



1000Mbit/s DTR Operation 802.5v/d1.3: Full Comment Report

Comment JLM-03

Section 1.0 Line 38 Severity A/C Type ED Status OPEN

Highlight To Committee Commenter Agrees? Editing Complete

Concern: Comment ANF-01. Page ii, Participants.
Missing space between Richard and Knight.

Solution: Add space.

Response:

Comment JLM-02

Section 1.0 Line 42 Severity A/C Type ED Status OPEN

Highlight To Committee Commenter Agrees? Editing Complete

Concern: Comment ANF-02. Page ii, Participants.
Missing Accent on Thrysoe.

Solution: Add an umlaut or something missing on Christian Thrysoe's "o".

Response:

Comment RS-07

Section 1.2 Line 41 Severity DIS Type TECH Status OPEN

Highlight To Committee Commenter Agrees? Editing Complete

Concern: There is no normative reference to any version of IEEE 802.3 that includes 802.3z (Gigabit Ethernet using 8B/10B encoding). IEEE 802.5t includes references to 802.3-1996 and 802.3u (Fast Ethernet), but neither of these includes the GMII and/or 1000BASE-X clauses. Similarly, the reference to 802.3ab provided in the draft does not provide the needed reference.

Subclause 9.8.2 appears to incorporate 802.3-1998 by reference, but the reference is needed in subclause 1.2 as well.

Solution: Include a normative reference to IEEE 802.3-1998.

Response:

Comment RS-06

Section 1.3 Line 51 Severity DIS Type ED Status OPEN

Highlight To Committee Commenter Agrees? Editing Complete

Concern: The GMII and TBI are defined and fully specified in 802.3.

Solution: Include a cross-reference in the definitions to the equivalent definitions in 802.3. Also, include a note or comment that the use of the term "PSC" in the 802.5 definition is equivalent to the PCS/PMA in 802.3. (It is easy for the reader to incorrectly assume that PSC is simply a mis-spelling of PCS!)

Even better, since GMII and TBI are 802.3 constructs, use the 802.3 terms (i.e., PCS/PMA/PMD) in their definition.

Response:

Comment BG-01

Section 9.0 Line 0 Severity DIS Type TECH Status OPEN

Highlight To Committee Commenter Agrees? Editing Complete

Concern: 802.5v framing is broken. 1000BASE-X uses preamble shrinkage to produce ordered set alignment. 802.5 does not have the equivalent of preamble. When TX_EN is asserted in the middle of an ordered pair, the [802.3] 36 state machines delay the transmission of the /S/ code by one code group to complete the transmission of the /I/ ordered set. This will result in the AC field immediately following the /S/ code. The receiver then ignores the AC and assumes the first byte of SA to be the AC.

Solution: I don't know how you will fix this one. The only suggestion I have is to add a sublayer between the GMII and the PSC-X. This sublayer would align the GMII signals with the PSC-X ordered sets. (I haven't looked to see if the problem also occurs with PSC-T.)

Response:

Comment BG-03

Section 9.8 Line 0 Severity DIS Type TECH Status OPEN

Highlight To Committee Commenter Agrees? Editing Complete

Concern: It is confusing what of the 802.3 Clause 35 Reconciliation Sublayer is used by this standard. 9.8.2 says there is a "new" RS for this standard. Yet searching for Reconciliation produces no specification of this 802.5 specific RS.

Solution: Define the new RS.

or

Search for "reconciliation" (ignore case) and edit text appropriately.

For this comment to be resolved with the later alternative, the differences between the [802.3] 35 RS and the [802.5v] RS will have to be much easier to recognize.

Response:

Comment BG-06

Section 9.8 Line 0 Severity DIS Type TECH Status OPEN

Highlight To Committee Commenter Agrees? Editing Complete

Concern: The GMII transmit side does not use TX_CLK, it uses GTX_CLK. TX_CLK is an MII signal.

Solution: Search and replace as appropriate TX_CLK with GTX_CLK.

Response:

Comment RS-05

Section 9.8 Line 36 Severity A/C Type ED Status OPEN

Highlight To Committee Commenter Agrees? Editing Complete

Concern: The GMII is specified in 802.3 Clause 35, not Clause 22. (Clause 22 is the 10/100 Mb/s MII, not the GMII.)

Solution: Change the reference.

Response:

Comment RS-04

Section 9.8 **Line** 36 **Severity** DIS **Type** TECH **Status** OPEN

Highlight To Committee **Commenter Agrees?** **Editing Complete**

Concern: Subclause 9.8.2

The GMII as used in 802.5 is NOT "exactly as specified in 802.3", as stated here. In particular, 802.3 subclause 35.2.3.2.1 requires the transmission of an 9-byte Ethernet preamble and SFD following the assertion of TX_EN.

Solution: State that the GMII is, "the same as 802.3 with the following exceptions", and then provide a specific list of differences between the 802.5 and 802.3 use of GMII. Go through the 802.3 standard and identify each and every difference between the way the GMII is used between the two standards; the example given in the comment above is NOT the only one. I have submitted other comments regarding the difference in bit-ordering, but there may be others; I have not done the exhaustive comparison necessary for this standard.

Response:

Comment BG-02

Section 9.8 **Line** 40 **Severity** A/C **Type** ED **Status** OPEN

Highlight To Committee **Commenter Agrees?** **Editing Complete**

Concern: Page 9.8-1

What does "Note that the Reconciliation Sublayer is not as defined in [802.3] 22." mean? That the 802.3 Clause 22 and 35 RS are different; or is this a reference problem and equivalent to the "new" RS text?

Solution: Clarify

Response:

Comment RS-02

Section 9.8 **Line** 41 **Severity** A/C **Type** ED **Status** OPEN

Highlight To Committee **Commenter Agrees?** **Editing Complete**

Concern: Subclause 9.8.2

There are no PSC or PMC sublayers specified for 1000BASE-X.

Solution: Use 802.3 terminology (PCS/PMA/PMD) whenever referring to 802.3 entities (such as 1000BASE-X). This is a global comment; check throughout the draft for other incorrect uses of terminology.

Response:

Comment RS-03

Section 9.8 **Line** 88 **Severity** DIS **Type** TECH **Status** OPEN

Highlight To Committee **Commenter Agrees?** **Editing Complete**

Concern: Subclause = 9.8.2.1.1

The bit order shown in the table contradict the bit order required on the GMII by 802.3 subclause 35.2.3.

Solution: (1) Change the bit order of Token Ring to conform to GMII requirements (i.e., LSB first), or

(2) Identify the bit ordering as one of the differences between the GMII as used in 802.3 and 802.5 (see earlier comment)

Response:

Comment BG-08

Section 9.8 **Line** 108 **Severity** A/C **Type** ED **Status** OPEN

Highlight To Committee **Commenter Agrees?** **Editing Complete**

Concern: Subclause = 9.8.2.1.2
The description is confusing. This is a request and "indications" occur in the opposite direction.

Solution: The text should be rewritten using "request" or "TX-indicator" instead of "indication".

Response:

Comment RS-01

Section 9.8 **Line** 113 **Severity** DIS **Type** TECH **Status** OPEN

Highlight To Committee **Commenter Agrees?** **Editing Complete**

Concern: Subclause 9.8.2.1.2
The bit order shown in the table contradicts the bit order required on the GMII by 802.3 subclause 35.2.3.

Solution: (1) Change the bit order of Token Ring to conform to GMII requirements (i.e., LSB first), or

(2) Identify the bit ordering as one of the differences between the GMII as used in 802.3 and 802.5 (see earlier comment)

Response:

Comment BG-07

Section 9.8 **Line** 115 **Severity** A/C **Type** ED **Status** OPEN

Highlight To Committee **Commenter Agrees?** **Editing Complete**

Concern: Subclause 9.8.2.1.2.
The prose is inconsistent with the receive side, and could be interpreted as being different by one byte.

Solution: Rewrite. The End_stream_delimiter is signalled by deassertion of TX_EN prior to the next rising edge of GTX_CLK.

Response:

Comment BG-04

Section 9.8 **Line** 211 **Severity** A/C **Type** ED **Status** OPEN

Highlight To Committee **Commenter Agrees?** **Editing Complete**

Concern: Page 9.8-8, 9.8.2.3.1
Bad reference.

Solution: Change to 14.2.2.2.

Response:

Comment JLM-01

Section 9.8 **Line** 258 **Severity** A/C **Type** ED **Status** OPEN

Highlight To Committee **Commenter Agrees?** **Editing Complete**

Concern: ANF-04 and ANF-05

Two subclauses have the same number: 9.8.2.4.1.1 is used both for "Crossover Function" and "Full Duplex Capability". The para orver in 9.8.2.4.3 is better. There is too much tab space after the number in line 258.

Solution: Reorder the subclauses under 9.8.2.4.1 as follows, and fix the layout:

```
9.8.2.4.1.1 Full Duplex Capability
9.8.2.4.1.2 Crossover Function
```

Response:

Comment BG-05

Section 9.8 **Line** 267 **Severity** A/C **Type** ED **Status** OPEN

Highlight To Committee **Commenter Agrees?** **Editing Complete**

Concern: Subclause 9.8.2.4.3

Is PMC-T "short haul" or "long haul"

Solution: Change "short haul" to "long haul" to agree with title of subsection.

Response:

Comment BG-09

Section 14.1 **Line** 26 **Severity** DIS **Type** TECH **Status** OPEN

Highlight To Committee **Commenter Agrees?** **Editing Complete**

Concern: Subclause 14.1.2

The requirement to receive an abort on any nibble boundary is incompatible with [802.3] 36 synchronization, which will only pass data when synchronized, and when synchronized will not instantly realign to nibble shifted data, thus not passing a single nibble shifted Abort to the GMII.

The GMII has no concept of nibbles, so the requirement is nonsense at 1000 Mb/s.

Solution: Fix it somehow (I don't know all of the implications to propose the detailed fix). The solution must recognize that at 1000 Mb/s, Aborts can only be assured of being received if transmitted on a synchronized link with the Abort aligned to the code word.

Response:



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1000Mbit/s DTR Operation 802.5v/d1.3: Comment Summary

	ED	TECH
A/C	10	0
DIS	1	8
Q	0	0

Total A/C Comments: 10
 Total DIS Comments: 9
 Total Q Comments: 0
 Total Comments: 19

	Total	To Be Closed
OPEN	19	19
ACCEPTED	0	0
MODIFIED	0	0
REJECTED	0	0
ANSWERED	0	0
WITHDRAWN	0	0

Comment IDs by Type. Bold IDs require closure.

A/C Comment IDs: **JLM-03** **JLM-02** RS-05 BG-02 RS-02 BG-08 BG-07 BG-04 **JLM-01** BG-05

DIS Comment IDs: RS-07 RS-06 BG-01 BG-03 BG-06 RS-04 RS-03 RS-01 BG-09

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