

IEEE P802.3bz D0.1 2.5/5GBASE-T 1st Task Force review comments

CI 1 SC 1.4 P 20 L 36 # 9

Maguire, Valerie

Siemon

Comment Type T Comment Status D BQ

Consider adding a definition for category 8 to support the reference in clause 113A.3, line 6.

*SuggestedRemedy*

Copy definition for definition for category 8 from P802.3bq and insert into clause 1.4.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Track editorially with BQ comment 42

Category 8 balanced cabling: Balanced 100 Ω cables and associated connecting hardware whose transmission characteristics are specified up to 2,000 MHz (i.e., cabling components that meet the Category 8.1 or Category 8.2 requirements specified in ISO/IEC 11801-1 Edition 3 or Category 8 specified in ANSI/TIA-568-C.2-1). In addition to the requirements outlined in ISO/IEC 11801-1 Edition 3 and ANSI/TIA-568-C.2-1, IEEE 802.3 Clause 14, Clause 23, Clause 25, Clause 40, Clause 55, and Clause 113 specify additional requirements for this cabling when used with 10BASE-T, 100BASE-T, 10GBASE-T, and 40GBASE-T.

CI 126 SC 126.3.6.4 P 110 L 37 # 24

Zimmerman, George

CME Consulting, Inc.

Comment Type E Comment Status D BQ

In figure 113-17 there is an extra "+" on the exit for TX\_E state going to target C

BQ CARRY OVER 1

*SuggestedRemedy*

Remove the extraneous +

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. per BQ d2p1 resolution  
ACCEPT IN PRINCIPLE.

Clean up exits to states TX\_E and TX\_T to make clear what goes with what:

Replace "(T\_TYPE(tx\_raw) = C+LII) +" with "T\_TYPE(tx\_raw) = (C + LII)" and move next to target C out of state TX\_E,

Move "T\_TYPE(tx\_raw) = (E+D+T)" associated with exit from state TX\_T to the left, abutting its exit from state TX\_T, and

Move "T\_TYPE(tx\_raw) = D" down so that it is clear that it is associated with target D out of state TX\_E.

CI 126 SC 126.6.1.2 P 153 L 45 # 27

Zimmerman, George

CME Consulting, Inc.

Comment Type T Comment Status D BQ

Table 126-16: short reach mode bit in autoneg page needs extension to 40G, and doesn't currently agree with clause 45 register.

(this comment is aligning to bq and the base text in 802.3bx d3p1, not making a recommendation that 802.3bz phys have a short reach mode)

BQ CARRY OVER 88

*SuggestedRemedy*

Change "10GBASE-T PHY short reach mode" to "PHY short reach mode"

Proposed Response Response Status W

PROPOSED ACCEPT.  
per BQ d2p1 resolution

CI 126 SC 126.1 P 65 L 5 # 38

Zimmerman, George

CME Consulting, Inc.

Comment Type TR Comment Status D BQ

Subclause 126.1 does not define all of the mandatory and optional sublayers required for a complete physical layer as is done for all 10GBASE-R, 40GBASE-R, and 100GBASE-R PHYs. An example is Table 84-1 for 40GBASE-KR4. Such a table is helpful to identify the related layers and interfaces that are relevant to 2.5GBASE-T or 5GBASE-T but not defined in the Clause 126 such as the XGMII (46), RS (46), XAUI (47, optional), and 10GBASE-X PCS (48, optional, but req'd for XAUI).  
BQ CARRY OVER 9

*SuggestedRemedy*

Add a table "Physical Layer clauses associated with the 2.5/5GBASE-T PCS/PMA" list the "associated clauses" and indicate "optional" or "mandatory" for each.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Per BQ d2p1 resolution

Add the following on page 65, line 18, after "Clause 45, or equivalent." (same paragraph)

"Please refer to Table 125-2 for associated sublayers and options for assembling a 2.5Gb/s or 5Gb/s system with the 2.5GBASE-T or 5GBASE-T PHY, respectively."

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CI 126 SC 126.5.4.3 P 150 L 23 # 39  
 Zimmerman, George CME Consulting, Inc.

Comment Type T Comment Status D BQ

Splitting some technical detail between this clause and the Annex creates confusion, and new technical information is available suggesting a change in source control. Change the paragraph to move all technical detail to the Annex.

BQ CARRY OVER 111

SuggestedRemedy

replace with:  
 An 80 MHz to 2000 MHz test can be made using the cable clamp described in Annex 113A, 30 meter plug-terminated cabling that meets the requirements of 113.7, suitable broadband ferrites, and a common ground reference plane for this test equipment and the equipment under test. A controlled sine wave that is stepped across the entire frequency range is used to generate the external electromagnetic field and corresponding shield current.

Proposed Response Response Status W

PROPOSED REJECT.  
 per BQ d2p1 resolution  
 (WITHDRAWN)

CI 45 SC 45.2.3.14 P 44 L 27 # 43  
 Zimmerman, George CME Consulting, Inc.

Comment Type ER Comment Status D BQ

Inconsistent changes: in 45.2.3.14, the text in line 14 reads "A PCS device that does not implement BASE-R, 2.5GBASE-T, 5GBASE-T, 10GBASE-T, and 40GBASE-T shall return a zero for all bits in the BASE-R and MultiGBASE-T PCS status 2 register." but a similar text in 45.2.3.13 reads "A PCS device that does not implement BASE-R, 2.5GBASE-T, 5GBASE-T, 10GBASE-T, or 40GBASE-T shall return a zero for all bits in the BASE-R and MultiGBASE-T PCS status 1 register"

Note that "and" in the first case was carried over and placed in front of "40GBASE-T and in the second case it was converted into "or" placed in front of "40GBASE-T"

BQ CARRY OVER 54

SuggestedRemedy

I believe the change done in 45.2.3.14 is correct (a PCS device not implementing any of the PHYs, hence "and") and 45.2.3.13 needs to be corrected (change "or" to "and")

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
 Per BQ d2p1 resolution  
 Change 45.2.3.13 to read "A PCS device that implements neither BASE-R, 2.5GBASE-T, 5GBASE-T, 10GBASE-T nor 40GBASE-T shall..."  
 Change 45.2.3.14 to read "A PCS device that implements neither BASE-R, 2.5GBASE-T, 5GBASE-T, 10GBASE-T, nor 40GBASE-T shall ..."

CI 45 SC 45.2.7.11 P 48 L 12 # 44  
 Zimmerman, George CME Consulting, Inc.

Comment Type ER Comment Status D BQ

Missing editorial markup in Table 45-208. Rows with bits 7.33.8 and 7.33.2 are newly added.

BQ CARRY OVER 61

SuggestedRemedy

Underline the content in rows with bits 7.33.6 through 7.33.3

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. per BQ d2p1 resolution  
 Rewrite editing instruction to show two instructions - change and insert

Change the title, the reserved row, and the names and descriptions for bits 7.33.9, 7.33.1 and 7.33.0 in Table 45-208 and  
 (line break)  
 Insert row for bit 7.33.8 before the reserved row, and bit 7.33.2 after reserved row as follows (unchanged rows not shown):

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Cl 45 SC 45.2.7.10 P 47 L 12 # 45  
 Zimmerman, George CME Consulting, Inc.

Comment Type ER Comment Status D BQ

Given that this project is adding 2.5/5GBASE-T, I would assume that row with bits 7.32.8, 7.32.7, 7.32.6, and 7.32.5 should be shown in underline - these are new bits, taken out from reserved space

BQ CARRY OVER 55

SuggestedRemedy  
 per comment

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
 Additionally, editing instruction incorrectly refers to bits changed in BQ, not the ones shown for BZ.

New rows are insert instructions, so now underline. Rewrite editing instruction to make this clear:  
 Change the title and the reserved row in Table 45–207 and (line break)  
 Insert rows for bits 7.32.8, 7.32.7, 7.32.6 and 7.32.5 above and below the reserved row, respectively as follows (unchanged rows not shown):

Cl 1 SC 1.4.72b P 20 L 23 # 50  
 Zimmerman, George CME Consulting, Inc.

Comment Type E Comment Status D BQ

The MultiGBASE-T PHYs do not have PMD sublayers

BQ CARRY OVER 77

SuggestedRemedy

Change "Ethernet PCS/PMA/PMDs" to "Ethernet PHYs"  
 Alternatively, "Ethernet PCS/PMAs"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
 per BQ d2p1 resolution  
 Change to "Ethernet PCS/PMAs"

Cl 45 SC 45.5.3.7 P 54 L 28 # 56  
 Zimmerman, George CME Consulting, Inc.

Comment Type TR Comment Status D BQ

Change to PICS RM15 and RM16 incorrectly includes change to 2.5/5GBASE-T as an exception when operating at 10G - this can never happen.

BQ CARRY OVER 97

SuggestedRemedy

Delete proposed PICS change to RM15 and RM 16

Proposed Response Response Status W

PROPOSED ACCEPT.  
 Per BQ d2p1 resolution

Cl 45 SC 45.2.3.7 P 41 L 18 # 62  
 Zimmerman, George CME Consulting, Inc.

Comment Type ER Comment Status D BQ

The row with definition of register 3.8.6 should be shown in underline - it is new content

BQ CARRY OVER 51

SuggestedRemedy

Per comment

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.  
 per BQ d2p1 resolution  
 Editing instruction for new row is an "insert" instruction, hence no underline, rewrite editing instruction as two instructions to make this clear:  
 "Change the reserved row in Table 45–124 as shown below, and (line break)  
 Insert new row for name and description for bit 3.8.6 below it as follows (unchanged rows not shown):"

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CI 45 SC 45.5.3.7 P 54 L 50 # 66  
 Zimmerman, George CME Consulting, Inc.

Comment Type E Comment Status D BQ

RM40: usage of MultiGBASE-T is awkward, making it look like "MultiGBASE-T" is a single PHY. Meaning is "does not support ANY MultiGBASE-T"

BQ CARRY OVER 95

*SuggestedRemedy*

insert "any" before last "MultiGBASE-T" to read:  
 "Reads from BASE-R and MultiGBASE-T PCS status 2 register return zero for PCS that does not support 10/40/100GBASE-R or any MultiGBASE-T"

Proposed Response Response Status W

PROPOSED ACCEPT.  
 per BQ d2p1 resolution

CI 45 SC 45.2.1 P 32 L 14 # 67  
 Zimmerman, George CME Consulting, Inc.

Comment Type T Comment Status D BQ

The register names for registers 1.133 through 1.144 are shown in Table 45-3 as changing from starting "10GBASE-T" to "MultiGBASE-T". However, the register names in the defining subclauses 45.2.1.66 through 45.2.1.77 do not start with "10GBASE-T", and are not modified in the current draft.

To fix this issue, either:

a) the register names in Table 45-3 should remain as shown and the register names in 45.2.1.66 through 45.2.1.77 changed to start "MultiGBASE-T"

or

b) the register names in Table 45-3 should be shown as having "10GBASE-T" in strikethrough font to make them the same as in the defining subclauses.

Option a) has the merit of making the PHYs that use these registers clear, which it would otherwise not be.

BQ CARRY OVER 19

*SuggestedRemedy*

either:

a) leave the register names in Table 45-3 as they are and the change the register names in 45.2.1.66 through 45.2.1.77 to start "MultiGBASE-T" (preferred)

or

b) change the register names in Table 45-3 to start with "10GBASE-T" in strikethrough font to make them the same as in the defining subclauses.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

per BQ d2p1 resolution

Taking option (b) - see (BZ) comment 68

The registers in question could be used by more backplane and optical PHYs as they develop more advanced link monitoring capabilities.

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CI 45 SC 45.2.1 P 32 L 14 # 68  
 Zimmerman, George CME Consulting, Inc.

Comment Type ER Comment Status D BQ

Table 45-3 register names for Register 1.133 through 1.144 (SNR operating margin, minimum margin, and RX Signal power registers) do not agree with names of registers in referenced subclauses (subclauses 45.2.1.66 through 45.2.1.77 do not include "10G" and hence don't need the change to MultiG).  
 This defect exists in the base standard and the revision draft.

BQ CARRY OVER 95

*SuggestedRemedy*

Change names for Registers 1.133 through 1.144 in Table 45-3 to delete "10GBASE-T" from the name, as is in the base standard for the subclauses 45.2.1.66 though 45.2.1.77. Do not add MultiGBASE-T to these names in 802.3bz.

Proposed Response Response Status W

PROPOSED ACCEPT.  
 per BQ d2p1 resolution  
 The registers in question could be used by more backplane and optical PHYs as they develop more advanced link monitoring capabilities.

CI 45 SC 45.2.1.6 P 33 L 50 # 69  
 Zimmerman, George CME Consulting, Inc.

Comment Type E Comment Status D BQ

Table 45-7 incorrectly lists 2.5GBASE-T and 5GBASE-T PMA/PMDs. Should be simply PMA as 2.5 and 5GBASE-T do not have PMDs (10GBASE-T is listed in teh same table as just PMA).

BQ CARRY OVER 101 (with modification)

*SuggestedRemedy*

Delete /PMD from the line 50 and 51 entries to read "5GBASE-T PMA", and "2.5GBASE-T PMA" respectively

Proposed Response Response Status W

PROPOSED ACCEPT.  
 Per BQ d2p1 resolution

CI 45 SC 45.2.1.14e.1 P 35 L 39 # 70  
 Zimmerman, George CME Consulting, Inc.

Comment Type E Comment Status D BQ

45.2.1.14e.1 and 45.2.1.14e.2 call out "5GBASE-T PMA/PMD" and "2.5GBASE-T PMA/PMD" respectively. Should be just PMA.

BQ CARRY OVER 102

*SuggestedRemedy*

Change lines 39 & 41-42 to read "5GBASE-T PMA"  
 Change lines 46 & 47-48 to read "2.5GBASE-T PMA"

Proposed Response Response Status W

PROPOSED ACCEPT.  
 Per BQ d2p1 resolution

CI 99 SC P 3 L 20 # 74  
 Zimmerman, George CME Consulting, Inc.

Comment Type E Comment Status D BQ

The introductory text provided by the IEEE 802.3 WG Chair has been changed.  
 The latest version can be found in the 802.3 FrameMaker template or in Section 1 of the Revision project 802.3bx D3.1

BQ CARRY OVER 32

*SuggestedRemedy*

Update the introduction text (paragraphs 2, 3, and 4 on page 3 of the draft) to the latest version.

Proposed Response Response Status W

PROPOSED ACCEPT.  
 Per BQ d2p1 resolution

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**Cl A SC A P 189 L 1 # 75**  
 Zimmerman, George CME Consulting, Inc.  
**Comment Type ER Comment Status D BQ**  
 There are no instructions to edit Annex A  
 BQ CARRY OVER 6  
*SuggestedRemedy*  
 Delete Annex A  
*Proposed Response Response Status W*  
 PROPOSED ACCEPT IN PRINCIPLE.  
 per BQ d2p1 resolution  
 Annex A will be removed by end of WG ballot if there are not edits to be made, per Editor's note already there.

**Cl 126 SC 126.3.6.4 P 110 L 37 # 78**  
 McClellan, Brett Marvell  
**Comment Type E Comment Status D BQ**  
 delete ")+" this was an error introduced in 802.3az  
 BQ duplicate  
*SuggestedRemedy*  
 delete ")+"  
*Proposed Response Response Status W*  
 PROPOSED ACCEPT IN PRINCIPLE.  
 See comment 24

**Cl 45 SC 45.2.1 P 32 L 15 # 95**  
 Jones, Peter Cisco Systems  
**Comment Type E Comment Status D BQ**  
 In Table 45-3—PMA/PMD registers and the reference text, items 1.133-1.144 have been changed to remove the "10GBASE-T" from the "Register name" column to match the appropriate subclause. While 1.129-1.1.32 and 1.145-1.147 all have MultiGBASE-T qas part of the name.  
 I'm wondering why we don't be consistent and call all these "MultiGBASE-T SNR", "MultiGBASE-T Minimum margin",etc

*SuggestedRemedy*  
 Re-consider what the correct approach is, with a goal of maintaining consistency.  
*Proposed Response Response Status W*  
 PROPOSED ACCEPT IN PRINCIPLE.  
 This is correcting a mis-alignment of the naming in the table and the text in the base standard (802.3-2012 & P802.3bx D3p1). See comments 67 & 68