P **65** L **20** # 56

Jones, Peter Cisco Systems

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

Improve text clarity

SuggestedRemedy

Change
it shall not return an ID greater than the highest HARD claimed in the table, unless there is no ID available less than the highest HARD claimed in the table. If there is no ID available less than the highest HARD claimed in the table, the function will return the next TO immediately
following the highest HARD claimed TO in the table.
to
It returns an available ID less than the highest HARD claimed ID if possible. If not, it returns the next ID after the highest HARD claimed ID.

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.4.2.9** *P* **82** *L* **16** # 57

Jones, Peter Cisco Systems

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

Improve text clarity.
The text says "This sequence notifies the receivers" but it's not clear what it notifies them of.

SuggestedRemedy

Replace "This sequence notifies the receivers" with ""This sequence notifies the receivers of the transmitter jabber event"

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.1.2** *P* **110** *L* **42** # 58

Jones, Peter Cisco Systems

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

Clean up text to remove references to multiple pairs.

SuggestedRemedy

Replace "the power may be provided over the same pairs as the data or over dedicated pairs with power only" with "the power may be provided over the same pair as the data or over a dedicated pair with power only."

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.1.2** *P* **110** *L* **44** # 59

Jones, Peter Cisco Systems

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

Clean up text to remove references to multiple pairs.

SuggestedRemedy

Replace "When the power is provided over the same pairs as data" with "When power and data are carried on the same pair"

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.1.2** *P* **110** *L* **46** # 60

Jones, Peter Cisco Systems

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

Clean up text to remove references to multiple pairs.

SuggestedRemedy

Replace "when data and power are carried on separate conductors," with "when data and power are carried on a separate pair,"

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.3** *P* **112** *L* **16** # 61

Jones, Peter Cisco Systems

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

The text says "The sum of unit load levels on a mixing segment shall not exceed 16."
I don't see how we can mandate this or how it would make sense as a PICs.

SuggestedRemedy

Replace "The sum of unit load levels on a mixing segment shall not exceed 16." with "It is recommended that the sum of unit load levels on a mixing segment not exceed 16."

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.4** *P* **114** *L* **30** # 62

Jones, Peter Cisco Systems

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

Simplify text

SuggestedRemedy

Replace "no MPDs remain attached or there have been changes in the network topology" with "no MPDs are attached"

Proposed Response *Response Status* **O**

Cl **189** SC **189.5** P **123** L **40** # 63

Jones, Peter — Cisco Systems

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

MPDs can draw power without requesting it.

SuggestedRemedy

Replace "An MPD requesting power from the MPI may simultaneously draw power from an alternate power source." with "An MPD drawing power from the MPI may simultaneously draw power from an alternate power source."

Proposed Response *Response Status* **O**

Cl **30** SC **30.17** P **28** L **19** # 64

Jones, Peter — Cisco Systems

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

It's been assumed the MPoE will provide the equivalent function to the "Power via MDI Measurements TLV" defined for 4 pair PoE, but we have not specified this in the draft.

SuggestedRemedy

Implement text changes shown in pages 6 to 15 (section 3) in jones_3da_01_mpoe_measurement_proposal_v2.3a.pdf

Proposed Response *Response Status* **O**

Cl **79** SC **79** P **42** L **1** # 65

Jones, Peter — Cisco Systems

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

It's always been assumed the MPoE will use LLDP to exchange status and negotiate power for MPoE, but we have not specified this in the draft.

SuggestedRemedy

Implement text changes shown in pages 11 to 22 (sections 4.2 and 4.3) in jones_3da_01_lldp_mpoe_proposal_v2.2a.pdf.
Remove "Power Bus Management" row from Table 79-1 within text box on page 43.
Remove text box on page 49 containing the "79.3.12 Dynamic Power Allocation TLV"

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.4.6** P **58** L **50** # 66

Slavick, Jeff — Broadcom

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

The exit transition from NEXT_TX_OPPORTUNITY to hop G appears to begin with a "local_nodeID! = 0) where there is a space between the ! and the = is trying to be a not equal check, but you use the crossed through = sign for the compare to 255.

SuggestedRemedy

Change the != to a crossed through equal sign

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.4.6** P **58** L **50** # 67

Slavick, Jeff — Broadcom

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

The exit transitions from NEXT_TX_OPPORTUNITY to B does a greater than or equal to compare to plca_node_count and it looks like the exit to G does a less than or equal to comparison. If so then which branch are you supposed to take if curID is equal to plca_node_count.

SuggestedRemedy

Change the transition to G to be just a less than compare to plca_node_count.

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.4.6** P **58** L **35** # 68

Slavick, Jeff — Broadcom

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

In the BURST state there is no "stop append_commit_timer" So if you re-etner BURST state won't the append_commit_timer_done be true? Which means you'd enter ABORT instead of waiting out the burst_timer if you have max_bc > 0.

SuggestedRemedy

Add "stop append_commit_timer" before the IF statement in BURST state of Figure 148-4, part b

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.5** *P* **66** *L* **49** # 69

Slavick, Jeff Broadcom

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

The SOFT_CLAIMING has an extra indent in the FOLLOWER re-entry branch of Figure 148-8

SuggestedRemedy

Align HARD and SOFT CLAIMING text

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.4.2.7** *P* **81** *L* **9** # 70

Slavick, Jeff Broadcom

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

"not_done" is not a timer property, just "_done"

SuggestedRemedy

Change "xmit_max_timer_not_done" to "!xmit_max_timer_done" in the ESD -> GOOD_ESD and DATA -> DATA transitions in Figure 188-5 part b

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.4.2.7** *P* **81** *L* **32** # 71

Slavick, Jeff Broadcom

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

The unjab_timer is optional so starting it can only occur when it's supported.

SuggestedRemedy

Split the UNJAB_WAIT into two states.
TX_SILENCE with tx_sym <= SILENCE
UNJAB_WAIT with start unjab_timer.
BAD_ESD goes to TX_SILENCE
TX_SILENCE goes to UNJAB_WAIT with UCT
Move the dotted box to encompass the UNJAB_WAIT state and its exit.

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.4.2.9** *P* **82** *L* **16** # 72

Slavick, Jeff Broadcom

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

A PHY who's Jabber function triggers will silence itself. It will do so until it's reset or if it supports the optional unjab_timer for at least the timers duration. A reset could be shorter than the unjab_timer.

SuggestedRemedy

Change "This sequence notifies the receivers and inhibits further transmissions for at least the duration of unjab_timer. The PCS Transmit may return to normal operation automatically after unjab_timer has elapsed and the error condition has been cleared (i.e., TX_EN has been released). If PCS Transmit does not return to normal, then it keeps silent until reset."

to:

"This sequence notifies the receivers
and silences its transmission.

The PCS Transmit remains silent until reset or, when it supports the optional unjab_timer, after the unjab_timer has elapsed and the error condition has been cleared (i.e., TX_EN has been released). ."

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.12.4.1** *P* **105** *L* **35** # 73

Slavick, Jeff Broadcom

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

There should be PICS for the unjab_timer

SuggestedRemedy

Add a PICS for the unjab_timer point to 188.4.2.9 with a Status of O and Yes / NA options

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.5** *P* **25** *L* **31** # 74

Brandt, David — Rockwell Automation

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

"30.17 Layer management for Multidrop Power over Ethernet (MPoE)" does not have a table mirroring "Table 30-10 - PoDL PSE Capabilities" or reference in 30.2.5 Capabilities.

SuggestedRemedy

Add a MPSE table mirroring Table 30-10, based on "30.17.1.1 MPSE attributes". Extend reference in 30.2.5 to include MPoE PSE and PD references.Include new box oMPSE in "Figure 30–3—DTE System entity relationship diagram". Include oMPSE in "30.2.2.1 Text description of managed objects"

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.17.2** *P* **30** *L* **50** # 75

Brandt, David — Rockwell Automation

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

oMPD managed object class is lacking references to it.

SuggestedRemedy

Add a MPD table in the style of Table 30-10, based on "30.17.2 MPD managed object class attributes". Extend reference in 30.2.5 to include MPoE PD references. Include new box oMPD in "Figure 30–3—DTE System entity relationship diagram". Include oMPD in "30.2.2.1 Text description of managed objects"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.72.2** *P* **40** *L* **8** # 76

Brandt, David — Rockwell Automation

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

The loopback path is not stated clearly. PCS has upper and lower interfaces.

SuggestedRemedy

Change from: "PCS shall accept data on the transmit path and return it on the receive path", To: "PCS shall accept data on the transmit path from the MII and return it on the receive path to the MII". Otherwise add "as described in 188.4.3.9"

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.2.1.3** *P* **136** *L* **15** # 77

Brandt, David — Rockwell Automation

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

"An Environment C multiport NID does not require electrical power isolation between link segments." Do we mean "mixing segments"? Possibly the NID can have a mix of link segments and mixing segments?

SuggestedRemedy

Change from "between link segments" to "between each mixing segment and other mixing segments or link segments".

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.6.4** *P* **92** *L* **37** # 78

Brandt, David — Rockwell Automation

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

States: "it is recommended that the PHY provide access to TX_CLK". PICS PMAE8 shows Mandatory.

SuggestedRemedy

Change to shall or change PICs to O.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.716** *P* **63** *L* **3** # 79

Baggett, Tim — Microchip

Comment Type **ER** *Comment Status* **X**

D-PLCA Aging stage diagram descriptive text is missing.

SuggestedRemedy

Receive proposed descriptive text from Tim for inclusion at end of section 148.4.7.1 or as a new section before 148.4.7.6 on P67 L1.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.6** *P* **67** *L* **18** # 80

Baggett, Tim Microchip

Comment Type **ER** *Comment Status* **X**

The logic in the TXOP_END state is incorrectly indented making readbility difficult.

SuggestedRemedy

Change text in TXOP_END state to:

```
IF dplca_txop_id = 0 THEN
 IF short_cnt = soft_aging_cycles THEN
  CLEAR_SOFT_CLAIMS(txop_claim_table)
  CLEAR_SOFT_CLAIMS(txop_claim_table_new)
  short_cnt <= 0
 ELSE
  short_cnt <= short_cnt + 1
 END

 IF long_cnt = hard_aging_cycles THEN
  txop_claim_table <= txop_claim_table_new
  CLEAR_TXOP_TABLE(txop_claim_table_new)
  dplca_new_age <= TRUE
  long_cnt <= 0
 ELSE
  long_cnt <= long_cnt + 1
 END
END
```

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.9.1** *P* **44** *L* **26** # 81

Baggett, Tim Microchip

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

Add PLCA TLVs for the following:

* PLCA Node Count
* D-PLCA Coordinator Role Allowed

SuggestedRemedy

For D-PLCA Coordinator Role Allowed, add the following field definition to the PLCA Support/Status Field of Table 79-21 (P44 L42):

* Field definitions: Bit 5 - D-PLCA Coordinator Role Allowed
* Value/Values: 1 = TRUE, 0 = FALSE
* Notes: 30.16.1.1.10

Adjust the reserved field bits for the PLCA Support/Status Field of Table 79-21 (P44 L43):

* Field Definitions: Change "Bits 5 to 15" to "Bits 6 to 15"

For PLCA Node Count, add to table 79-21 a new entry (P44 L46):

* Field: PLCA nodeCount
* Length (octets): 1
* Format: Unsigned Integer
* Field definitions: 0-255
* Value/Values: 0-255
* Notes: 30.16.1.1.3

Add new section "79.3.9.2 PLCA nodeCount" P45 L5 with the following text:

The PLCA nodeCount field contains an unsigned integer value indicating the number of transmit opportunities between beacons transmitted by the coordinator. If PLCA is nto enabled, this field reports 0. If the coordinator mode is not enabled and the PLCA nodeID is zero, this field may report 0 or the number of transmit opportunities the follwer detects between received beacons.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.6** *P* **56** *L* **6** # 82

McClellan, Brett Marvell

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

typo change 'TRASNSMIT' to 'TRANSMIT'

SuggestedRemedy

change 'TRASNSMIT' to 'TRANSMIT'

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.2** *P* **55** *L* **22** # 83

McClellan, Brett Marvell

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

per remedy of comment 323 on D2.0, dplca_en should have values defined as follows:
Values:
TRUE: The D-PLCA function is enabled
FALSE: The D-PLCA function is disabled or not present

SuggestedRemedy

Change “Values: TRUE or FALSE” to
“Values:
TRUE: The D-PLCA function is enabled
FALSE: The D-PLCA function is disabled or not present”

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.6** *P* **122** *L* **20** # 84

Paul, Michael Analog Devices

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

Ilim max and PPSE are in conflict for type 0

SuggestedRemedy

differentiate item 4 for type 0 and type 1. Add row on item 4 that allows type 1 MPDs to current limit with 1.1A min and 100W / 21.6V = 4.62A max. See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.6** *P* **122** *L* **6** # 85

Paul, Michael Analog Devices

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

Table 189-5 Should be titled MPSE output requirements

SuggestedRemedy

Change PSE to MPSE

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.5.5** *P* **131** *L* **35** # 86

Paul, Michael Analog Devices

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

missing emdashes in 189-9 item 2

SuggestedRemedy

add missing emdashs in item 2 "Min" column

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.3** *P* **112** *L* **31** # 87

Paul, Michael Analog Devices

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

Vpse,min has a typo. This is my unsatisfied comment from last round

SuggestedRemedy

26 should be 21.6? The numbers for channel resistance and power need to be adjusted if thi parameter moves. See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.2** *P* **111** *L* **44** # 88

Paul, Michael Analog Devices

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

100mOhm resistance through each node is probably impractical at this time. Target 200mOhm instead.

SuggestedRemedy

Change 100mOhm to 200mOhm. See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.3** *P* **112** *L* **34** # 89

Paul, Michael Analog Devices

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

Increase ipse type0 min current for 1.1W devices. This will alighn with 802.3da type0 with ODVA devices.

SuggestedRemedy

See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.3** *P* **112** *L* **36** # 90

Paul, Michael Analog Devices

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

ppse type0 min for 1.1W devices

SuggestedRemedy

See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.3** *P* **112** *L* **37** # 91

Paul, Michael Analog Devices

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

ppmd_1u for 1.1W devices

SuggestedRemedy

See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.3** *P* **112** *L* **34** # 92

Paul, Michael Analog Devices

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

check consistency of IPSE_Min versus iCUt and Ilimit

SuggestedRemedy

See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.6** *P* **122** *L* **11** # 93

Paul, Michael Analog Devices

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

Vmpse needs to stay consitent with changes we make in section 189.3

SuggestedRemedy

See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.6** *P* **122** *L* **11** # 94

Paul, Michael Analog Devices

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

Pmpse needs to stay consitent with changes we make in section 189.3

SuggestedRemedy

See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.6** *P* **122** *L* **19** # 95

Paul, Michael Analog Devices

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

Ilim needs to stay consistent with changes we make in section 189.3

SuggestedRemedy

See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.5.5** *P* **131** *L* **35** # 96

Paul, Michael Analog Devices

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

Update unit power for type 0 consistent with descisions made in section 189.3

SuggestedRemedy

See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.5.5** *P* **131** *L* **40** # 97

Paul, Michael Analog Devices

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

Update input power for type 0 consistent with decisions made in section 189.3

SuggestedRemedy

See presentation mpaul_da_02_20250310.pdf

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.5** *P* **121** *L* **25** # 98

Paul, Michael Analog Devices

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

Symbol 'I_{Type_presen}' missing a 't'

SuggestedRemedy

Change the symbols so it says I_{Type_present}

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.3** *P* **112** *L* **39** # 99

Paul, Michael Analog Devices

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

Add retrun loss curve modifications to accommodate variable power coupling inductance that tracks unit load value

SuggestedRemedy

Add subsection to 189.3. See presentation mpaul_da_01_20250310.pdf for text.

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.5.5** *P* **131** *L* **44** # 100

Paul, Michael Analog Devices

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

MPD inrush current is 10mA max. I think we want 10mA typical, we should increase it to 20mA to increase inrush speed and ensure the PD is issuing a TPS report during inrush.

SuggestedRemedy

Change item 5 I_{Inrush_MPD} maximum to '20'

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.1** *P* **62** *L* **16** # 101

Law, David HPE

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

Suggest that '... as part of the nodeId assignment ...' should read '... as part of the local_nodeID assignment ...' to match the references to local_nodeID in the first sentence of this paragraph.

SuggestedRemedy

See comment

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.2** *P* **63** *L* **15** # 102

Law, David HPE

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

A variable 'COR' is defined as the 'The MII signal COR.'. This should be 'CRS'.

SuggestedRemedy

Change the two instances of 'COR' to 'CRS'.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.3** *P* **65** *L* **22** # 103

Law, David HPE

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

The second sentence of the first paragraph of the PICK_FREE_TXOP function description says, 'It returns any ID that ...'. Item (b) of the description then starts, 'it shall not return an ID greater ...'. The last sentence, however, says, '... the function will return the next TO immediately following the highest HARD claimed TO in the table ...'.

SuggestedRemedy

Change the two instances of 'TO' to 'ID'.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.3** *P* **66** *L* **14** # 104

Law, David HPE

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

The description of the PICK_FREE_TXOP function says that 'It returns any ID that is not marked as HARD or SOFT claimed in the table ...'. It, however, does not define what should happen when no IDs are free (i.e., all are marked as either HARD or SOFT).

SuggestedRemedy

Suggest that an item (c) is added to the exceptions list that reads:

c. it shall return 255 if all IDs in the table are marked HARD or SOFT).

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.5** *P* **66** *L* **24** # 105

Law, David HPE

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

On review of the PHY delay constraints defined in table 188-4 '10BASE-T1M delay constraints', it appears the CRS signal resulting from a looped back BEACON can be de-asserted before the associated RX_ER and RXD BEACON encoding, see loopback_230225.jpg. Worse case, the maximum time to the RX_ER and RXD BEACON encoding appears to be TX_CLK cycle time + TX_ER sampled to TCI output + TCI input to RX_ER asserted = 400 + 440 + 4000 = 4840 ns. In the best case, the maximum time to CRS de-assertion appears to be TX_CLK cycle time + TX_ER sampled to TCI output + beacon_timer + TCI input to CRS de-asserted = 400 + 440 + 2050 + 1120 = 4010 ns; however, it could be shorter. Either way, this is less than the worse-case maximum time to the RX_ER and RXD BEACON encoding. As a result, the Figure 148-8 'D-PLCA Control State Diagram' will exit the LOOPBACK state due to the reassertion of the CRS signal and then will consider the subsequent associated RX_ER and RXD BEACON encoding as a separate BEACON. This defeats the purpose of the LOOPBACK state; see comment #333 on IEEE P802.3da draft D2.0.

To address the above, a timer would need to be started on entry to the LOOPBACK state, which expires shortly after the maximum time to RX_ER and RXD BEACON encoding. The LOOPBACK state should not be exited until this timer has expired.

SuggestedRemedy

[1] Add a new timer to subclause 148.4.7.4 'Timers' as follows:

loopback_timer
Represents the maximum time for a BAECON to loop back on the MII received path.
Duration: 4250 ns.
Tolerance: ± 250 ns.

[2] In the figure 148-8 'D-PLCA Control State Diagram':

[a] Add the action 'start loopback_timer' to the LOOPBACK state.
[b] Change the exit condition from the LOOPBACK state to read 'loopback_timer_done * (rx_cmd != BEACON) * !CRS * !COL'.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.5** *P* **66** *L* **45** # 106

Law, David HPE

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

I noted the MAC ExcessDefer counter being incremented when a node is added.

Since the node being added is receiving BEACONs, the PLCA Control state diagram will enter the SYNCING state, setting plca_active to TRUE. This causes the PLCA Status state diagram to enter the ACTIVE state, setting plca_status to OK. As a result, the PLCA DATA state diagram will exit the NORMAL state, where it defaults to CSMA/CD operation, and start PLCA operation.

The D-PLCA Control State Diagram (Figure 148-8) on the node being added, however, cannot exit the LEARNING state and enter the FOLLOWER state until dplca_new_age is true (among other conditions). The local_nodeID variable is set to 255 in the WAIT_BEACON and LEARNING state, which inhibits transmission and is only set to a value other than 255, which will permit transmission on entry to the FOLLOWER state.

The dplca_new_age variable, however, will only be set true once long_cnt, which is incremented on each BEACON, equals hard_aging_cycles in the TXOP_END state in the D-PLCA Aging State Diagram (Figure 148-9). As a result, the node being added will not be able to transmit until the number of BEACONS it has received equals hard_aging_cycles. This is a reasonably short time in the absence of other transmissions, but if there are other nodes transmitting during the Transmit Opportunities between these BEACONs, it can be quite a bit longer. It is this delay that causes the ExcessDefer error counter to increment.

I've captured this in the two traces. All nodes are configured to support D-PLCA, with node 0 configured with coordinator_role_allowed set true. Nodes 0, 2 and 3 are enabled at time 0. Node 1 is enabled at 15 ms, and the first Node 1 packet transmission request is at 16 ms. In the first trace (excess_defer_1_220225.jpg), there are no transmissions on the segment from nodes 0, 2 or 3. As a result, a node ID is allocated to node 1 shortly after it is enabled. The node 1 packet transmission request at 16 ms (the dte_node_1.MAC.MA_DATA_request.MA_DATA_request event) is, therefore, serviced immediately.

In the second trace(excess_defer_2_230225.jpg), a burst of 40 maximum-length packets starts being transmitted by node 2 at 8 ms, meaning that node 1 is enabled in the middle of these transmissions. Since dplca_new_age will not become true in node 1 until the number of BEACONs it has received equals HARD_AGING_CYCLES (long_cnt = hard_aging_cycles), and since the node 2 transmissions increase the time between BEACONs, a node ID is not allocated to node 1 until about 36 ms. Only then can the node 1 packet transmission request at 16 ms be serviced. This is well in excess of the normal maximum deferral time. Hence, the node 1 MAC ExcessDefer error counter is incremented.

The above traces are with hard_aging_cycles = 25; however, the default value of hard_aging_cycles added in draft D1.4 is 1000. Worse case, neglecting the inter-packet gap and beacon duration, it appears the delay could be in excess of:

Max size packet transmit time x number of nodes x value of HARD_AGING_CYCLES

Using the example of 1500 bytes packets, 4 nodes, and hard_aging_cycles set to the suggested default of 1000 yields:

1500 x 8 x 100 ns x 4 x 1000 = 4.8 seconds

The above assumes that the 4 nodes on the network are continuously transmitting maximum-size packets for 4.8 seconds, which may not be realistic but shows how long the delay can be before a new node can transmit on a busy segment.

SuggestedRemedy

On review of the contribution 'Dynamic PLCA Node ID Assignment' dated 4 November 2020, I see slide 18 'Mixing "cg" and "da" nodes' <https://www.ieee802.org/3/da/public/110420/beruto_3da_01_110420.pdf#page=18> says 'In this case, the D-PLCA node won't be able to achieve enumeration and will keep working in plain CSMA/CD mode creating random collisions.'. This seems to imply that the intent may have been for a D-PLCA node to operate in CSMA/CD mode until it is allocated a nodeID. If this is correct, the state diagrams should be updated to support CSMA/CD operations while local_nodeID = 255.

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.1.1** *P* **71** *L* **18** # 107

Law, David HPE

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

A medium 'box' with a vertical left end usually signifies the end of the point-to-point media at the MDI. A shared media is signified by a vertical zig-zag at both ends (see IEEE std 802.3-2022 Figure 1–1).

SuggestedRemedy

Change the medium 'box' vertical left end to be a vertical zig-zag.

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.2** *P* **72** *L* **10** # 108

Law, David HPE

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

Suggest that '... PHY supports only shared media ...' should read '... PHY only supports shared media ...'.

SuggestedRemedy

See comment

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.2** *P* **72** *L* **16** # 109

Law, David HPE

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

Suggest that 'Larger PHY count and reach can ...' should read 'Larger PHY count and longer reach can ...'.

SuggestedRemedy

See comment

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.8** *P* **96** *L* **13** # 110

Law, David HPE

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

Suggest that '10BASE-T1M PHYs are designed to operate ...' should read 'The 10BASE-T1M PHY is specified to operate ...'.

SuggestedRemedy

See comment

Proposed Response *Response Status* **O**

Cl **147** *SC* **147.1** *P* **53** *L* **11** # 111

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

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

The change to "provided" would make the current definitions for multidrop within clause 147 obsolete. Additionally, current implementations of 10BASE-T1S multidrop, which are already out in the field might not be compliant anymore.

SuggestedRemedy

change provided to "enhanced"

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.1.2** *P* **72** *L* **31** # 112

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

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

Text passage contains the word "MDI" several times.

SuggestedRemedy

Change "MDI" to "TCI"

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.6.2.1** *P* **98** *L* **37** # 113

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

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

Text ends with "TCI". The TCI is a logical interface - and must not be a physical part. Thus, th mode conversion is caused by all parts of the cabling system and the node.

SuggestedRemedy

Change "TCI" to "node"

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.8.2** *P* **108** *L* **41** # 114

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

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

The usage of "simulated DTE load" is different than on other positions in this document. Typically, the "Simulated DTE load" is used to simulate a PHY to the TCI. At this position, it is instead used to simulate a whole DTE including the TCI. The simplest way of performing the measurement would be to connect both cable ends from TC1 and TC2 together. This can be made for all cases. (Not only when the TCI is expected to be incorporated within the DTE).

SuggestedRemedy

Change to: The mode conversion loss measurement may be made with the cable segments connected in line.

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.9.1.2** *P* **110** *L* **26** # 115

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

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

Having TCI return loss specifications in two places - 188.9.1.2 and 189.6.1 is confusing. Additionally, the TCI specifications are given for one unit load of power. Please consider this comment with the following one.

SuggestedRemedy

Merge unit load concept of 189.6.1 into 188.9.1.2

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.9.1.1** *P* **110** *L* **7** # 116

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

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

"0.16 dB" has to digits precision, which might be hard to measure. Additionally, TCI insertion loss might be affected by the TCI return loss change of 189.9.1.2 which has to be considered

SuggestedRemedy

Change "0.16 to 0.2" (in 1<=f<10) and -0.454 to -0.494 (in 10<=f<24)

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.1** *P* **139** *L* **28** # 117

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

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

plus 10log… indicates, that RL becomes better with more unit loads. Think it should become worse.

SuggestedRemedy

change plus to minus

Proposed Response *Response Status* **O**