

PG 13/43 Line 41 "19GBASE-CX4" becomes "10GBASE-CX4".

ACCEPT

PG 14/43 Line 30 add a comma after "Clause 53"
Withdraw
ACCEPT

PG 15/43 Line 19 add a comma and space after "Clause 53".
Accept, added space

PG 19/43 Figure 54-2 There is a black line under TP4 that I can't figure has any meaning. A thick black line.

## ACCEPT

Page 1 of 37
Cl 00 SC

## P802.3ak Draft 4.0 Comments

ELEFEXT(f)>= $17-21.85^{*} \log (\mathrm{f} / 2000)$
PG 27/43 Line4-6 Change "Figure 54--6--" and "Figure 54--6--" to "Figure 54-6 and Figure 54-5"

## ACCEPT

PG 27/43 Line 7 Change ". All transmitters... SHALL be disabled" to "while all other transmitters are disabled" to remove the shall statement.

## ACCEPT

PG 27/43 Line39 Figure 54-6 the lower limit should have a slope at time zero. The lower axis should be in UI. Change the title from "..at MDI.." to "..at TP2.." Add the Transition time lines to the figure.

## ACCEPT

PG 28/43 Table 54-5 Change "Time(ps)" to "Time(UI)" on four columns ACCEPT

PG 29/43 Line 49 "transmiter" again.
ACCEPT

PG 30/43 Line 8 Change "between ports" to "between network ports" ACCEPT

From Ze'ev,
Comment Type: (TR)
Clause: 54
SubClause: 8.5
Page \#: 34
Line \#:
Comment:
There seems to be a discrepancy between equations 54.10, 54.11 and figure 54-10.
In the figure itself I think the label of ELFEXT and MDELFEXT are crossed (MDELFEXT should be larger than ELFEXT hence the loss should be smalle therefore it should appear higher in the figure).
A. Regarding ELEFEXT In order for the equation to fit the figure we should have:
(2000 in the denominator of the log rather than 50 ).

I've taken 4 points off figure 54-10 and they seem to fit well the above equation

B. Regarding MDELFEXT in order for the equation to fit the figure we should have:

MDELEFEXT(f)>= $21-21.85^{*} \log (f / 2000)$
(2000 in the denominator of the log rather than $50 \& 21$ instead of 15).

| f | MDELFEXT (figure) | 21-21.85* $\log (\mathrm{f} / 2000)$ |
| :---: | :---: | :---: |
| 100 | 49.5 | 49.4 |
| 200 | 43 |  |
| 42.9 |  |  |
| 1000 | 28 | 27.6 |
| 2000 | 21 |  |

Equation 54.11 as is makes little sense:
for $f=50$ they yield positive results while for $f=500$ they yield negative
results. For instance
MDELFEXT (100) = 8.4225
MDELFEXT (200) $=1.8450$
MDELFEXT(1000) $=-13.4275$
MDELFEXT $(2000)=-20.0050$
Implying that @2GHz you have 20 dB gain.
Proposed Remedy:
Replace equation 54.10 by:
ELEFEXT(f)>= $21-21.85^{*} \log (f / 2000)$
Replace equation 54.11 by:
MDELEFEXT(f)>= $17-21.85^{*} \log (f / 2000)$
Regards,
Ze'ev

ACCEPT in Principle: $f / 50$ changed to $f / 2000$

From Peter Bradshaw
Table 54-4, line 26 change minimum to maximum

## ACCEPT

SuggestedRemedy
Proposed Response Response Status C
ACCEPT.
No opposition to resolution.

| Cl $00 \quad$ SC 0 | $P$ | $L$ | \# 342 |  |
| :---: | :---: | :---: | :---: | :---: |
| Grow, Robert | Intel |  |  | E342 |
| IEEE Std 802.3ae uses ""interoperability"" and P802.3ak uses ""inter operability"" in multiple places. |  |  |  |  |
| SuggestedRemedy |  |  |  |  |
| Proposed Response ACCEPT. | Response Status C |  |  |  |
| Cl 00 SC 0 | P2 | L 8 | \# 320 |  |
| Grow, Robert | Intel |  |  |  |
| Comment Type E | Comment Status A |  |  | E320 |

Though used in published standards, somewhere this EDITORIAL NOTE is inconsistent.
There are four instructions described and used, not three.
SuggestedRemedy
Change ""Three"" to ""Four"".
Proposed Response Response Status C ACCEPT.

| Cl 00 SC 0 | P3 | $L 1$ | \# 56 |
| :--- | :---: | :---: | :---: |
| Booth, Brad | Intel |  |  |
| Comment Type E | Comment Status A |  | E056 |

Comment Type Eomment Status A E056
Line numbering is always on the left side of the page. Are you using right and left pages, or did you just place the number always on the left side?
SuggestedRemedy
This is only an issue if you're not using right and left paging throughout the document whicr is preferred by the IEEE editors.
Proposed Response Response Status C
ACCEPT IN PRINCIPLE.
We are using right and left paging throughout the document, therfore no change is made per suggested remedy.

| CI 00 SC 0 | P7 | L33 | \# 380 |
| :--- | :---: | :---: | :---: |
| Thompson, Geoff | Nortel |  |  |
| Comment Type E | Comment Status A |  | E380 |

thru line 35 ""f)"" should not be in underscored and ""h)"" should be in underscore.
SuggestedRemedy
Remove underscore from ""f)" Add underscore to ""h)""
Proposed Response Response Status C ACCEPT IN PRINCIPLE.

| Will delete all unchanged list items and mark as recommended. |  |  |  |
| :--- | :---: | :---: | :---: |
| CI 00 |  |  |  |
| Marris, Arthur |  |  |  |
| SC 1.4 |  |  |  |
| Comment Type |  |  |  |
| E |  |  |  |

Comment Type E Comment Status A
Need to add definitions for ""FR4"" and ""Twinaxial""
SuggestedRemedy
Add definitions for ""FR4"" and ""Twinaxial""
Proposed Response Response Status C
ACCEPT IN PRINCIPLE.
The occurance of "FR4" has been deleted, see comment \#386 See comment \#82 for usage of twinaxial.

TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

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Cl 00 SC 1.4




SuggestedRemedy
The additions start with the comma, not LX4, therefore no strikeout/insertion is required for LX4.
Proposed Response Response Status C

| ACCEPT. |
| :--- |
| Cl $44 \quad$ SC 1.4.4 |
| Grow, Robert |

Comment Type E Comment Status A
The change marking though technically correct is unconventional.
SuggestedRemedy
Add an underlined "", 53"" after ""Clause 48"", strike through ""53"", and add an underlined ""54"". Alternatively, change to read ""The term 10GBASE-X in Clause 48, refers to ..."" by striking out the ""s"" in Clauses up through ""Clause 53"".
Proposed Response Response Status C ACCEPT IN PRINCIPLE.

See comment \#300


TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn


P802.3ak Draft 4.0 Comments


TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

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Cl 45 SC 2.1.7.6


[^0]ACCEPT IN PRINCIPLE.
See comment \#286

TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

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Cl 48 SC 1.3.3

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This comment is against 48.3 .1 on page 310 of $802.3 \mathrm{ae}-2002$. The note here mentions
Clause 47 and 53.

## SuggestedRemedy

Change text to ""jitter specifications of Clauses 47, 53, and 54.""

| Proposed Response ACCEPT. | Response Status C |  |  |
| :---: | :---: | :---: | :---: |
| Cl 48 SC 3.1 | P13 | L3 | \# 369 |
| Lynskey, Eric | UNH-IOL |  |  |
| Comment Type E | Comment Status A |  |  |

This comment is against 48.3 .1 on page 310 of $802.3 a e-2002$. The note here mentions
Clause 47 and 53.

## SuggestedRemedy

Change text to ""jitter specifications of Clauses 47, 53, and 54.""
Proposed Response Response Status C
ACCEPT.

| CI $48 \quad$ SC Figure 48-1 | $P 12$ |
| :--- | :---: |
| Grow, Robert | Intel |

\# 332

Comment Type E Comment Status A
T286
There are a number of minor problems with this figure. This instruction should be
""Replace Figure 48-1 with:"" or alternative leave as ""Change"" and add what has changec below the instruction (see IEEE Std 802.3ae-2002, p. 16). The architectural Figure is not consistent for PCS clauses, but we don't need to invent a new one. (Clause 36 has a PCS--PMD stack for each PMD type, Clause 52 only has WAN and LAN stacks.) I recommend consistency within a speed of operation (e.g., more like Clause 52).

## SuggestedRemedy

1. The background of the PCS and PMA boxes should be diagonal lines, not shading (probably a platform translation problem of FrameMaker). 2. Use the model of clause 52 and only have one stack, delete ""To 10GBASE-X PHY"", name at bottom becomes ""10GBASE-X"". (If the TF chooses two stacks, do it like clause 36.)
Proposed Response Response Status C

ACCEPT IN PRINCIPLE.


Not IEEE reference model. This is a typo in 53.1 ; I think 52.1 has it right.

## SuggestedRemedy

Change to ""ISO/IEC Open System Interconnection (OSI) reference model."".
Proposed Response Response Status C
ACCEPT.

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TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

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Cl 54 SC 12.4


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| CI 54 SC 12.4.4 | P46 | $L 20$ | \# |
| :--- | :---: | :---: | :---: |
| Booth, Brad |  | Intel |  |
| Comment Type E Comment Status A |  | E053 |  |

Comment Type E Comment Status A
RS8 appears to have an extra carriage return in the Value/Comment field.

## SuggestedRemedy

Delete so row format matches others.
Proposed Response Response Status C ACCEPT.

TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

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Cl 54 SC 5
Grow, Robert
Comment Type E $\quad$ Intel
With the exception of the table references in the text, this subclause is identical to 53.3. It
is neither necessary nor prudent to include this duplicate information.

SuggestedRemedy
Change all references to ""Table 54-3"" to ""Table53-2"" and references to ""Table 54-4"" to ""Table 53-3"". Delete Tables 54-3 and 54-4. Search for references to 54.5 and replace as appropriate with 53.3.
Proposed Response Response Status C
ACCEPT IN PRINCIPLE.
This subclause changed to:
"The 10GBASE-CX4 PMD uses the same MDIO function mapping as 10GBASE-LX4 as defined in Clause 53.3"
A reader might assume that ""bit time"" referred to the signalling period (320 ps). We should make it clear that it doesn't. This is a repeat of a comment against 44.3.

## SuggestedRemedy

Add: NOTE - ""Bit time"" refers to the duration of one bit as transferred to and from the MAC (100ps in this case).
Proposed Response Response Status C
REJECT.
See comment \#290. Bit time is defined in Clause 1.4.50

| C/ 54 | SC 5 | P19 | L31 |
| :--- | ---: | ---: | ---: |
| Dawe, Piers | Agilent |  | 404 |

Comment Type Eomment Status R E338
Might as well complete the table.
SuggestedRemedy
Include bit 1.8.9 in the table.
Proposed Response Response Status C
REJECT.
See comment \#338

| Cl 54 | SC 6.1 | P 20 | LFigure 54- |
| :--- | :---: | :---: | :---: |
| Bill Quackenbush | Cisco Systems, Inc. | 466 |  |

Comment Type E
Comment Status A
E466

The "+" and "-" notations used here to designate the two signals comprising a differential pair differ from the notation used in Table 54-2 which uses "<p>" and "<n>". This or a similar inconsistency occurs in a number of places and needs to be uniformly addressed.
SuggestedRemedy
Select and use consistent notation. I suggest the " + " and "-" notation.

| Proposed Response ACCEPT. | Response Status C |  |  |
| :---: | :---: | :---: | :---: |
| "<p>" and "<n>" will be used to match the style in Clause 47. |  |  |  |
| Cl 54 SC 6.2 | P 20 | L44 | \# 356 |
| Grow, Robert | Intel |  |  |
| Comment Type E | Comment Status A |  |  |

Though ""electrical"" is the most likely implementation approach for bit streams, it is implementers choice as to how the logic is implemented.
SuggestedRemedy
Line 44 -- delete ""electronic"" Line 52 -- delete ""electronic"" Page 43, PF5 -- delete
""electrical"" from the second line of Value
Proposed Response Response Status C
ACCEPT IN PRINCIPLE.
See comment \#292

TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn


The unit "mVppd" appears to be used in Table 54-5 without definition. I infer that it means "milliVolts peak-peak differential".

## SuggestedRemedy

Define the term or change the table so that "mVpp" can be used as is the case in Table 546.

Proposed Response Response Status C ACCEPT.

| Also change mVppd to mVpp differential in paragraphs above table. |  |  |  |
| :--- | :---: | :---: | :---: |
| CI 54 |  |  |  |
| Dawe, Piers |  |  |  |

Comment Type E Comment Status R
E412
There should be something in here about a compliant signal (both electrically and in
coding), and a get out: behaviour unspecified in all other conditions.
SuggestedRemedy
Per comment.
Proposed Response Response Status C

## REJECT.

Signal detect is only meant to detect the presence of a signal, not whether there is a CX4, compliant, coded signal.



P802.3ak Draft 4.0 Comments


TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause $\quad$ Page 21 of 37 RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

| Cl $54 \quad$ SC 7.3.4 | P25 | L33 | \# |  |
| :---: | :---: | :---: | :---: | :---: |
| Alan Flatman | LAN Technologies |  |  | E075 |
| Title "Amplitude and Swing" duplicates same meaning |  |  |  |  |
| SuggestedRemedy | rename "Output Amplitude" |  |  |  |
| Proposed Response ACCEPT. | Response Status C |  |  |  |
| Cl 54 SC 7.3.4 | P25 | L 39 | \# |  |
| Frazier, Howard | SW |  |  | E296 |
| Comment Type E | Comment Status A |  |  |  |
| D.C. vs DC. Both appear in the same sentence. |  |  |  |  |
| SuggestedRemedy |  |  |  |  |
| Use DC, not D.C. |  |  |  |  |
| Proposed Response | Response Status C |  |  |  |
| ACCEPT. |  |  |  |  |
| Will also search entire text and make all consistant |  |  |  |  |
| Cl 54 SC 7.3.4 | P25 | L Fig | \# |  |
| Bill Quackenbush | Cisco Sy |  |  |  |
| Comment Type E | Comment Status A |  |  | E470 |
| The designations " $<\mathrm{N}>$ " and " $<\mathrm{P}>$ " for the two signals comprising a differential pair are inconsistent with the designations used elsewhere in the Clause 54. |  |  |  |  |
| SuggestedRemedy |  |  |  |  |
| Select and use consistent notation. I suggest the "+" and "-" notation. |  |  |  |  |
| Proposed Response <br> Response Status ACCEPT IN PRINCIPLE. |  |  |  |  |
|  |  |  |  |  |
| <p> and <n> adopted |  |  |  |  |


| Cl $\mathbf{5 4}$ | SC 7.3.5 | P26 | $L \mathbf{1 0}$ | \# 86 |
| :--- | ---: | ---: | ---: | ---: |
| Cobb, Terry |  | Avaya |  |  |
| Comment Type | E | Comment Status A |  | TR297 |

In the past this is usually a table.
SuggestedRemedy
Move the return loss to a table. This would need to be changed throughout the document. In addition the picture should not be included. It is best not to show a requirement with both a picture and equation or table. As in a previous comment, the table is generally used for specifing the requirement. It also makes the PIC easier.

Proposed Response Response Status C ACCEPT IN PRINCIPLE.

| Cl 54 SC 7.3.5 | P26 | L24 | \# 24 |
| :---: | :---: | :---: | :---: |
| Booth, Brad | Intel |  |  |
| Comment Type E | Comment Status R |  |  |

Figure 54-5, $-6,-7,-9,-10,-11$, and -12 appear to be imported graphics. These graphics need to be in editable FrameMaker format.
SuggestedRemedy
Eliminate imported graphics.
Proposed Response Response Status C
REJECT.
IEEE Standards Style Manual Section 16 allows for imported graphics. Files for each graphic will be maintained per Section 16 . See comment \#297

| C/ 54 | SC 7.3.5 | P 26 | L3 |
| :--- | :---: | :---: | :---: |
| Joergensen, Thomas | Vitesse Semiconducto | \# 88 |  |

Comment Type E Comment Status A E088
It is not the output impedance of the driver, but the output impedance of the total circuit including PCB and connector.
SuggestedRemedy
Change the word ""driver"" to ""output"" in line 3
Proposed Response Response Status C
ACCEPT.
"driver" canged to "transmitter" throught document

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TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

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Cl 54 SC 7.3.6




Comment Type E Comment Status R
The pattern is 10 Ul or 3200 ps long. The table and figure should extend over the same range.
SuggestedRemedy
Delete last row of table, truncate figure at 3200 ps or continue template to chosen end of time axis.

| Proposed Response <br> REJECT. | Response Status C |
| :--- | :---: | :---: |
| See comment \#418 |  |

The table contains 4 sets of duplicated number pairs whose purpose is unclear and that do not seen to be needed.

SuggestedRemedy
Remove the duplicate upper limit number pairs for 283 and 709 ps and the duplicate lower limit number pairs for 1883 and 2309 ps.
Proposed Response Response Status C
ACCEPT IN PRINCIPLE.
Will pare down duplicated numbers to pairs to indicate a straight line.

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P802.3ak Draft 4.0 Comments


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TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

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Cl 54 SC 7.4.5


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""intended as a point-to-point interface of up to approximately 15 m between integrated circuits"" - NOT. You use PCB to connect ICs. Twinax cable, between boxes!

```
SuggestedRemedy
    ""between ports"".
Proposed Response Response Status C
    ACCEPT IN PRINCIPLE.
    Will use "between network ports".
```

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TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

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Cl 54 SC 8.4

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TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

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Cl $54 \quad$ SC 8.4.2


| Cl $54 \quad$ SC 8.5.1 | P36 | $L 36$ | \# 497 |  |
| :---: | :---: | :---: | :---: | :---: |
| Steve Dreyer | Intel |  | E497 |  |
| Missing colon after "defined as". |  |  |  |  |
| SuggestedRemedy |  |  |  |  |
| Proposed Response Response Status C |  |  |  |  |
| $\begin{array}{lcc}\text { C/ } 54 \\ \text { Daines, Kevin } & \text { L.5.1 } \\ \end{array}$ |  |  |  |  |
|  |  |  |  |  |  |  |
| Comment Type E | Comment Status A |  |  | E019 |
| This line, introducing an equation, ends with a colon. Most of the preceding lines introducing equations did not. |  |  |  |  |
| SuggestedRemedy |  |  |  |  |
| Choose one punctuation and harmonize clause. |  |  |  |  |
| Proposed Response Response Status C |  |  |  |  |
| ACCEPT. |  |  |  |  |
| Will end with ":" |  |  |  |  |
| Cl 54 SC 8.5.2 | P37 | L6 | \# 439 |  |
| Dawe, Piers | Agilent |  |  |  |
| Comment Type E | Comment Status A |  |  | E439 |
| If l've understood this right, this paragraph can be cleaned up. |  |  |  |  |
| SuggestedRemedy |  |  |  |  |
| Replace first two sentences with: ""Since four duplex channels are used to transfer data between PMDs, the FEXT that is coupled into a data carrying channel will be from the three other channels in the same direction. |  |  |  |  |
| $\begin{aligned} & \text { Proposed Response } \\ & \text { ACCEPT IN PRINCIPLE. } \end{aligned}$ |  |  |  |  |
|  |  |  |  |  |  |  |
| Will use <br> "Since four channels are used to transfer data between PMDs, the FEXT that is coupled into a data carrying channel will be from the three other channels in the same direction" |  |  |  |  |

P802.3ak Draft 4.0 Comments


```
REJECT.
```

Will make consistant with other 802.3 standards (e.g. 1000BASE-T).

| CI 54 | SC 8.5.2.1 | P37 | L 21 |
| :--- | :---: | :---: | :---: |
| Brown, Benjamin | Independent |  | \#315 |

Comment Type Eomment Status A E370
According to the second paragraph in Clause 11 of the IEEE style manual: ""Clauses and subclauses shall be divided into further subclauses only when there is to be more than one subclause. In other words, clauses and subclauses should not be broken down into furthe subclauses if another subclause of the same level does not exist. For example, Clause 1 shall not have a subclause 1.1 unless there is also a subclause 1.2.

## SuggestedRemedy

Remove the header for this subclause and combine with 54.8.5.2 Same comment applies
to 54.9.1.1 \& 54.10.1
Proposed Response Response Status C
ACCEPT IN PRINCIPLE.
See comment \#370

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P802.3ak Draft 4.0 Comments


## SuggestedRemedy

Move the arrow
Proposed Response Response Status C
ACCEPT.



[^0]:    SuggestedRemedy
    Change the ""10GBASE-LX4"" to read ""10GBASE-LX4 or 10GBASE-CX4""
    Proposed Response Response Status C

