Cl **00** *SC* **0** *P* *L* # 504
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Is there supposed to be a period after heach item in a Description in a table? Some tables always use a period (Table 45–163e) , some mix and match (Table 45–163f), some never use a period (Table 45–163c).

SuggestedRemedy

Be consistent in the use of periods througout the Tables in the document.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove "." and "," from the end of Description columns in Clause 45 unless the statement is a self standing sentence, e.g., "This bit is set by the state machine and cannot be overridden by the user."

Cl **30** *SC* **30** *P* **23** *L* **1** # 332
Hajduczenia, Marek Bright House Network

Comment Type **TR** *Comment Status* **A** *Clause 30*

Missing content in Clause 30

SuggestedRemedy

use hajduczenia_3bp_01_0515.pdf

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use http://www.ieee802.org/3/bp/public/may15/law_01a_0515.pdf, which includes changes from hajduczenia_3bp_01_0515.pdf and adds extra changes for Auto-Negotiation function for Clause 98.

Cl **30** *SC* **30** *P* **23** *L* **10** # 353
Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

Management variables missing

SuggestedRemedy

I'm not an expert on this, but someone who is needs to add any that are relevant to 1000BASE-T1.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

See comment #332 for resolution. A TR comment with no resolution proposed will be rejected on site.

Cl **34** *SC* **34.1.5a** *P* **25** *L* **49** # 446
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Incorrect grammar.

SuggestedRemedy

Replace: The use of Clause 98 Auto-Negotiation is optional for 1000BASE-T1 PHY.

With: The use of Clause 98 Auto-Negotiation is optional for a 1000BASE-T1 PHY.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Missing "a" before PHY name.

Cl **35** *SC* **35.1.1** *P* **27** *L* **21** # 354
Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

1000BASE-T1 uses Clause 45 framing and register space

SuggestedRemedy

Add following sentence after item d)
1000BASE-T1 uses management interface as specificed in Clause 45.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Clause 45 support is assumed, and not listed for other PHYs. The value of this addition is questionable at best.

Cl **4.2.5** *SC* **97.4.2.5.9** *P* **93** *L* **7** # 342

Rojansky, Amiel Cadence

Comment Type **T** *Comment Status* **D** *discussion needed*

"Upon entering the SEND_DATA state, PHY Control stops the maxwait_timer, starts the minwait_timer and enables frame transmission to the link partner by asserting tx_mode=SEND_N."

This statement contradicts the state machine in Figure 97–22—PHY Control state diagram on page 97. According to the state machine the maxwait_timer is not stopped on state SEND DATA.

SuggestedRemedy

Add to Figure 97–22—PHY Control state diagram on page 97, in state SEND DATA: "stop maxwait_timer"

OR

Remove the text:
"stops the maxwait_timer"
from the statement in section 97.4.2.5.9 on page 93 line 7.
The second option of the Remedy is valid if the original intention is that the LINK_MONITOR state machinge will go from LINK_UP to LINK_DOWN every time that the PCS_status or loc_rcvr_status are NOT_OK

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Comment to be discussed at the meeting

Cl **45** *SC* **45** *P* **29** *L* **1** # 579

Marek Hajduczenia Bright House Network

Comment Type **ER** *Comment Status* **A**

Pete and myself went in detail through Clause 45 D1.4 version and identified a number of changes, mostly editorial, needed to align it with the style and wording from Clause 45 in 802.3, and minimize the number of comments we would be getting on Clause 45in Working Group ballot. There were many changes done (see hajduczenia_3bp_02_0515.pdf with diff changes) and these can be classified into the main groups of changes:

-fixed incorrect editorial instructions (E)
-removed "register" from names of registers in tables listing register names, e.g., Table 45-3. These were considered repetitions. Also, words were decapitalized ("Control Register" becomes "control")
-fixed names of individual registers in level 4 headings, e.g., "BASE-T1 PMA Control Register" becomes "BASE-T1 PMA control register". In some cases, it was needed to add word "register", and in some just drop capitalization off
-in multiple tables for individual registers, we had "set to 0", "set to 0s", or some other wording - the wording used consistently in Clause 45 is "Value always 0". Also, respective register bits are always marked as "RO" which was aligned across all tables in Clause 45.
-all register tables were missing footnotes with explanation of RO, RW, SC, LH, LL, etc. – these were added consistently.
-captions in all tables describing individual bit assignment for registers were corrected to match Clause 45 style, i.e., "<REGISTER_NAME> bit definitions"
-in multiple locations, name of the register used in descriptive text did not match the name of the register defined in heading / tables – these were aligned.
-in multiple locations, name of PHY / PMA / PMD was missing – depending on register scope, either "BASE-T1", or "1000BASE-T1" was added to specify what PHY / PMA / PMD we are referring to
-in multiple level 5 headings defining individual register bits, names of fields were aligned with names used in the associated tables, e.g., in 45.2.1.130a.1, "BASE-T1" was removed to match with content of Table 45–98a. Where appropriate, capitalization was also fixed
-in Table 45–98e, register 1.2308.15:13 was named incorrectly as "reserved"
-in Table 45–163c, register 3.2305.5:0 was missing the word "count" in the name
-references to correct tables were added together with the associated text in 45.2.3.50d, 45.2.3.50f, 45.2.7.14c, 45.2.7.14d, 45.2.7.14e

SuggestedRemedy

Implement changes per hajduczenia_3bp_02_0515.pdf

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2** *P* **29** *L* **32** # 536

Tu, Mike Broadcom

Comment Type **TR** *Comment Status* **A** *c with 802.3bw needed, #536*

MDIO registers for 1000BASE-T1 should be compatible and consolidated with 100BASE-T1 registers.

SuggestedRemedy

1. Add 1000BASE-T1 to register 1.7, 1.11, 1.18.
2. Redefine register 1.2304 and 3.2304.

See tu_3bp_01_0515.pdf for details.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Changes per Lo_3bp_02_0515.pdf

Cl **45** *SC* **45.2.1.130a** *P* **29** *L* **39** # 555

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D** *#536*

need to define a bit for Transmit Disable

SuggestedRemedy

add new row:
"1.2304.10 Transmit Disable 1 = Transmit Disable 0 = Normal operation R/W"
on page 30 line 21 add new paragraph
"45.2.1.130a.3 BASE-T1 PMD transmit disable (1.2304.10)
When bit 1.2304.10 is set to a one, the PMD shall disable output on the transmit path.
When bit 1.2304.10 is set to a zero, the PMD shall enable output on the transmit path."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
"1.2304.13 Transmit Disable 1 = Transmit Disable 0 = Normal operation R/W"
on page 30 line 21 add new paragraph
"45.2.1.130a.3 BASE-T1 PMD transmit disable (1.2304.13)
When bit 1.2304.13 is set to a one, the PMD shall disable output on the transmit path.
When bit 1.2304.13 is set to a zero, the PMD shall enable output on the transmit path."

Implement after comment #536. Change "1.2304.13:4" to "1.2304.12:4"

Cl **45** *SC* **45.2.1.130a** *P* **29** *L* **40** # 401

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D** *#536*

"Master/Slave" should be "MASTER-SLAVE"

SuggestedRemedy

change "Master/Slave" to "MASTER-SLAVE" in all locations in the draft.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Implement after comment #536

Cl **45** *SC* **45.2.1.130a** *P* **29** *L* **40** # 496

Wienckowski, Natalie General Motors

Comment Type **T** *Comment Status* **A** *#536*

Table 45–98a:

Use 802.3bw registers when possible.

SuggestedRemedy

Instead of 1.2304.3:0 for PHY Type use 1.7.5:0, 111100

Instead of 1.2304.4 for Master/Slave use 1.2100.14

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Changes per Lo_3bp_02_0515.pdf

Cl **45** *SC* **45.2.1.130a.1** *P* **29** *L* **50** # 492

Wienckowski, Natalie General Motors

Comment Type **T** *Comment Status* **A** *#536*

Also 5.2.2.50a.1 on Page 34, line 30

The following Section names are the same except for the appended register number. It is not clear which is the PMA/PMD and which is the PCS by the titles.
45.2.1.130a.1 BASE-T1 Reset (1.2304.15)
45.2.2.50a.1 BASE-T1 Reset (3.2304.15)

SuggestedRemedy

Replace: 45.2.1.130a.1 BASE-T1 Reset (1.2304.15)

With: 45.2.1.130a.1 BASE-T1 PMA/PMD Reset (1.2304.15)

AND

Replace: 45.2.2.50a.1 BASE-T1 Reset (3.2304.15)

With: 45.2.2.50a.1 BASE-T1 PCS Reset (3.2304.15)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Changes per Lo_3bp_02_0515.pdf

Cl **45** *SC* **45.2.1.130c** *P* **32** *L* **11** # 447

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Table 45–98c

Incorrect capitalization.

Ability is capitalized in one spot out of four in the table.

SuggestedRemedy

Replace: 0 = EEE Ability not advertised to link partner

With: 0 = EEE ability not advertised to link partner

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.130c** *P* **32** *L* **7** # 355

Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D**

Missing bits 3:2 in table 45-98c

SuggestedRemedy

Add 1.2306.3:2 Reserved Set to 0s R/W

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.130c.2** *P* **32** *L* **20** # 405

Regev, Alon Ixia

Comment Type **E** *Comment Status* **D**

"OAM capability.When" is lacking a space after the period

SuggestedRemedy

change "OAM capability.When"
to "OAM capability. When"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.130c.2** *P* **32** *L* **25** # 448

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Missing space after period.

SuggestedRemedy

Replace: ... advertising OAM capability.When set...

With: ...advertising OAM capability. When set...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.2** *P* **34** *L* **5** # 356
Lo, William Marvell Semiconducto

Comment Type **ER** *Comment Status* **D**
Typo on registers in table 45-119

SuggestedRemedy
3.3212 should be 3.2312
3.3217 should be 3.2317

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

This is a TECHNICAL comment. It requires technical skill to understand there is a problem ;)

Cl **45** *SC* **45.2.2.50a** *P* **34** *L* **15** # 450
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **A** *#536*
This specifically a PCS register.

SuggestedRemedy
Replace: The assignment of bits in the BASE-T1 control register is shown in Table 45–163a.

With: The assignment of bits in the BASE-T1 PCS control register is shown in Table 45–163a.

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Changes per Lo_3bp_02_0515.pdf

Cl **45** *SC* **45.2.2.50a** *P* **34** *L* **16** # 449
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **A** *#536*
There is only one PCS control register.

SuggestedRemedy
Replace: ...each bit of the PCS control 1 register should...

With: ...each bit of the PCS control register should...

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Changes per Lo_3bp_02_0515.pdf

Cl **45** *SC* **45.2.2.50a** *P* **34** *L* **19** # 451
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **A** *#536*
Missing PCS in Table 45-163a name.

SuggestedRemedy
Replace: Table 45–163a—BASE-T1 Control Register

With: Table 45–163a—BASE-T1 PCS Control Register

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Changes per Lo_3bp_02_0515.pdf

Cl **45** *SC* **45.2.2.50a** *P* **34** *L* **23** # 452
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **A** *#536*
Copy/paste error. This is a PCS register, not a PMA/PMD register.

SuggestedRemedy
Replace: 1 = PMA/PMD reset

With: 1 = PCS reset

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Changes per Lo_3bp_02_0515.pdf

Cl **45** *SC* **45.2.2.50a** *P* **34** *L* **25** # 497
Wienckowski, Natalie General Motors

Comment Type **T** *Comment Status* **A** *#536*
Use already defined bit to define loopback. Consistent with 100BASE-T1 and other existing protocols.

SuggestedRemedy
Instead of defining 3.2304.14 to enable loopback, use 3.0.14.

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Changes per Lo_3bp_02_0515.pdf.

Cl **45** *SC* **45.2.2.50a.1** *P* **34** *L* **32** # 493

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **A** *#536*

Copy paste error througout the paragraph. 1.2304.15 should have been replaced with 3.2304.15 throughout the paragraph.

SuggestedRemedy

Replace: 3 instances of 1.2304.15

With: 3.2304.15 in this paragraph.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Changes per Lo_3bp_02_0515.pdf

Cl **45** *SC* **45.2.2.50a.2** *P* **34** *L* **42** # 357

Lo, William Marvell Semiconducto

Comment Type **ER** *Comment Status* **A** *#536*

Title mislabelled

SuggestedRemedy

Change "Low power" to "Loopback"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Changes per Lo_3bp_02_0515.pdf

Table 45–211a 7.512.12 should not be self clear. Remove "SC"

Cl **45** *SC* **45.2.2.50a.2** *P* **34** *L* **42** # 351

Rojansky, Amiel Cadence

Comment Type **E** *Comment Status* **A** *#536*

"45.2.2.50a.2 BASE-T1 Low power (3.2304.14)
The PCS shall be placed in a loopback mode of operation when bit 3.2304.14 is set to a one."

It is a typo. It should be loop back mode and not low power mode, as defined in Table 45–163a.

SuggestedRemedy

Fix 45.2.2.50a.2 on page 34 line 42 to:

"45.2.2.50a.2 BASE-T1 Loopback (3.2304.14"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Changes per Lo_3bp_02_0515.pdf

Cl **45** *SC* **45.2.2.50a.2** *P* **34** *L* **43** # 494

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D** *#536*

Copy paste error in title

SuggestedRemedy

Replace: BASE-T1 Low power (3.2304.14)

With: BASE-T1 Loopback (3.2304.14)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Removed per comment #536

Cl **45** *SC* **45.2.2.50b** *P* **34** *L* **51** # 495

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **A** *#536*

Incomplete register name.

AND

Inconsistent capitalization of "status".

SuggestedRemedy

Correct the register name and be consistent in capitalizing "status" throughout the paragraph.

Replace: The assignment of bits in the BASE-T1 Status 1 register is shown in Table 45–163b. All the bits in the PCS status 1 register are read only; a write to the PCS status 1 register shall have no effect.

With: The assignment of bits in the BASE-T1 PCS Status 1 register is shown in Table 45–163b. All the bits in the PCS Status 1 register are read only; a write to the PCS Status 1 register shall have no effect.

OR With: With: The assignment of bits in the BASE-T1 PCS status 1 register is shown in Table 45–163b. All the bits in the PCS status 1 register are read only; a write to the PCS status 1 register shall have no effect.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #579.

Cl **45** *SC* **45.2.2.50b** *P* **35** *L* **8** # 498

Wienckowski, Natalie General Motors

Comment Type **T** *Comment Status* **D**

Copy/paste error

SuggestedRemedy

In Rx LPI received row

Replace: 1 = Tx PCS has received LPI

With: 1 = Rx PCS has received LPI

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.2.50b.5** *P* **35** *L* **48** # 358

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

Incorrect register references

SuggestedRemedy

Change 3.1.7 to 3.2305.7 (2 instances)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.2.50c.1** *P* **36** *L* **35** # 499

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Missing period at the end of the sentence.

SuggestedRemedy

Add the missing period after "defined in 97.3.7.1".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.2.50c.2** *P* **36** *L* **39** # 500

Wienckowski, Natalie General Motors

Comment Type **TR** *Comment Status* **D**

The bit reports both a one and a zero when "BER of > 4 x 10-4"

SuggestedRemedy

Replace: When read as a one, bit 3.2306.9 PCS receiver is detecting a BER of > 4 x 10-4.
When read as a zero, bit 3.32.1 indicates that the receiver is detecting a BER of > 4 x 10-4.

With: When read as a one, bit 3.2306.9 PCS receiver is detecting a BER of > 4 x 10-4.
When read as a zero, bit 3.32.1 indicates that the receiver is detecting a BER of < 4 x 10-4.

I think I changed the correct > to a <.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace: When read as a one, bit 3.2306.9 PCS receiver is detecting a BER of > 4 x 10-4.
When read as a zero, bit 3.32.1 indicates that the receiver is detecting a BER of > 4 x 10-4.

With: When read as a one, bit 3.2306.9 PCS receiver is detecting a BER of >= 4 x 10-4.
When read as a zero, bit 3.32.1 indicates that the receiver is detecting a BER of < 4 x 10-4.

Extra change: ">" to ">=" to know what happens for exactly 4 x 10-4.

Cl **45** *SC* **45.2.2.50d** *P* **37** *L* **21** # 544
McClellan, Brett Marvell

Comment Type **E** *Comment Status* **A** *discussion needed*
change 'atomically' to 'automatically' also on line 28

SuggestedRemedy
change 'atomically' to 'automatically' also on line 28 and page 39 line 25

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Remove all instances of the word "atomically" from the draft.

Cl **45** *SC* **45.2.2.50d** *P* **37** *L* **47** # 501
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Incorrect wording.

Correct also in Table 45-163f, page 30, line 34.

SuggestedRemedy
Replace: 01 = LPI refresh insufficient for maintain PHY SNR.

With: 01 = LPI refresh insufficient to maintain PHY SNR.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Replace: 01 = LPI refresh insufficient for maintain PHY SNR.

With: 01 = LPI refresh insufficient to maintain PHY SNR

(removed "." at the end, this is not a sentence)

Cl **45** *SC* **45.2.2.50d.7** *P* **38** *L* **37** # 502
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **A**
Confusing wording.

SuggestedRemedy
Change: This bit is set by the PHY to for the link partner to loopback.

To: ? I'm not sure what this sentence is trying to say so I can't suggest a wording. Maybe just remove the "to".

Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Change
"This bit is set by the PHY to for the link partner to loopback. The loopback value should be received after a small delay in 3.2308.3."

To
"This bit is set by the PHY for the link partner to loopback. The loopback value should be received after a small delay in 3.2308.3."

Cl **45** *SC* **45.2.2.50d.7** *P* **38** *L* **38** # 359
Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D**
Rephrase sentence to make more clear.

SuggestedRemedy
Delete " in 3.2308.3".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.2.50f** *P* **39** *L* **23** # 503
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Incorrect subject/verb agreement. There is only one register that is being read.

SuggestedRemedy
Replace: This bit shall self clear when registers 3.2317 is read.

With: This bit shall self clear when register 3.2317 is read.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7.14a.1** *P* **41** *L* **26** # 360
Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D** *#360*
Change should to shall

SuggestedRemedy
Change should to shall

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

This is a technical comment

Cl **45** *SC* **45.2.7.14a.1** *P* **41** *L* **26** # 505
Wienckowski, Natalie General Motors

Comment Type **TR** *Comment Status* **D** *#360*
Incorrect usage of "should".

SuggestedRemedy
Replace: All other register bits should be ignored.

With: All other register bits shall be ignored.

This is not an option, it is required.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See also comment #360

Cl **45** *SC* **45.2.7.14a.2** *P* **41** *L* **34** # 506
Wienckowski, Natalie General Motors

Comment Type **ER** *Comment Status* **D**
Missing conjunction. Also, Master/Slave is a single bit, not multiple bits.

SuggestedRemedy
Replace: ...then PHY type bits 1.2304.3:0 Master/Slave bits 1.2304.4 shall...

With: ...then PHY type bits 1.2304.3:0 and Master/Slave bit 1.2304.4 shall...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7.14a.2** *P* **41** *L* **36** # 507
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Incorrect subject/verb agreement.

SuggestedRemedy
Replace: ...then bits 1.2304.3:0 and 1.2304.4 determines the link configuration...

With: ...then bits 1.2304.3:0 and 1.2304.4 determine the link configuration...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7.14b** *P* **42** *L* **21** # 556
McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**
change link status from LH to LL

SuggestedRemedy
change LH to LL

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See also comment #361

Cl **45** *SC* **45.2.7.14b** *P* **42** *L* **21** # 361
Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**
Incorrect latch state

SuggestedRemedy
Bit 2 should be RO, LL

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7.14b.6** *P* **43** *L* **21** # 509
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Wording improvement

SuggestedRemedy
Replace: This bit shall be reset to zero if the link partner is not Auto-Negotiation able.

With: This bit shall be reset to zero if the link partner is not capable of Auto-Negotiation.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7.14c** *P* **43** *L* **40** # 362
Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D**
7.515 and 7.516 is always used

SuggestedRemedy
Delete "if user," from the sentence

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Delete ", if used"

Cl **45** *SC* **45.2.7.14d** *P* **44** *L* **15** # 363
Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D**
Missing BASE-T1 from Table 45-211d heading
Same issue in Table 45-211f (page 45)

SuggestedRemedy
Change heading to
BASE-T1 AN LP Base Page ability register bit definitions (page 44, line 15)

BASE-T1 AN LP NEXT PAGE ability register bit definitions (page 45, line 1)

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

This is a technical comment!

Cl **45** *SC* **45.2.7.14e** *P* **44** *L* **1** # 510
Wienckowski, Natalie General Motors

Comment Type **ER** *Comment Status* **D**
Table 45-211c is out of place and very confusing as it is in the middle of another register description.

SuggestedRemedy
Move Table 45-211c to page 43 at the end of section 45.2.7.14c.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Will fight with Frame - sometimes control of Table placement is limited

Cl **45** *SC* **45.2.7.14e** *P* **44** *L* **15** # 511
Wienckowski, Natalie General Motors

Comment Type **ER** *Comment Status* **D**
Table 45-211d is out of place and very confusing as it is in the middle of another register description.

SuggestedRemedy
Move Table 45-211d to page 43 at the end of section 45.2.7.14d.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Will fight with Frame - sometimes control of Table placement is limited

Cl **45** *SC* **45.2.7.14e** *P* **44** *L* **29** # 512
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
There is an extraneous "register".

SuggestedRemedy
Replace: Therefore registers 7.521 and 7.522 register should be

With: Therefore registers 7.521 and 7.522 should be

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.7.14f** *P* **45** *L* **21** # 364

Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D**

No concept of extended next pages. All pages are extended now.

SuggestedRemedy

Delete the word "Extended"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This is a TECHNICAL comment!

Cl **45** *SC* **V** *P* **42** *L* **39** # 508

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

There is more than one Auto-Negotiation registers.

SuggestedRemedy

Replace: ...contents of the Auto-Negotiation register 7.514 to 7.516 and 7.517 to 7.519 are valid.

With: ...contents of the Auto-Negotiation registers 7.514 to 7.516 and 7.517 to 7.519 are valid.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **78** *SC* **78.1.3.3.1** *P* **46** *L* **7** # 365

Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D**

Deleted 1000BASE-T by accident

SuggestedRemedy

Should be
1000BASE-T, 1000BASE-T1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Re-insert "1000BASE-T, " with no markup

Cl **78** *SC* **78.1.3.3.1** *P* **48** *L* **8** # 557

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D** *#343*

Table 78-4, only case 1 applies to 1000BASE-T1.

SuggestedRemedy

delete the "Case-2" row and delete the word "Case-1"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See also comment #343

Cl **78** *SC* **Table 78-2** *P* **47** *L* **21** # 444

Graba, Jim Broadcom Corporation

Comment Type **TR** *Comment Status* **D**

Min and Max for Tr, Tq, and Ts are equal. When the clock frequency offset is at at its maximum or minimum deviation the Min and Max Tr, Tq, and Ts won't be equal at the MDI. After rounding to the stated precision this only affects Tq because it has 4 significant digits.

Parameters: unrounded

Dev	Tr	Tq	Ts
-100:	1.4399	84.9515	3.5996
0:	1.4400	84.9600	3.6000
100:	1.4401	84.9685	3.6004

Parameters: rounded to original precision

Dev	Tr	Tq	Ts
-100:	1.44	84.95	3.60
0:	1.44	84.96	3.60
100:	1.44	84.97	3.60

SuggestedRemedy

Change Tq Min from 84.96 us to 84.95 us and Tq Max from 84.96 us to 84.97 us.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **78** *SC* **Table 78–4** *P* **48** *L* **8** # 343

Rojansky, Amiel Cadence

Comment Type **T** *Comment Status* **D** *#343*

It is not clear, what is the difference between Case-1 and Case-2.

SuggestedRemedy

Remove the partition of Case-1 and Case2 from the 1000BASE-T1 line in Table 78–4 on page 48. Use only 10.8 usec, since it is the worst case, and the MAC Tx cannot be aware to the two different cases.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.1** *P* **49** *L* **16** # 513

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **A**

Use a single name for the cabling, single balanced twisted-pair, as used in 96 (802.3bw).

Copper should not be used in the name as much of the cable that is used for Ethernet is a copper alloy, not pure copper.

SuggestedRemedy

Replace: All instances of "single pair of balanced copper cabling" as defined below (if a different term is used, that is shown next to the location.

pg 1, line 27
pg 2, line 2
pg 4, line 38
pg 21, line 32
pg 25, line 28
pg 49, line 16
pg 51, line 4
pg 51, line 8, Replace: unshielded balanced copper cabling
pg 51, line 10
pg 51, line 42
pg 51, line 49
pg 54, line 48
pg 106, line 16
pg 106, line 17
pg 106, line 19
pg 106, line 24, Replace: unshielded balanced copper cabling
pg 106, line 26, Replace: balanced copper cabling
pg 106, line 46
pg 110, line 24

With: single balanced twisted-pair.

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.1** *P* **53** *L* **5** # 434

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

In Figure 97-2, the tx_lpi_active signal needs to go to both the PMA TRANSMIT and the PMA RECEIVE blocks (to match figure 97-16). Currently it only connects to the PMA RECEIVE block

SuggestedRemedy

In Figure 97-2, add a a dashed arrow from the current tx_lpi_active vertical line to the PMA TRANSMIT block (with the arrowhead on the PMA TRANSMIT side).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.1.2** *P* **51** *L* **17** # 515

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Poor wording

SuggestedRemedy

Replace: GMII TX_D, TX_EN, and TX_ER are encoded together in using 81B encoding where 10 cycles of ...

With: GMII TX_D, TX_EN, and TX_ER are encoded together using 81B encoding where 10 cycles of ...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace: GMII TX_D, TX_EN, and TX_ER are encoded together in using 81B encoding where 10 cycles of ...

With: GMII TX_D, TX_EN, and TX_ER are encoded together using 81B encoding, where 10 cycles of …

<added extra ",">

Cl **97** *SC* **97.1.2** *P* **51** *L* **19** # 534

Tu, Mike Broadcom

Comment Type **ER** *Comment Status* **D**

Original text: "...1000BASE-T1 PHY adds a 396 bit Reed Solomon Forward Error Correction (RS FEC) code to each group..."

The 396 bits added are the FEC parity check bits, not the entire FEC code.

SuggestedRemedy

Change from
"...1000BASE-T1 PHY adds a 396 bit Reed Solomon Forward Error Correction (RS FEC) code to each group..."

to

"...1000BASE-T1 PHY applies Reed Solomon Forward Error Correction (RS FEC) coding with 396 parity bits to each group...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

I do not believe the new wording is correct. We do not apply any RS FEC coding to frames, we calculate parity annd insert it into bit stream. I can see the original problem, though:

Change from
"...1000BASE-T1 PHY adds a 396 bit Reed Solomon Forward Error Correction (RS FEC) code to each group..."

to

"...1000BASE-T1 PHY adds 396 bits of Reed Solomon Forward Error Correction (RS FEC) parity to each group…"

Cl **97** *SC* **97.1.2** *P* **51** *L* **31** # 516

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

There is a "The" capitalized in the middle of a sentence.

SuggestedRemedy

Replace: ... used, The MASTER-SLAVE relationship between ...

With: ... used, the MASTER-SLAVE relationship between ...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.1.2** *P* **51** *L* **37** # 366

Lo, William Marvell Semiconducto

Comment Type **ER** *Comment Status* **D** *#366*

Reference to EEE advertising incorrect.

SuggestedRemedy

Change reference to 78.3 to 97.4.2.5.5

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Make sure color is NOT green.

Cl **97** *SC* **97.1.2** *P* **51** *L* **37** # 537

Tu, Mike Broadcom

Comment Type **TR** *Comment Status* **D** *#366*

The EEE capability exchange is now done during the InfoField Exchange. Need to change the reference.

SuggestedRemedy

Change line 37 from

"EEE capability as described in 78.3."

to

"EEE capability as described in 97.4.2.5.5."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See also comment #366

Cl **97** *SC* **97.1.2** *P* **51** *L* **39** # 367

Lo, William Marvell Semiconducto

Comment Type **ER** *Comment Status* **D**

Need some description of OAM in the intro.

SuggestedRemedy

Insert following paragraph after the paragraph on EEE.

The 1000BASE-T1 PHY may optionally support Operations, Administration, and Maintenance (OAM) on the PCS level and advertise the capability as described in 97.4.2.5.5. OAM is useful for monitoring link operation by exchanging PHY link health status and messages. The OAM information is exchanged in-band between two PHYs without using any of the normal data bandwidth. OAM is specified in 97.7.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This is a TECHNICAL comment!

Insert the following paragraph before the last para in 97.1.2:

The 1000BASE-T1 PHY may optionally support the PCS-based Operations, Administration, and Maintenance (OAM). The OAM is useful for monitoring link operation by exchanging PHY link health status and messages. The OAM information is exchanged between two 1000BASE-T1 PHYs out-of-band. The OAM is specified in 97.7, and the 1000BASE-T1 PHY advertises its OAM capability as described in 97.4.2.5.5.

<I believe "in-band" implies Clause 57 OAM, where OAM *does* consume user bandwidth. In here, we exchange OAM *out-of-band* in a dedicated area of spectrum, which is not usable for regular user data>

Cl **97** *SC* **97.1.2** *P* **51** *L* **41** # 368

Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D**

MBd should be MBaud/s

SuggestedRemedy

See above.
Also in page 52 line 27

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Used in sections 3, 4, 5 already as "MBd - signalling speed" - see 58.1.4.2 as an example

Cl **97** *SC* **97.1.2.1** *P* **52** *L* **13** # 535

Tu, Mike Broadcom

Comment Type **T** *Comment Status* **D**

Indicate the "frame: means "RS FEC" frame.

SuggestedRemedy

Change line 13 from

"...PAM3 symbols are synchronized to frame boundaries."

to

"...PAM3 symbols are synchronized to RS FEC frame boundaries.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.1.2.1** *P* **52** *L* **19** # 538

Tu, Mike Broadcom

Comment Type **TR** *Comment Status* **D**

In Training mode the PCS should be sending PAM2 training sequences. Clarify to avoid confusion.

SuggestedRemedy

Change line 19 and 20 from

"In Training Mode (see 97.4.2.5), the PCS transmits and receives data sequences to synchronize the RS FEC blocks, ..."

to

"In Training Mode (see 97.4.2.5), the PCS transmits and receives PAM2 training sequences to align with the RS FEC frame, ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<it is not clear what said PCS would align the RS FEC frame with; "synchronize to" seems better suited>

Change line 19 and 20 from

"In Training Mode (see 97.4.2.5), the PCS transmits and receives data sequences to synchronize the RS FEC blocks, ..."

to

"In Training Mode (see 97.4.2.5), the PCS transmits and receives PAM2 training sequences to synchronize to the RS FEC frame, ..."

Cl **97** *SC* **97.1.2.1** *P* **52** *L* **6** # 533

Tu, Mike Broadcom

Comment Type **E** *Comment Status* **D**

Change "FEC data" to "FEC parity bits"

SuggestedRemedy

Change line 6 from

"The RS encoder adds 396 bits of FEC data and the 4050 bits..."

to

"The RS encoder adds 396 parity bits at the end and the 4050 output bits..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<information "at the end" is relative; bit order is defined later on explicitly>
<"output bits" are meaningless here since we do not specify input and output>

Change line 6 from

"The RS encoder adds 396 bits of FEC data and the 4050 bits..."

to

"The RS encoder adds 396 RS FEC parity bits and the resulting 4050 bits..."

Cl **97** *SC* **97.1.2.1** *P* **53** *L* **4** # 517

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Poor wording

SuggestedRemedy

Replace: Each set of forty-five 81B blocks along with 9 bits of OAM data (see 97.7) processed by a Reed Solomon FEC encoder (RS FEC).

Replace: Each set of forty-five 81B blocks along with 9 bits of OAM data (see 97.7) is processed by a Reed Solomon FEC encoder (RS FEC).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Comment is actually against page 52 / line 4

Cl **97** *SC* **97.1.2.3** *P* **52** *L* **41** # 545

McClellan, Brett Marvell

Comment Type **E** *Comment Status* **D**

the PMD doesn't 'specify'

SuggestedRemedy

change "The PMD also"
to " Clause 97.5"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change
"The PMD also
specifies the minimum link segment characteristics, EMC requirements, and test modes."
to
"The minimum link segment characteristics, EMC requirements, and test modes are specified in 97.5."

Cl **97** *SC* **97.1.2.4** *P* **54** *L* **27** # 369

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

OAM also affects EEE

SuggestedRemedy

Add the following text at the end of the paragraph on line 27.

The OAM SNR settings may temporarily force the PHY to exit LPI mode and send idles when LPI refresh is insufficient for maintain PHY SNR.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.1.3** *P* **54** *L* **47** # 402

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

The use of "code-group" in clause 97 does not match the definition in subclause 1.4.142.

Also, the terms "code-group" and "symbol" are used interchangeably in the draft .

For reference, here is the definition from 1.4.142:
code-group: For IEEE 802.3, a set of encoded symbols representing encoded data or control information. For 100BASE-T4, a set of six ternary symbols that, when representing data, conveys an octet. For 100BASE-TX and 100BASE-FX, a set of five code-bits that, when representing data, conveys a nibble. For 100BASE-T2, a pair of PAM5×5 symbols that, when representing data, conveys a nibble. For 1000BASE-X, a set of ten bits that, when representing data, conveys an octet. For 1000BASE-T, a vector of four 8B1Q4 coded quinary symbols that, when representing data, conveys an octet. (See IEEE Std 802.3, Clause 23, Clause 24, Clause 32, Clause 36, and Clause 40.)

For reference, here is the definition of "symbol" in 1.4.380:
symbol: Within IEEE 802.3, the smallest unit of data transmission on the medium. Symbols are unique to the coding system employed. For example, 100BASE-T4 uses ternary symbols; 10BASE-T uses Manchester symbols; 100BASE-X uses binary symbols or code-bits; 100BASE-T2 and 1000BASE-T uses quinary symbols. For 1000BASE-X PMDs operating at 1.25 GBd, a symbol corresponds to a code-bit after the 8B/10B encoding operation i.e. has the duration of 0.8 ns. For 10GBASE-R PMDs operating at 10.3125 GBd, a symbol corresponds to a code-bit after the 64B/66B encoding operation i.e. has the duration of approximately 0.097 ns

SuggestedRemedy

In clause 97, change all instances of "code-group" to "symbol".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.1.3** *P* **54** *L* **51** # 518

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

In numbered list a) - g)some items end in a period and some do not.

SuggestedRemedy

Make list consistent.

EITHER: Add periods at the end of b)& c)

OR: Remove periods from the end of a), d), e), f), & g).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Remove periods from the end of each bulleted item

Cl **97** *SC* **97.1.3** *P* **54** *L* **52** # 352

Rojansky, Amiel Cadence

Comment Type **E** *Comment Status* **D**

Typo:
"97.1.3 Signaling
...
b) Algorithmic mapping from PAM3 symbols to TXD<7:0> in the receive path"

SuggestedRemedy

Modify 97.1.3 page 54 line 52:
"b) Algorithmic mapping from PAM3 symbols to RXD<7:0> in the receive path"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This is a TECHNICAL comment!

Cl **97** *SC* **97.1.3** *P* **55** *L* **2** # 341

Rojansky, Amiel Cadence

Comment Type **T** *Comment Status* **D**

"f) Ability to signal the status of the local receiver to the remote PHY to indicate that the local receiver"

There is no way to signal loc_rcvr_status to the link partner, during data mode, after training has completed.

SuggestedRemedy

- Remove the statement from the standard
OR
- Clarify if there is an indirect way to do it.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Remove the statement unless someone is willing to contribute description of how this function is achieved.

Cl **97** *SC* **97.1.3** *P* **55** *L* **4** # 546

McClellan, Brett Marvell

Comment Type **E** *Comment Status* **D**

typo

SuggestedRemedy

change "transmit in entering"
to "transmit is entering"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change
"that transmit in entering the LPI mode"
to
"that the transmitting PHY is entering the LPI mode"

Cl **97** *SC* **97.1.3** *P* **55** *L* **5** # 430

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

"normal" is used for multiple meenings

SuggestedRemedy

On page 55, line 5,
Change "normal" to normal power"

On page 55, line 7 and line 9,
Change "normal mode" to "normal data mode" (two instances)

On Page 70, line 19,
Change "normal mode" to "normal power mode"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.1.3** *P* **55** *L* **7** # 519

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Use a ";" in the sentence to distinguish between clauses and list.

SuggestedRemedy

Replace: The PHY may operate in three basic modes, normal mode, training mode, or an optional LPI mode.

With: The PHY may operate in three basic modes; normal mode, training mode, or an optional LPI mode.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<preference for ":">

Replace: The PHY may operate in three basic modes, normal mode, training mode, or an optional LPI mode.

With: The PHY may operate in three basic modes: normal mode, training mode, or an optional LPI mode.

Cl **97** *SC* **97.10.2.1** *P* **133** *L* **22** # 479
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Missing period at end of sentence list.

SuggestedRemedy
Add period after: e) chemical loads: ISO 167540-5 and ISO 20653

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Remove "," from the end of all lettered items

Cl **97** *SC* **97.10.2.2** *P* **133** *L* **39** # 480
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Missing period at end of sentence list.

SuggestedRemedy
Add period after: d) Electrical Disturbances: IEC 62215-3 and ISO 7637-2/3

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Not a sentence, no need for it.

Cl **97** *SC* **97.12.1** *P* **134** *L* **14** # 481
Wienckowski, Natalie General Motors

Comment Type **ER** *Comment Status* **D**
Incorrect verb tense.

SuggestedRemedy
Replace: The supplier of a protocol implementation that is claimed to conform to Clause 97

With: The supplier of a protocol implementation that is claiming to conform to Clause 97

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Boilet plate statement used broadly in whole standard. See for example 55.12

Cl **97** *SC* **97.2.1.1** *P* **56** *L* **8** # 453
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D** *#370*
The reference to 98.4.2 is not a link and is highlighted in red.

SuggestedRemedy
Remove red highlight and fix link.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See also comment #370

Cl **97** *SC* **97.2.1.1** *P* **56** *L* **8** # 370
Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D** *#370*
Red highlight 98.4.2 is correct.

SuggestedRemedy
Remove red highlight

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **97** *SC* **97.2.1.1.2** *P* **56** *L* **24** # 454
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
There is no link for the Clause 98 reference.

SuggestedRemedy
Fix link for Clause 98 reference.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Make link to"Clause 98" live

Cl **97** *SC* **97.2.1.2.2** *P* **56** *L* **51** # 455

Wienckowski, Natalie General Motors

Comment Type **T** *Comment Status* **D**

Incorrect reference. Figure 97-21 is for CRC16, Figure 97-23 is Link Monitor state diagram.

SuggestedRemedy

Replace: Figure 97-21

With: Figure 97-23

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.2.2** *P* **57** *L* **18** # 432

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

PMA_RESET.indication is not used and should be removed.

On a side note, In section 97.2.2.9, the format of the PMA_RESET.indication is different than other primitives in 97.2.2. Other primitives have a description of the primitive at the top (i.e. 97.2.2.x) level and a subclause titled "Semantics of the primitive" underneath. In section 97.2.2.9, the semantics are defined at the top level. If it is decided to keep PMA_RESET.indication, the format of 97.2.2.9 should be fixed.

SuggestedRemedy

On page 57, line 18,
Delete the line "PMA_RESET.indication()"

On page 58, in Figure 97-3, delete the arrow labeled "PMA_RESET.indication"

On page 62, delete clause 97.2.2.9 and all subclauses of 97.2.2.9.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.2.2** *P* **58** *L* **27** # 437

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

PMA_PCSSTATUS.request(pcs_status) should be PMA_PCSSTATUS.request

SuggestedRemedy

In Figure 97-3,
change "PMA_PCSSTATUS.request(pcs_status)"
to "PMA_PCSSTATUS.request"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.2.2.2** *P* **58** *L* **52** # 431

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

"Master" should be "MASTER" and "Slave" should be "SLAVE" when used to convey the value of "config".

SuggestedRemedy

In the following locations, change "Master" to "MASTER"
Page 29, Line 40
Page 58, Line 52
Page 92, Line 4
Table 98-3 (all instances)

In the folloiwng locations change "Slave" to "SLAVE"
Page 29, Line 41
Page 58, Line 52
Page 92, Line 4
Table 98-3 (all instances)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.2.2.5** *P* **66** *L* **47** # 457

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Awkward wording.

SuggestedRemedy

Replace: Bit 0 to 3 of pointer points to next octet that is a control symbol.
Bit 4 of pointer indicates whether the next control symbol is the final control symbol of the block:

With: Bit 0 to 3 of the pointer points to the next octet that is a control symbol. Bit 4 of the pointer indicates whether or not the next control symbol is the final control symbol of the block:

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<"pointer points" sounds odd; 'whether' does not need accompanying 'or not'>

Replace: Bit 0 to 3 of pointer points to next octet that is a control symbol.
Bit 4 of pointer indicates whether the next control symbol is the final control symbol of the block:

With: Bits 0 to 3 of the pointer field points to the next octet that is a control symbol. Bit 4 of the pointer field indicates whether the next control symbol is the final control symbol of the block:

Cl **97** *SC* **97.3** *P* **63** *L* **26** # 547

McClellan, Brett Marvell

Comment Type **E** *Comment Status* **D**

delete editor's note, all of the text is now approved

SuggestedRemedy

delete editor's note

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.2** *P* **64** *L* **11** # 433

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

Figure 97-4: tx_lpi_active is missing & both tx_lpi_active & rx_lpi_active should be dashed (optional) lines

SuggestedRemedy

In Figure 97-4:

Add a dashed arrow labeled "tx_lpi_active" from the bottom of the PCS TRANSMIT block to the bottom of the figure (with the arrowhead at the bottom of the figure).

Chagne the lines labeled rx_lpi_active from solid to dashed lines.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.2** *P* **64** *L* **19** # 541

Tu, Mike Broadcom

Comment Type **TR** *Comment Status* **D** *discussion needed*

"rem_rcvr_status" is undefined in data mode

SuggestedRemedy

Define "loc_data_ready" and "rem_data_ready" variables. Change "rem_rcvr_status" to "rem_rcvr_status/rem_data_ready" when appropriate. See "wang_3bp_01_0515.pdf" for further details.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This is a great and detailed analysis, but Editor is confused about what specific changes are being requested.

Suggest to discuss at the meeting and reference specific changes to be made in this comment using page reference.

Cl **97** *SC* **97.3.2.2** *P* **65** *L* **14** # 442

Regev, Alon Ixia

Comment Type **E** *Comment Status* **D**

"45 81B" looks too much like "4581B".

SuggestedRemedy

On page 65, line14; page 70, line 38; and page 71, line 46:
Change "45 81B" to "forty-five 81B"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.2.2.1** *P* **65** *L* **29** # 456

Wienckowski, Natalie General Motors

Comment Type **TR** *Comment Status* **D** *#456*

There is italic text in this section that wasn't listed in Steve's TBD email.

The PAM2 PMA training frame synchronization allows establishment of RS frame and 81B boundaries by the PCS Synchronization process.

SuggestedRemedy

Remove italics from PAM2 based on later usage of PAM2 in section 97.3.2.3, page 74, line 13.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This is an EDITORIAL comment!

Cl **97** *SC* **97.3.2.2.1** *P* **97** *L* **29** # 548

McClellan, Brett Marvell

Comment Type **E** *Comment Status* **D** *#456*

remove italics on 'PAM2'

SuggestedRemedy

remove italics on 'PAM2'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See also comment #456

Cl **97** *SC* **97.3.2.2.11** *P* **70** *L* **34** # 346

Rojansky, Amiel Cadence

Comment Type **T** *Comment Status* **D**

"Where the GMII and PMA sublayer data rates are not synchronized to that ratio, the transmit process needs to insert idles, or delete idles to adapt between the rates."

The transmit process needs also to insert LPI_IDLE, or delete LPI_IDLE to adapt between the rates.

SuggestedRemedy

In subclause 97.3.2.2.9 LP_IDLE on page 70 line 22, add:

"Where the GMII and PMA sublayer data rates are not synchronized, the transmit process needs to insert LPI_IDLEs, or delete LPI_IDLEs to adapt between the rates."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.2.2.12** *P* **71** *L* **47** # 558

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**

"Figure 97–9 shows the bit mapping between PCS and FEC."
This reference is misleading because Figure 97-9 does not show the complete mapping including OAM and RS parity which is shown in Figure 97-7.

SuggestedRemedy

Change "97-9 to 97-7" and delete figure 97-9 on page 72.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.2.2.13** *P* **72** *L* **1** # 461

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Placement of Figures is poor throughout the document. In this case, the table is immediately after "This implements the scrambler polynomial:" and before the equation it is referencing.

This happens many times in the document including:

Table 97-2,

SuggestedRemedy

The statement should not be broken up with a Figure. Move the start of Section 97.3.2.2.13 to be after Figure 97-9.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

I will do my best to control figure placement - Frame is sometimes *not* the most cooperative tool.

Cl **97** *SC* **97.3.2.2.16** *P* **73** *L* **47** # 371

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **A** *#410*

Need to account for OAM effect on LPI

SuggestedRemedy

Change:
The quiet-refresh cycle is repeated until Assert Low Power Idle is not detected at the GMII.
To:
The quiet-refresh cycle is repeated until Assert Low Power Idle is not detected at the GMII or when the OAM SNR settings temporarily force the PHY to exit LPI mode.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See changes per comment #410

Cl **97** *SC* **97.3.2.2.16** *P* **73** *L* **47** # 410

Regev, Alon Ixia

Comment Type **T** *Comment Status* **A** *#410*

In LPI mode, wake can also be started due to link partner sending OAM message with SNR<1:0> set to 01.

SuggestedRemedy

Replace "The quiet-refresh cycle is repeated until Assert Low Power Idle isn't detected at the GMII. This indicates that the local system is requesting a transition back to the normal operational mode."

With "The quiet-refresh cycle is repeated until Assert Low Power Idle isn't detected at the GMII (indicating that the local system is requesting a transition back to the normal operational mode) or until an OAM message is received from the link partner with SNR<1:0> set to 01 (indicating that the link parter is requesting wake from LPI mode as LPI refresh is insufficient to maintain the link partner's SNR)."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

<no contractions, please>

Replace
"The quiet-refresh cycle is repeated until Assert Low Power Idle isn't detected at the GMII. This indicates that the local system is requesting a transition back to the normal operational mode."

With
"The quiet-refresh cycle is repeated until Assert Low Power Idle is not detected at the GMII (indicating that the local system is requesting a transition back to the normal operational mode) or until an OAM message with SNR<1:0> set to 01 is transmitted to or received from the link partner (indicating that the LPI refresh is insufficient to maintain the SNR)."

Cl **97** *SC* **97.3.2.2.16** *P* **73** *L* **52** # 559

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**

akward sentence and only 10.8us applies

SuggestedRemedy

change "Due to the wake signal constrained to occur at the beginning of every second RS frame boundary the PHY wake time may range from 3.6 µs to 10.8 µs"
to:
The wake signal is constrained to occur at the beginning of every second RS frame boundary, therefore the PHY wake time can require up to 10.8 µs.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<further simplification proposed>

change
"Due to the wake signal constrained to occur at the beginning of every second RS frame boundary the PHY wake time may range from 3.6 µs to 10.8 µs"
to:
"The wake signal occurs at the beginning of every second RS frame boundary, and the maximum duration of the PHY wake time is 10.8 µs."

Globally, replace "RS FEC frame" with "RS frame" - they are the same and "RS frame" is much more popular.

Cl **97** *SC* **97.3.2.2.5** *P* **67** *L* **38** # 458

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Keep paragraph/sentence text together. Don't break it up with a 37 line Figure.

SuggestedRemedy

Move partial sentence under Figure 97-6 to be before the figure, with the start of the paragraph/sentence.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.2.2.5** *P* **69** *L* **3** # 459

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Inconsistent use of periods.

SuggestedRemedy

Either put a period at the end of each statement, or remove the periods from the ones that have them.

N = number of GMII octets encoded into block
octets numbered n = 0, 1, 2, …, N-1. octet 0 is the first one presented on GMII.
TC[n] = 0 if octet n is data octet on GMII, 1 if octet n is control octet on GMII
TC[-1] = 1 by definition
TD[n][0:7] = GMII octet n TXD[0:7] if TC[n] = 0
TD[n][5:7] = 010 – IPG, 101 – LPI, 001 – TX Error if TC[n] = 1. TD[n][0:4] is undefined.
B[0:8N] is the 8N+1 block. Bit 0 transmitted first.
OR(n) = Bitwise OR of TC[n:N-1]
NEXT(n)[0:3] = bit position of lowest bit in TC[n:N-1] that is a 1. Bit 3 is MSB.
NEXT(n)[4] = 0 if Bitwise SUM of TC[n:N-1] = 1, else 1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This is code - put it into proper format.

Cl **97** *SC* **97.3.2.2.6** *P* **69** *L* **33** # 460

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D** *#400*

typo, and instead of an

SuggestedRemedy

Replace: PCS will convey and Idle symbol in the 80B81B block code.

With: PCS will convey an Idle symbol in the 80B81B block code.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Changes per comment #400

Cl **97** *SC* **97.3.2.2.6** *P* **69** *L* **33** # 400

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D** *#400*

"convey and idle signal" has a typo ("and" instead of "an") and inaccurate (as you need to send a "Normal Inter-Frame" control code; not an "idle signal").

SuggestedRemedy

Change "convey and Idle symbol" to "convey a Normal Inter-Frame control code"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.2.2.7** *P* **70** *L* **6** # 350

Rojansky, Amiel Cadence

Comment Type **E** *Comment Status* **D**

"A block is invalid if any of the following conditions exists:

b) Any control character contains a value not in Table 97–1."

This statement has no meaning since Table 97–1 last entry is:
"other Reserved" which covers all the non-valid codes.

SuggestedRemedy

Remove the last entry of "other Reserved" from Table 97–1 on page 69 line 48.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Page 70, lines 5-7, remove training "." - these are not sentences

Cl **97** *SC* **97.3.2.2.8** *P* **70** *L* **13** # 348

Rojansky, Amiel Cadence

Comment Type **T** *Comment Status* **D**

"Idle characters may be added or deleted by the PCS to adapt between clock rates."

We need to ensure that Idles shall not be added within a data frame.

SuggestedRemedy

I recommend to modify:
"Idle characters may be duplicated or deleted by the PCS to adapt between clock rates."
(using the term duplicated instead of added)

OR add:
"Idle characters shall not be added within a data frame."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add on page 70, line 13 at the end:
"Idle characters shall not be added within a data frame."

Cl **97** *SC* **97.3.2.2.9** *P* **70** *L* **22** # 436

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

The PCS may need the ability to add or delete LP_IDLE characters to adopt between clock rates similarly to the way this is done for IDLE.

SuggestedRemedy

In between the paragrath ending on line 21 and the paragraph starting on line 23, add the following paragraph:
"LP_IDLE lecharacters may be repeated or deleted by the PCS to adapt between clock rates."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add on page 70, line 21 at the end:

"LP_IDLE characters may be added or deleted by the PCS to adapt between clock rates. LP_IDLE characters shall not be added within a data frame."

Cl **97** *SC* **97.3.2.2.9** *P* **70** *L* **22** # 347

Rojansky, Amiel Cadence

Comment Type **T** *Comment Status* **D**

The 1000Base-T1 standard (and in particular section 97.3.2.2.9 LP_IDLE) does not handle a case of GTX_CLK halt by the MAC as described in caluse 35.2.2.6.

It is not clear if the 1000Base-T1 standard supports this option of gtx_clk halting

SuggestedRemedy

In subclause 97.3.2.2.9 LP_IDLE on page 70 line 22, add:

"When the MAC halts the gtx_clk during a transmission as defined in 35.2.2.6, the transmit process needs to insert LPI_IDLEs"

OR

If GTX_CLK halting is not allowed by 1000Base-T1, clarify it explicitly.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The standard prescribes what is supported and DOES NOT list all items that are not supported. Lack of reference to given feature / signal should be treated as lack of support.

No changes needed.

Cl **97** *SC* **97.3.4♂** *P* **76** *L* **5** # 411

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

In Figure 97-11, make it clear that the LFSR scramblers shown in Figure 97-9 refer to the transmit on the MASTER or SLAVE PHY (as the recieve uses the opposite equations)

SuggestedRemedy

Change "Side-stream scrambler employed by the MASTER PHY"
to "Side-stream scrambler employed by the MASTER PHY Transmit"

Change "Side-stream scrambler employed by the SLAVE PHY"
to "Side-stream scrambler employed by the SLAVE PHY Transmit"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Alo, redraw Figure 97-11 and place it in correct style.

Cl **97** *SC* **97.3.4.1** *P* **76** *L* **32** # 553

McClellan, Brett Marvell

Comment Type **E** *Comment Status* **D**

typo "1InfoField"

SuggestedRemedy

change "1InfoField"
to "InfoField"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.5.2** *P* **78** *L* **23** # 462

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

There is an extraneous "and".

SuggestedRemedy

Replace: During the quiet period the transmitter shall put zeros on to the MDI. During the quiet period the transmitter and may be turned off to save power.

With: During the quiet period the transmitter shall put zeros on to the MDI. During the quiet period the transmitter may be turned off to save power.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Remove "and" on page 78, line 23

Cl **97** *SC* **97.3.5.3** *P* **78** *L* **33** # 406

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

In the sentence "The OAM symbol and its associated parity symbols are XOR'ed with the scrambler stream at the same relative position to the RS boundaries as they occupy during normal mode." it is not clear if "parity" refers to the parity built built into the OAM symbol (it has 8 data bits and 1 parity bit) or the Reed Solomon parity.

SuggestedRemedy

Change "The OAM symbol and its associated parity symbols are XOR'ed with the scrambler stream at the same relative position to the RS boundaries as they occupy during normal mode."

To "The OAM symbols and the RS parity symbols are XOR'ed with the scrambler stream at the same relative position to the RS boundaries as they occupy during normal mode."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.6.2.1** *P* **79** *L* **26** # 372

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D** *#372*

Remove TBD for RFER_CNT_LIMIT and RFRX_CNT_LIMIT

SuggestedRemedy

RFER_CNT_LIMIT change TBD to Integer value of 16
RFRX_CNT_LIMIT change TBD to Integer value of 88

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.6.2.1** ♂ *P* *L* # 412

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D** *#372*

RFER_CNT_LIMIT & RFRX_CNT_LIMIT have type of "TBD" and have no value.

SuggestedRemedy

Change "TYPE: TBD" to "TYPE: integer" for both RFER_CNT_LIMIT & RFRX_CNT_LIMIT.
Add "VALUE: TBD" for both RFER_CNT_LIMIT & RFRX_CNT_LIMIT (there are other comments that actually provide the value).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Changes per comment #372

Cl **97** *SC* **97.3.6.2.2** *P* **80** *L* **24** # 463

Wienckowski, Natalie General Motors

Comment Type **TR** *Comment Status* **A**

Incorrect Figure reference. Figure 97-14 is the PCS Transmit state diagram.

SuggestedRemedy

Change: The format for this vector is shown in Figure 97–14.

To: The format for this vector is shown in Figure 97–5.

Response *Response Status* **C**

ACCEPT.

Cl **97** *SC* **97.3.6.2.2** *P* **80** *L* **31** # 560

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **A**

clarify ambiguous text, With the current text the next frame could be set to both TRUE and FALSE in some cases.

SuggestedRemedy

change: "This variable is set FALSE at next wake frame if non- LP_IDLE is detected on GMII in any block.
This variable is set TRUE on next RS frame if LP_IDLE detected on GMII in the last 80/81 block."
to: "This variable is set to FALSE at reset.
This variable is set from TRUE to FALSE at next wake frame if non-LP_IDLE is detected on GMII in any block.
This variable is set from FALSE to TRUE on next RS frame if LP_IDLE detected on GMII in the final 80/81 block of the current RS frame."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

<minor cleanup and rewording>

change:
"This variable is set FALSE at next wake frame if non- LP_IDLE is detected on GMII in any block.
This variable is set TRUE on next RS frame if LP_IDLE detected on GMII in the last 80/81 block."

to:
"This variable is set to FALSE at reset.
This variable changes from TRUE to FALSE at the next wake frame if non-LP_IDLE is detected at the input to 80B/81B encoder.
This variable changes from FALSE to TRUE on the next RS frame if LP_IDLE detected at the input to 80B/81B encoder in the final 80B/81B block of the current RS frame."

Also, globally change "80/81" and "80B81B" both to "80B/81B" - we seem to be using different ways to express the same thing.

Cl **97** *SC* **97.3.6.2.3** *P* **81** *L* **3** # 413

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

As there are no timers used int he state machine, change "State diagram timers follow the conventions described in 14.2.3.2." to "None"

SuggestedRemedy

change "State diagram timers follow the conventions described in 14.2.3.2." to "None"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.6.3** *P* **81** *L* **50** # 414

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

The message "TX_FRAME" is defined in this section, but it not used anywhere in the state machines.

SuggestedRemedy

Delete the text
"TX_FRAME A signal sent to PCS Transmit indicating that a full Reed Solomon frame has been transmitted."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.6.4** *P* **85** *L* **34** # 415

Regev, Alon Ixia

Comment Type **TR** *Comment Status* **A** *#415*

Several mistakes in Figure 97-15:

1. wake_detected is not defined in the draft but it is used in the state machine.

2. transition to RECEIVE_LPI happens without RX_AGGREGATE (we only know that a valid transition to LPI was requested once we receive a full RS frame, do the RS correction, do the 81B decode, and validate that we have 10 LP_IDLE)

3. transition from RECEIVE_WAKE to RECEIVE_DATA uses (TX_AGGREGATE) - should be RX_AGGREGATE. Also, rx_wake_frame_complete should not be used here. There is always exactly 1 wake RS frame containing 10 IDLEs - there is nothing to detect other than this (and this is what was detected by wake_detected)

4. LPIBLOCK_R should be LPBLOCK_R (to match definition).

5. DECODE should not be used for IBLOCK_R and LPBLOCK_R as these are already in the non-encoded 100 bit GMII format.

SuggestedRemedy

Change the definition of RX_AGGREGATE (page 81, line 39) from
"A signal sent to PCS Receive indicating that 9 aligned 9-bit Reed Solomon symbols are aggregated in rx_coded<80:0>."
To
"A signal sent to PCS Receive indicating that 9 aligned 9-bit Reed Solomon symbols are aggregated in rx_coded<80:0>. This signal is asserted even when the receive is in low power idle mode at the time when the nine 9-bit RS symbols would be aggregated in rx_coded<80:0> if the receieve was operating in non-lpi mode."

Delete the definition of rx_wake_frame_complete (page 80, line 19)

Replace Figure 97-15 with the figure from regev_3bp_01_0515

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Per discussion with commenter, there are a few issues in Figure 97-15:

1. wake_detected is not defined in the draft but it is used in the state machine.

2. transition to RECEIVE_LPI happens without RX_AGGREGATE (we only know that a valid transition to LPI was requested once we receive a full RS frame, do the RS correction, do the 81B decode, and validate that we have 10 LP_IDLE)

3. LPIBLOCK_R should be LPBLOCK_R (to match definition).

4. DECODE should not be used for IBLOCK_R and LPBLOCK_R as these are already in the non-encoded 100 bit GMII format.

Proposed changes:

Change the definition of RX_AGGREGATE (page 81, line 39) from:
"A signal sent to PCS Receive indicating that 9 aligned 9-bit Reed Solomon symbols are aggregated in rx_coded."

To
"A signal sent to PCS Receive indicating that nine aligned 9-bit Reed Solomon symbols are aggregated in rx_coded. This signal is asserted even when the receive is in low power idle mode at the time when the nine 9-bit RS symbols would be aggregated in rx_coded if the receieve was operating in non-lpi mode."

Replace Figure 97-15 with the figure from regev_3bp_01a_0515

Cl **97** *SC* **97.3.6.4** *P* **85** *L* **44** # 571

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D** *#415*

typo TX_AGGREGATE should be RX_AGGRAGATE

SuggestedRemedy

change "TX_AGGREGATE "
to "RX_AGGRAGATE"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Change already part of #415

Cl **97** *SC* **97.3.7.1** *P* **83** *L* **31** # 373

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

Register references does not reflect D1.4 Clause 45

SuggestedRemedy

PCS_status change 3.32.12 to 3.2306.10, 3.1.2 to 3.2305.2, 3.8.10 to 3.2305.7
block_lock change 3.32.0 to 3.2306.8, 3.33.15 to 3.2306.6
hi_rfer change 3.32.1 to 3.2306.9, 3.33.14 to 3.2306.7
Rx LPI indication change 3.1.8 to 3.2305.8, 3.1.10 to 3.2305.10
Tx LPI indication change 3.1.9 to 3.2305.9, 3.1.11 to 3.2305.9

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.7.2** *P* **83** *L* **44** # 374

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

Register references does not reflect D1.4 Clause 45

SuggestedRemedy

RF_ER_count change 3.33.13:8 to 3.2305.5:0, 3.33 to 3.2305

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.3.7.3** *P* **83** *L* **51** # 375

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

Register references does not reflect D1.4 Clause 45

SuggestedRemedy

Change 3.0.14 to 3.2304.14

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.2.1** *P* **87** *L* **9** # 416

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

Draft states "Power on (see 98.5.1)", but the definition in 98.5.1 is for the "device that contains the Auto-Negotiation state diagrams". As auto-negotiation is optional, this definition does not work for the case when auto-negotiation is not used.

As the PCS section has similar wording, it should be updated as well.

SuggestedRemedy

On page 87, line 9:
Change "Power on (see 98.5.1)"
To "Power for the device containing the PMA has reacehed the operating region"

On page 64, line 32:
Change "Power on."
To "Power for the device containing the PMA has reacehed the operating region."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<fixing typos>

On page 87, line 9:
Change "Power on (see 98.5.1)"
To "Power for the device containing the PMA has reached the operating state"

On page 64, line 32:
Change "Power on."
To "Power for the device containing the PMA has reached the operating state"

Cl **97** *SC* **97.4.2.2** *P* **87** *L* **17** # 464

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Incorrect grammar.

SuggestedRemedy

Replace: The PMA Transmit function comprises a transmitter to generate a 3 level modulated signals on the single ...

With: The PMA Transmit function comprises a transmitter to generate a 3 level modulated signal on the single ..

OR With: The PMA Transmit function comprises a transmitter to generate 3 level modulated signals on the single ...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<picking one option>

Replace: The PMA Transmit function comprises a transmitter to generate a 3 level modulated signals on the single ...

With: The PMA Transmit function comprises a transmitter to generate a 3 level modulated signal on the single ..

Cl **97** *SC* **97.4.2.2** *P* **87** *L* **29** # 562

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**

No register bits are defined for PMA Transmit fault. Delete this paragraph

SuggestedRemedy

Delete this paragraph

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.2.3** *P* **87** *L* **33** # 417

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

The subclause "97.4.2.3 PMA transmit disable function" contains a subclause "97.4.2.3.2 PMA MDIO function mapping" that maps status/control other than transmit disable, so it really doesn't belong under "transmit".

Furthermore, I would argue that transmit disable isn't its own function - it really is a control of the transmit functtion.

This same convention is followed in Clause 55 (10GBASE-T), but I don't think we should repeat mistakes made there.

SuggestedRemedy

Move and rename Subclause "97.4.2.3.1 Global PMA transmit disable function" to be a subcluase of "97.4.2.2 PMA Transmit function" and rename it's title to "97.4.2.2.1 Global PMA transmit disable".

Move subclause "97.4.2.3.2 PMA MDIO function mapping" to "97.4.2.9 PMA MDIO function mapping".

Deletee section 97.4.2.3 PMA transmit disalbe function".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.2.3.1** *P* **87** *L* **35** # 561

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**

We don't need the term 'Global'. There is only one channel.

SuggestedRemedy

Delete 'Global' and 'Global_', also on page 88 line 9,

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.2.3.2** *P* **88** *L* **3** # 563

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**

register addresses in table 97-5 and 97-6 need to be updated

SuggestedRemedy

change to
97-5
MDIO control variable PMA register name Register/bit numberPMA control variable
Reset BASE-T1 PMA Control Register 1.2304.15 PMA_reset
Transmit disable BASE-T1 PMA Control Register 1.2304.10 PMA_transmit_disable
97-6
MDIO status variable PMA register name Register/bit numberPMA status variable
Receive fault 1000BASE-T1 PMA Status Register 2 1.8.10 PMA_receive_fault

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Format of submitted material does not allow me to correctly introduce changes. Please submit in Word / PDF if possible to properly implement change.

Cl **97** *SC* **97.4.2.4** *P* **88** *L* **45** # 549

McClellan, Brett Marvell

Comment Type **E** *Comment Status* **A**

fix reference

SuggestedRemedy

change: 45.2.1.7.5 to: 45.2.1.130.6

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Point to 45.2.1.130.6 and make link live (remove green color)

Cl **97** *SC* **97.4.2.5** *P* **89** *L* **8** # 564

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**

256 repetitions may be excessive, this takes 1 millisecond.

SuggestedRemedy

Consider changing 256 to 64.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.2.5** *P* **89** *L* **8** # 418

Regev, Alon Ixia

Comment Type **T** *Comment Status* **A**

I believe that the reference to Figure 97-20 actually means to refer to Figure 97-19.

I also believe that Figure 97-20 is redundant (it does not provide any more information than exists in Figure 97-17 and will have no references (once we correct the reference to Figure 97-19).

SuggestedRemedy

On Page 89, Line 8, Change "Figure 97-18" to "Figure 97-17".

On Page 89, line 35, delete Figure 97-18.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change
"Figure 97–17, and the more detailed Figure 97–18 and Figure 97–20"
to
"Figure 97–17, and the more detailed Figure 97–18 and Figure 97–19"

Delete Figure 97-20

Cl **97** *SC* **97.4.2.5.1** *P* **89** *L* **43** # 419

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

Sentence "Reserved<bit location> represents any unused values and shall be set to zero and ignored by the link partner" is not clear.

Change to "Reserved<bit location> represents any unused values and shall be set to zero on transmit and ignored when received by the link partner."

SuggestedRemedy

Change "Reserved<bit location> represents any unused values and shall be set to zero and ignored by the link partner"

To "Reserved<bit location> represents any unused values and shall be set to zero on transmit and ignored when received by the link partner."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.2.5.5** *P* **91** *L* **18** # 550

McClellan, Brett Marvell

Comment Type **E** *Comment Status* **D**

akward sentence

SuggestedRemedy

change "The remaining 7-bit Oct10<7:1> shall be user configurable register."
to "The remaining 7-bit Oct10<7:1> is a user configurable register."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

change
"The remaining 7-bit Oct10<7:1> shall be user configurable register."
to
"The remaining 7-bit Oct10<7:1> form a user configurable register."

Cl **97** *SC* **97.4.2.5.5** *P* **91** *L* **3** # 465

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

This sentence is confusing. Change punctuation to make it clearer. Also could add the word then if preferred.

SuggestedRemedy

Replace: When PMA_state<7:6>=00, [0ct8<7:0>, 0ct9<7:0>, 0ct10<7:0>] contains the two PHY capability bits (Cap), the user configurable register bits, and the 15-bit data mode scrambler seed (Seed).

With: When PMA_state<7:6>=00; [0ct8<7:0>, 0ct9<7:0>, 0ct10<7:0>] contains the two PHY capability bits (Cap), the user configurable register bits, and the 15-bit data mode scrambler seed (Seed).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace: When PMA_state<7:6>=00, [0ct8<7:0>, 0ct9<7:0>, 0ct10<7:0>] contains the two PHY capability bits (Cap), the user configurable register bits, and the 15-bit data mode scrambler seed (Seed).

With: When PMA_state<7:6>=00, then [0ct8<7:0>, 0ct9<7:0>, 0ct10<7:0>] contains the two PHY capability bits (Cap), the user configurable register bits, and the 15-bit data mode scrambler seed (Seed).

Similar change in 97.4.2.5.6, page 91, line 22

Cl **97** *SC* **97.4.2.5.5** *P* **91** *L* **4** # 565

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**

"(Cap)" is not used anywhere else.
delete "(Cap)"

SuggestedRemedy

delete "(Cap)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.2.5.6** *P* **91** *L* **25** # 420

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

The switch from PAM2 to PAM3 should only occur at an RS frame boundary (not at an arbitrary partial frame in the middle of an RS frame). Otherwise, the PCS receive will not be able to interpret the initial frame (as some of the partial frames will be missing).

SuggestedRemedy

After page 91, line 25, add the following sentence:
"DataSwPFC24 must be an integer multiple of 15 so that the switch from PAM2 to PAM3 occurs on an RS frame boundary."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<we do not use 'must'>

After page 91, line 25, add the following sentence:
"DataSwPFC24 shall be set to an integer multiple of 15. This value of DataSwPFC24 guarantees that the switch from PAM2 to PAM3 occurs on a RS frame boundary."

Cl **97** *SC* **97.4.2.5.9** *P* **92** *L* **13** # 551

McClellan, Brett Marvell

Comment Type **E** *Comment Status* **A**

clean up text

SuggestedRemedy

change "When the Auto-Negotiation process asserts link_control=ENABLE or when the PHY Link Synchronization process asserts link_control=ENABLE, PHY Control enters the INIT_MAXWAIT_TIMER state. Upon entering the INIT_MAXWAIT_TIMER state, the maxwait_timer is started.
PHY Control then transition to the SILENT state. Upon entering this state the minwait_timer is started and the PHY transmits zeros (tx_mode=SEND_Z)."
to
"When the Auto-Negotiation or PHY Link Synchronization process asserts link_control=ENABLE, PHY Control enters the INIT_MAXWAIT_TIMER state and the maxwait_timer is started. PHY Control then transitions to the SILENT state where the minwait_timer is started and the PHY transmits zeros (tx_mode=SEND_Z)."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

change
"When the Auto-Negotiation process asserts link_control=ENABLE or when the PHY Link Synchronization process asserts link_control=ENABLE, PHY Control enters the INIT_MAXWAIT_TIMER state. Upon entering the INIT_MAXWAIT_TIMER state, the maxwait_timer is started.
PHY Control then transition to the SILENT state. Upon entering this state the minwait_timer is started and the PHY transmits zeros (tx_mode=SEND_Z)."

to
"When the Auto-Negotiation or PHY Link Synchronization process asserts link_control=ENABLE, PHY Control enters the INIT_MAXWAIT_TIMER state. Upon entering the INIT_MAXWAIT_TIMER state, the maxwait_timer is started. PHY Control then transitions to the SILENT state where the minwait_timer is started and the PHY transmits zeros (tx_mode=SEND_Z)."

Cl **97** *SC* **97.4.2.5.9** *P* **92** *L* **20** # 422

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

"In MASTER mode PHY Control immediately transitions to the TRAINING state." Is not correct. The transition to the TRAINING state occurs only after minwait_timer is done.

SuggestedRemedy

Change "In MASTER mode PHY Control immediately transitions to the TRAINING state."

To "In MASTER mode PHY Control transitions to the TRAINING state immediately after the minwait_timer expires."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<'immediately' is very relative in terms of speed>

Change
"In MASTER mode PHY Control immediately transitions to the TRAINING state."

To
"In MASTER mode PHY Control transitions to the TRAINING state once the minwait_timer expires."

Cl **97** *SC* **97.4.2.5.9** *P* **92** *L* **22** # 552

McClellan, Brett Marvell

Comment Type **E** *Comment Status* **D**

clean up text

SuggestedRemedy

change: "Upon entering the TRAINING state, the minwait_timer is started and the PHY Control forces transmission into the training mode by asserting tx_mode=SEND_T, which includes the transmission of InfoFields."
to "Upon entering the TRAINING state, the minwait_timer is started and the PHY Control asserts tx_mode=SEND_T sending PAM2, which includes the transmission of InfoFields."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<rewording to avoid unnecessary wording complication>

change
"Upon entering the TRAINING state, the minwait_timer is started and the PHY Control forces transmission into the training mode by asserting tx_mode=SEND_T, which includes the transmission of InfoFields."

to
"Upon entering the TRAINING state, the minwait_timer is started and the PHY Control asserts tx_mode=SEND_T sending PAM2 together with InfoFields."

Cl **97** *SC* **97.4.2.5.9** *P* **92** *L* **49** # 424

Regev, Alon Ixia

Comment Type **T** *Comment Status* **A** *#424*

set_data_sw_pfc is refererred to here, but this is not referenced anywhere else in the draft (so it is not needed).

Also, a guideline should be given as to the minimum value of DataSwPFC24.

SuggestedRemedy

Change
"Upon entering the COUNTDOWN state, PHY Control sets PMA_state = 01, set_data_sw_pfc = 1 and DataSwPFC24 to the value of the partial frame count when the transmitter will switch from PAM2 to PAM3."

To
"Upon entering the COUNTDOWN state, PHY Control sets PMA_state = 01 and DataSwPFC24 to the value of the partial frame count when the transmitter will switch from PAM2 to PAM3. DataSwPFC24 shall be set to a value that is at least PFC24 + 150 (such that at least 10 InfoFields containing DataSwPFC24 will be sent to the link partner)."

At the end of the paragraph ending on Page 91, line 25, add the following sentence:
"DataSwPFC24 shall be set to a value that is at least 150 higher than the value of PFC24 when the PHY Control function enters the COUNTDOWN state (such that at least 10 InfoFields containing DataSwPFC24 will be sent to the link partner)."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

<we do not use 'will' in text>

Change
"Upon entering the COUNTDOWN state, PHY Control sets PMA_state = 01, set_data_sw_pfc = 1 and DataSwPFC24 to the value of the partial frame count when the transmitter will switch from PAM2 to PAM3."

To
"Upon entering the COUNTDOWN state, PHY Control sets PMA_state = 01 and DataSwPFC24 to the value of the partial frame count when the transmitter switches from PAM2 to PAM3."

Cl **97** *SC* **97.4.2.5.9** *P* **92** *L* **9** # 421

Regev, Alon Ixia

Comment Type **T** *Comment Status* **A**

Clarifying that if Auto-Negotiation is not used, the PHY control is in the DISABLE_TRANSMITTER state only why the PHY Link Synchronization is running.

SuggestedRemedy

Change "If the Auto-Negotiation function is not used, PHY Control is in the DISABLE_TRANSMITTER state and the transmitters are controlled by the PHY Link Synchronization state machine."

To "If the Auto-Negotiation function is not used, during PHY Link Synchronization PHY Control is in the DISABLE_TRANSMITTER state and the transmitters are controlled by the PHY Link Synchronization state machine."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

<extra changes for clarification>

Change
"If the Auto-Negotiation function is not used, PHY Control is in the DISABLE_TRANSMITTER state and the transmitters are controlled by the PHY Link Synchronization state machine."

To
"If the Auto-Negotiation function is not used, during the PHY Link Synchronization stage the PHY Control remains in the DISABLE_TRANSMITTER state and the transmitters are controlled by the PHY Link Synchronization state diagram (see Figure 97–39)."

Cl **97** *SC* **97.4.2.5.9** *P* **93** *L* **11** # 425

Regev, Alon Ixia

Comment Type **TR** *Comment Status* **D**

The PHY Control state diagram is in Figure 97-22, not 97-23

SuggestedRemedy

change "Figure 97-23" to "Figure 97-22"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.2.5.9** *P* **93** *L* **7** # 554

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D** *#566*

remove text "stops the maxwait timer,"
it does not match the state machine

SuggestedRemedy

remove text "stops the maxwait timer,"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Duplicte of comment #566

Cl **97** *SC* **97.4.2.5.9** *P* **93** *L* **7** # 566

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D** *#566*

text is incorrect, does not match the state diagram
delete: "stops the maxwait_timer,"

SuggestedRemedy

delete: "stops the maxwait_timer,"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.2.5.9 Startup sequ** *P* **92** *L* **49** # 349

Rojansky, Amiel Cadence

Comment Type **E** *Comment Status* **D** *#424*

"Upon entering the COUNTDOWN state, PHY Control sets PMA_state = 01, set_data_sw_pfc = 1 and DataSwPFC24 to the value of the partial frame count when the transmitter will switch from PAM2 to PAM3."

The variable set_data_sw_pfc is not defined elsewhere in the standard.

SuggestedRemedy

Remove
set_data_sw_pfc = 1
from the text.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Changes per comment #424

Cl **97** *SC* **97.4.2.7** *P* **94** *L* **4** # 435

Regev, Alon Ixia

Comment Type **T** *Comment Status* **A** *#435, #567, #580*

If refresh is not detected reliably, the reresh monitor should restart synchronization or auto-negotiation, rather than forcing a retrain.

SuggestedRemedy

Change "The receiver shall force a retrain if Refresh is unreliably detected within a moving window of 50 Q/R cycles (4.32 ms)."

To
"If Refresh is not reliably detected within a moving window of 50 Q/R cycles (4.32 ms), the refresh monitor should cause the PHY to restart auto-negotiation (if auto-negotiation is enabled) or synchronization (if auto-negotiation is disabled)."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

<accounted for comment #567 as well>

Change
"The receiver shall force a retrain if Refresh is unreliably detected within a moving window of 50 Q/R cycles (4.32 ms)."

To
"If Refresh is not reliably detected within a moving window of 50 Q/R cycles (4.32 ms), the refresh monitor shall cause the PHY to restart auto-negotiation by setting link_status= NOT_OK (if auto-negotiation is enabled) or synchronization (if auto-negotiation is disabled)."

Cl **97** *SC* **97.4.2.7** *P* **94** *L* **4** # 580

Graba, Jim Broadcom Corporation

Comment Type **T** *Comment Status* **D** *35, #567, #580 post deadline*

The Refresh Monitor should provide a state variable as in input to the link monitor. The link monitor can then use this input to help set link_status.

SuggestedRemedy

Change "The receiver shall force a retrain if Refresh is unreliably detected within a moving window of 50 Q/R cycles (4.32 ms)." to "If Refresh is not reliably detected within a moving window of 50 Q/R cycles (4.32 ms), therefresh monitor shall set PMA_refresh_status to FAIL. This will enable the link monitor to set link_status to FAIL. Subsequently the PHY will restart auto-negotiation (if auto-negotiation is enabled) or synchronization (if auto-negotiation is disabled)."

Add new state variable for 97.4.4.1.
PMA_refresh_status
Variable set by the Refresh Monitor indicating reliable detection of Refresh.
Values:
OK: Refresh is detected reliably.
NOT_OK: Refresh is not detected reliably.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See changes included in comment #435

Cl **97** *SC* **97.4.2.7** *P* **94** *L* **4** # 567

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **A** *#435, #567, #580*

This statement lacks a description of the mechanism that causes the retrain.

SuggestedRemedy

change "The receiver shall force a retrain"
to "The receiver shall force a retrain by setting link_status= NOT_OK"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See changes included in comment #435

Cl **97** *SC* **97.4.2.8** *P* **94** *L* **10** # 426

Regev, Alon Ixia

Comment Type **T** *Comment Status* **A** *discussion needed*

The sentence "The received clock signal should be stable and ready for use when training has been completed (loc_rcvr_status=OK)" seems to imply a couple of incorrect things:
1. that loc_rvcr_status=OK indicates that training has been completed (actually loc_rcvr_status=OK is an input to the PHY Control state machine and it becomes OK earlier than training being completed).
2. that the received clock only needs to be stable by the time that training has been completed (actually, on the SLAVE PHY, the clock needs to be stable before setting timing_lock_OK=1 in the middle of the TRAINING state in the PHY Control state machine).

SuggestedRemedy

Change "The received clock signal should be stable and ready for use when training has been completed (loc_rcvr_status=OK)"

To "The received clock signal should be stable and ready for use before loc_rcvr_status can be set to OK and before timing_lock_OK is set to 1 on the a PHY with config set to SLAVE."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change
"The received clock signal should be stable and ready for use when training has been completed (loc_rcvr_status=OK)"

to
"The received clock signal is expected to be stable and ready for use when training has been completed."

Cl **97** *SC* **97.4.4.1** *P* **95** *L* **45** # 376

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **A**

watchdog timers never defined.

SuggestedRemedy

Add the following text in the PMA_watchdog_status definition
During normal operation NOT_OK is defined when:
PAM3 symbol 0 consecutively seen on the line for longer than 2us +/-0.1us
PAM3 symbol +1 consecutively seen on the line for longer than 3.9us +/-0.1us
PAM3 symbol -1 consecutively seen on the line for longer than 3.9us +/-0.1us
During Low Power Idle operation NOT_OK is defined when:
PAM3 symbol not toggling on the line for longer than 90us +/-0.1us

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following text in the PMA_watchdog_status definition

During normal operation NOT_OK is defined when:
PAM3 symbol 0 consecutively seen on the line for longer than 2us +/-0.1us
PAM3 symbol +1 consecutively seen on the line for longer than 3.9us +/-0.1us
PAM3 symbol -1 consecutively seen on the line for longer than 3.9us +/-0.1us

During Low Power Idle operation NOT_OK is defined when:
PAM3 symbol not toggling on the line during one full refresh window

Cl **97** *SC* **97.4.4.2** *P* **96** *L* **19** # 466

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Incorrect cross reference format.

SuggestedRemedy

The reference to 14.2.3.2 should be green since it is not in this document.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.4.2** *P* **96** *L* **24** # 427

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

The sentence "The maxwait_timer is tested by the Link Monitor to force link_status to be set to FAIL if the timer expires and loc_rcvr_status, PCS_state or PMA_watchdog_status is NOT_OK" does not match the condition in the state machine.

SuggestedRemedy

Change "The maxwait_timer is tested by the Link Monitor to force link_status to be set to FAIL if the timer expires and loc_rcvr_status, PCS_state or PMA_watchdog_status is NOT_OK"

To "The maxwait_timer is tested by the Link Monitor to force link_status to be set to FAIL if PMA_watchdog_status is NOT_OK, or if the timer expires and loc_rcvr_status is NOT_OK, or if the timer expires and PCS_status is NOT_OK."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<listing multiple conditions in bulleted form for better readability>

Change "The maxwait_timer is tested by the Link Monitor to force link_status to be set to FAIL if the timer expires and loc_rcvr_status, PCS_state or PMA_watchdog_status is NOT_OK"

To "The maxwait_timer is tested by the Link Monitor to force link_status to be set to FAIL if either of the following conditions is true:
- the PMA_watchdog_status is NOT_OK
- the timer expires and loc_rcvr_status is NOT_OK
- the timer expires and PCS_status is NOT_OK"

Cl **97** *SC* **97.4.5.1** *P* **97** *L* **14** # 542

Tu, Mike Broadcom

Comment Type **TR** *Comment Status* **D** *#542, #568*

When link partner PHY drops back to SILENT state for retrain, the local receiver must drop back to SILENT state quickly as well. However based on D1.4, this is not guaranteed.

SuggestedRemedy

In Figure 97-22, change the three branch conditions out of COUNTDOWN, SEND_IDLE1, and SEND_IDLE2 back to the silent state

from "loc_rcvr_status=NOT_OK"

to "loc_rcvr_state=NOT_OK + PMA_watchdog_status= NOT_OK"

See wang_3bp_01_0515.pdf for more details.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Other changes to this figure per comment #568

Cl **97** *SC* **97.4.5.1** *P* **97** *L* **25** # 568

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D** *#542, #568*

According to the text transitions from TRAINING to COUNTDOWN and COUNTDOWN to SEND IDLE1 are also conditioned on completing transmission of a repetition of 256 Infofield messages. The transition conditions in the state machine should reflect this.

SuggestedRemedy

change "loc_rcvr_status = OK * rem_rcvr_status = OK * minwait_timer_done"
to "loc_rcvr_status = OK * rem_rcvr_status = OK * minwait_timer_done * infofield_complete"
change "loc_countdown _done"
to "loc_countdown _done * infofield_complete"
add definition in 97.4.4.1
"infofield_complete
Variable indicating that a complete set of Infofield messages has been sent.
Values:
FALSE: complete set of Infofield messages has not been sent.
TRUE: Complete set of Infofield messages has been sent."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Other changes to this figure per comment #542

Cl **97** *SC* **97.4.5.1** *P* **97** *L* **31** # 423

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

The conditions "loc_countdown_done" and "rem_countdown_done" are not defined.

SuggestedRemedy

In section 97.4.4.1, add the following definitions (in the correct location in alphabetical order":

"loc_countdown_done This variable is set to FALSE when the PHY Control state machine is in the DISABLE_TRANSMITTER state and is set to TRUE after transmitting the last bit of the DataSwPFC24-1 partial flame (such that this will be TRUE before the first bit of the DataSwPFC24 partial frame is transmitted)."

"rem_countdown_done
This variable is set to FALSE when the PHY Control state machine is in the DISABLDE TRANSMITTER state or SILENT state and is set to TRUE once the receiver has transitioned from PAM2 to PAM3 mode and has received a valid RS frame containing all IDLEs."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.5.1** *P* **97** *L* **41** # 543

Tu, Mike Broadcom

Comment Type **TR** *Comment Status* **D**

In Figure 97-22, when entering SEND_DATA state, the transition decision is purely based on local receiver and PCS status. Once in SEND_DATA mode the local PHY will set link_status<=OK and MAC will start sending data out.

However at this time the link partner receiver may still not be ready, for example due to noise events. Under this condition the data packets sent to the link partner will be lost.

SuggestedRemedy

In Figure 97-22, change the condition from "SEND_IDLE2" to "SEND_DATA"

from
"loc_rcvr_status = OK * PCS_status = OK * minwait_timer_done"

to
"loc_data_ready = OK * rem_data_ready = OK * minwait_timer_done"

See "wang_3bp_01_0515.pdf" for further details

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.5.1** *P* **97** *L* **47** # 569

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**

It is possible for one device to enter the SEND DATA state but the other device to return to the SILENT state. There is no path from SEND DATA to SILENT, so the devices must wait for the link_fail_inhibit_timer to expire and then return to autoneg or SEND_S. If a path is added from SEND DATA to SILENT then the two devices may attempt to retrain with the remaining time of the link_fail_inhibit_timer.

SuggestedRemedy

add path from SEND DATA to SILENT with condition "loc_rcvr_status = NOT_OK + PCS_status = NOT_OK"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.5.1** *P* **98** *L* **13** # 570

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D** *#570, #540*

It is not clear whether the conditions for transition from LINK_DOWN to LINK_UP are satisfied only while in the SEND DATA state or in the transition from SEND IDLE2 to SEND DATA. Link up should only occur after PHY control is in the SEND DATA state for the minwait timer duration.

SuggestedRemedy

change "minwait_timer_done * PCS_status = OK * loc_rcvr_status=OK"
to "minwait_timer_done * PCS_status = OK * loc_rcvr_status=OK * tx_mode = SEND_N"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.4.5.2** *P* **98** *L* **14** # 540

Tu, Mike Broadcom

Comment Type **TR** *Comment Status* **D** *#570, #540*

In the LINK Monitor state diagram, "link_status" may get set to OK while still in PAM2 training mode.

SuggestedRemedy

See "wang_3bp_01_0515.pdf".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Apply changes per regev_3bp_03_0515.pdf.

Cl **97** *SC* **97.5** *P* **98** *L* **30** # 572

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**

This section mainly specifies electrical requirements of the PMA. Consider renaming this section PMA electrical specifications as was done in Clause 55

SuggestedRemedy

Change "Physical Medium Dependent (PMD) sublayer"
to "PMA electrical specifications"

Proposed Response *Response Status* **W**

PROPOSED REJECT.

These are PMD specifications in the context of this Clause.

Cl **97** *SC* **97.5.1** *P* **98** *L* **38** # 520

Wienckowski, Natalie General Motors

Comment Type **ER** *Comment Status* **D** *#333*

Incorrect reference section.

SuggestedRemedy

Replace: and 97.5.2.2 shall be used to establish a baseline for PHY EMC performance.

With: and 97.5.1.2 shall be used to establish a baseline for PHY EMC performance.

And remove red highlight on the reference.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See also comment #333

Cl **97** *SC* **97.5.1** *P* **98** *L* **38** # 333

Chini, Ahmad Broadcom

Comment Type **ER** *Comment Status* **D** *#333*

subclause number 97.5.2.2 needs to be changed to 97.5.1.2

SuggestedRemedy

replace 97.5.2.2 with 97.5.1.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Also, make sure it is live and does not have red background.

Cl **97** *SC* **97.5.1** *P* **98** *L* **38** # 428

Regev, Alon Ixia

Comment Type **TR** *Comment Status* **D** *#333*

97.5.2.2 should be 97.5.1.2 and should be a link

SuggestedRemedy

change "97.5.2.2" to "97.5.1.2" and make it a link

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See changes per comment #333

Cl **97** *SC* **97.5.1** *P* **98** *L* **38** # 377
Lo, William Marvell Semiconducto

Comment Type **ER** *Comment Status* **D** *#333*
Reference to 97.5.2.2 incorrect

SuggestedRemedy
Change to 97.5.1.2

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See changes per comment #333

Cl **97** *SC* **97.5.2** *P* **99** *L* **33** # 521
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Subject should be pluaral.

SuggestedRemedy
Replace: When in this mode, 1000BASE-T1 PHY shall provide

With: When in this mode, 1000BASE-T1 PHYs shall provide

Alternatively, add "the" in front of "PHY".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Replace: When in this mode, 1000BASE-T1 PHY shall provide

With: When in this mode, the 1000BASE-T1 PHY shall provide

Cl **97** *SC* **97.5.2** *P* **99** *L* **37** # 522
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Subject should be pluaral.

Also on page 99, line 43.

SuggestedRemedy
Replace: 1000BASE-T1 PHY shall transmit

With: 1000BASE-T1 PHYs shall transmit

Alternatively, add "the" in front of "PHY".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Replace: When in this mode, 1000BASE-T1 PHY shall provide

With: When in this mode, the 1000BASE-T1 PHY shall provide

Cl **97** *SC* **97.5.3** *P* **103** *L* **16** # 334
Chini, Ahmad Broadcom

Comment Type **ER** *Comment Status* **D** *#429*
the reference number is correct, need to remove (?)

SuggestedRemedy
remove (?)

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See changes per comment #429

Cl **97** *SC* **97.5.3** *P* **103** *L* **16** # 429
Regev, Alon Ixia

Comment Type **T** *Comment Status* **D** *#429*
Get rid of the question mark in "97.4.2.2 (?)"

SuggestedRemedy
Change "97.4.2.2 (?)" to "97.4.2.2"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Per comment. Also make link live and remove red background.

Cl **97** *SC* **97.5.3** *P* **103** *L* **17** # 378

Lo, William Marvell Semiconducto

Comment Type **ER** *Comment Status* **D** *#429, #438*

Correct items in red.

SuggestedRemedy

Remove (?) after reference to 97.4.2.2. Remove the red highlight.
100 (TBD) should be 100 Ohm.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Changes to reference per comment #429
Implement changes to "100 (?)" per comment #438

Cl **97** *SC* **97.5.3** *P* **103** *L* **18** # 340

Chini, Ahmad Broadcom

Comment Type **TR** *Comment Status* **D** *#438*

Need to replace (TBD) with Ohm sign (Omega)

SuggestedRemedy

Replace (TBD) with Ohm sign (Omega)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Changes per comment #438

Cl **97** *SC* **97.5.3** *P* **103** *L* **18** # 438

Regev, Alon Ixia

Comment Type **TR** *Comment Status* **D**

Change "100 (TBD)" to "100 ohm"

SuggestedRemedy

Change "100 (TBD)" to "100 ohm"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "100 (TBD)" to "100 Ohm"

Cl **97** *SC* **97.5.3.2** *P* **103** *L* **32** # 439

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

The sentence "The captured block of signal shall be at least 40 us long with 10 times the transmit symbols rate (7.5 Gs/s)." is not clear for two reasons:
1. it is not clear that "10 times the transmit symbols rate" refers to the sampling rate used.
2. the 7.5 Gs/s may be interpreted to refer to the "symbol rate" rather than to "10 times the transmit symbol rate"

SuggestedRemedy

Change "The captured block of signal shall be at least 40 us long with 10 times the transmit symbols rate (7.5 Gs/s)."

To "The captured block of signal shall be at least 40 us long sampled with at least with 10 times the transmit symbols rate (i.e sampled at a minimum rate of 7.5 Gs/s, which is 10 times the transmit symbol rate of 750 Ms/s)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<too much explaining, which is not what we do in 802.3 typically>

Change
"The captured block of signal shall be at least 40 us long with 10 times the transmit symbols rate (7.5 Gs/s)."

To
"The captured block of signal shall be at least 40 us long. The captured block of signal shall be sampled with the minimum sampling rate of 7.5 Gs/s (10 times the transmit symbol rate of 750 Ms/s)."

Cl **97** *SC* **97.5.3.3** *P* **104** *L* **45** # 440

Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

It is not clear if the sentence "Transmitter timing jitter is measured by capturing TX_TCLK125 waveform for both MASTER and SLAVE while in test mode 1 using transmitter test fixture 3 shown in Figure 97–25." means that you need to test the PHY under test in both MASTER and SLAVE mode or if you need to capture the clock on both the PHY under test and the link partner.

SuggestedRemedy

Change "Transmitter timing jitter is measured by capturing TX_TCLK125 waveform for both MASTER and SLAVE while in test mode 1 using transmitter test fixture 3 shown in Figure 97–25."

To "Transmitter timing jitter is measured by capturing TX_TCLK125 waveform in both MASTER and SLAVE configs while in test mode 1 using transmitter test fixture 3 shown in Figure 97–25."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<adding missing articles>

Change
"Transmitter timing jitter is measured by capturing TX_TCLK125 waveform for both MASTER and SLAVE while in test mode 1 using transmitter test fixture 3 shown in Figure 97–25."

To
"The transmitter timing jitter is measured by capturing the TX_TCLK125 waveform in both MASTER and SLAVE configurations while in test mode 1 using the transmitter test fixture 3 shown in Figure 97–25."

Cl **97** *SC* **97.5.5.1** *P* **106** *L* **7** # 523

Wienckowski, Natalie General Motors

Comment Type **TR** *Comment Status* **D** *#336*

This section needs to be added.

SuggestedRemedy

Replace: Editorial Note (to be removed prior to publication): This is the location where following main areas of Tx specifications will be covered,
i.e., (i) electrical specifications of the transmitter, (ii) transmitter mask (expected to be discussed at the November plenary); and (iii) EMC
requirements, which are closely associated with the Tx mask.

With: Appropriate text.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #336 for changes

Cl **97** *SC* **97.5.5.1.1** *P* **106** *L* **6** # 336

Chini, Ahmad Broadcom

Comment Type **TR** *Comment Status* **D** *#336*

Missing subclauses 97.5.5.1.1 and 97.5.5.1.2

SuggestedRemedy

Add subclauses 97.5.5.1.1 and 97.5.5.1.2 from chini_3bp_2a_0315.pdf

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Remove editorial note in 97.5.5.1

Cl **97** *SC* **97.5.5.2** *P* **106** *L* **11** # 524
Wienckowski, Natalie General Motors

Comment Type **TR** *Comment Status* **D** *#337*

This section needs to be added.

SuggestedRemedy

Replace: Editorial Note (to be removed prior to publication): This is the location where following main areas of Rx specifications will be covered,
i.e., (i) impulse noise rejection requirements; and (ii) electrical specifications of the receiver.

With: Appropriate text

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See changes per comment #337

Cl **97** *SC* **97.5.5.2.1** *P* **106** *L* **10** # 337
Chini, Ahmad Broadcom

Comment Type **TR** *Comment Status* **D** *#337*

Missing subclause 97.5.5.2.1

SuggestedRemedy

Add subclause 97.5.5.2.1 from chini_3bp_2a_0315.pdf

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Remove editorial note in 97.5.5.2

Cl **97** *SC* **97.5.6.1** *P* **106** *L* **30** # 441
Regev, Alon Ixia

Comment Type **E** *Comment Status* **D**

There should be an empty line (or space aproximately the size of an empty line) before heading 97.5.6.1.

SuggestedRemedy

Add empty space before heading 97.5.6.1 as per the template.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.5.6.1.1** *P* **106** *L* **46** # 514
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Remove extraneous "a".

SuggestedRemedy

Replace: the a single pair of balanced copper cabling

Also on page 110, line 24

With: the single balanced twisted-pair (name of cable changed as described in Comment #166)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "the a" with "a". Same on page 110, line 24.

Cl **97** *SC* **97.6.1.1** *P* **117** *L* **39** # 403
Regev, Alon Ixia

Comment Type **T** *Comment Status* **A**

The sentence "This value is continuously asserted to enable transmission of 255 PN sequence." is unclear as "255 PN sequence" is not defined.

SuggestedRemedy

Change "This value is continuously asserted to enable transmission of 255 PN sequence."

To "This value is continuously asserted to enable transmission of the PN sequence as defined in 96.1.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

<simpler language is offered>

Change
"This value is continuously asserted to enable transmission of 255 PN sequence."

To
"This value is continuously asserted to enable transmission of the PN sequence defined in 97.6."

Cl **97** *SC* **97.6.1.1** *P* **117** *L* **6** # 525
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Non-parallel construction.

SuggestedRemedy

Replace: specifies whether the PHY operates as a MASTER PHY or as a SLAVE.

With: specifies whether the PHY operates as a MASTER or as a SLAVE.

OR With: specifies whether the PHY operates as a MASTER PHY or as a SLAVE PHY.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace: specifies whether the PHY operates as a MASTER PHY or as a SLAVE.

With: specifies whether the PHY operates as a MASTER or as a SLAVE.

Cl **97** *SC* **97.7** *P* **118** *L* **48** # 443
Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**

The sentence "The 1000BASE-T1 RS frame has a 9-bit reserved field as described in 97.3.2.2.12" is inaccurate due to 3 reasons:
1. the field is not marked as a "reserverd" field. It is labeled as an "OAM9" field.
2. Section 97.3.2.2.12 doesn't actually describe the field. It references it.
3. It doesn't specify in which mode this is used.

Also, use of OAM during LPI refresh is not described.

SuggestedRemedy

Change "The 1000BASE-T1 RS frame has a 9-bit reserved field as described in 97.3.2.2.12"

To "OAM frame data is contained in the 9-bit OAM9 field described in 97.3.2.2.4 for normal power data mode and described in 97.3.5.3 for low power mode."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<simpler language is offered>

Change
"The 1000BASE-T1 RS frame has a 9-bit reserved field as described in 97.3.2.2.12"

To
"The OAM frame data is carried in the OAM9 field described in 97.3.2.2.4 for normal power data mode and 97.3.5.3 for low power mode."

Cl **97** *SC* **97.7.1** *P* **119** *L* **3** # 526
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Missing period at end of sentence.

SuggestedRemedy

Add period to the end of: OAM frame – A frame consisting of 12 octets of data with 12 parity bits

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.7.1** *P* **119** *L* **5** # 527
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Subject and verb don't agree.

SuggestedRemedy
Replace: 12 OAM symbols makes up an

With: 12 OAM symbols make up an

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **97** *SC* **97.7.1** *P* **119** *L* **8** # 407
Regev, Alon Ixia

Comment Type **T** *Comment Status* **D**
Change "97.3.2.2.12" to "97.3.2.2.4" as 97.3.2.2.12 doesn't actually describe the field. It references it.

The field is not called "reserved". It is labeled "OAM".

SuggestedRemedy
Change "97.3.2.2.12" to "97.3.2.2.4"

Change "reserved" to "OAM"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Change
"The 9-bit reserved field in each RS frame as described in clause 97.3.2.2.12 or in each refresh cycle as described in 97.3.5.3."

to
"The OAM9 field in each RS frame as described in 97.3.2.2.4 or in each refresh cycle as described in 97.3.5.3."

Make sure links are live

Cl **97** *SC* **97.7.2.2.3** *P* **120** *L* **33** # 528
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Awkward wording.

Correct also in 97.7.4.1: page 125, line 24; page 126, line 29; and page 128, line 13.

SuggestedRemedy
Replace: 01 – LPI refresh insufficient for maintain PHY SNR.

With: 01 – LPI refresh insufficient to maintain PHY SNR.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **97** *SC* **97.7.2.2.5** *P* **120** *L* **50** # 529
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Need to change previously to previous or to previously sent.

SuggestedRemedy
Replace: The toggle bit in the current OAM message is set to the opposite value of the toggle bit in the previously OAM message only if link partner acknowledge the OAM message is received.

With: The toggle bit in the current OAM message is set to the opposite value of the toggle bit in the previous OAM message only if link partner acknowledge the OAM message is received.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **97** *SC* **97.7.2.2.5** *P* **120** *L* **53** # 530
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Incorrect grammar.

SuggestedRemedy
Replace: multiple OAM frame.

With: multiple OAM frames.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **97** *SC* **97.7.2.2.6** *P* **121** *L* **5** # 531

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Incorrect verb tense

SuggestedRemedy

Replace: Ack is set by the PHY to let the link partner know that the OAM message sent by the link partner is successfully

With: Ack is set by the PHY to let the link partner know that the OAM message sent by the link partner was successfully

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.7.2.3** *P* **122** *L* **21** # 532

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

poor grammar

SuggestedRemedy

Replace: The fields shall retain their value and not updated when a rejected OAM frame is received.

With: The fields shall retain their value and not be updated when a rejected OAM frame is received.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.7.2.4** *P* **122** *L* **26** # 408

Regev, Alon Ixia

Comment Type **TR** *Comment Status* **D**

Reference to 97.7.2.2.1 is wrong. It should should be to 97.7.2.2.3

SuggestedRemedy

Change "97.7.2.2.1" to "97.7.2.2.3"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Make sure the link is live.

Cl **97** *SC* **97.7.2.4** *P* **122** *L* **29** # 467

Wienckowski, Natalie General Motors

Comment Type **ER** *Comment Status* **D**

Awkward wording.

SuggestedRemedy

Replace: If EEE is implemented there may be a case where a PHY's receiver can no longer keep good SNR based on quiet/refresh cycles. Instead of dropping link, the PHY can attempt to recover by forcing the link partner to exit LPI in its egress direction so that the PHY can receive normal activity to recover.

With: If EEE is implemented, there may be a case where a PHY's receiver can no longer maintain good SNR based on quiet/refresh cycles. Instead of dropping link, the PHY can attempt to recover link by forcing the link partner to exit LPI in its egress direction so that the PHY can use normal activity to recover.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<adding missing articles>

Change:
If EEE is implemented there may be a case where a PHY's receiver can no longer keep good SNR based on quiet/refresh cycles. Instead of dropping link, the PHY can attempt to recover by forcing the link partner to exit LPI in its egress direction so that the PHY can receive normal activity to recover.

To:
If EEE is implemented, there may be a case where a PHY's receiver can no longer maintain good SNR based on quiet/refresh cycles. Instead of dropping the link, the PHY can attempt to recover the link by forcing the link partner to exit LPI in its egress direction so that the PHY can use normal power mode to recover.

Cl **97** *SC* **97.7.2.4** *P* **122** *L* **35** # 379

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D** *#379*

Rules for entering and exiting LPI via OAM is TBD.
It can be better defined with modification in another section.

SuggestedRemedy

Delete "The rules of exiting and entering LPI are discussed in TBD. "
Add the following conditions to tx_lpi_active definition. New text as follows in page 80 line 30.
tx_lpi_active
This variable is set FALSE at next wake frame if either non-LP_IDLE is detected on GMII in any block or if the PHY receives SNR<1:0> set to 01 by its link partner or if the PHY transmits SNR<1:0> set to 01 to its link partner according to Clause 97.7.2.4.
This variable is set TRUE on next RS frame if both LP_IDLE detected on GMII in the last 80/81 block and the PHY does not receive SNR<1:0> set to 01 by its link partner and the PHY does not transmit SNR<1:0> set to 01 to its link partner according to Clause 97.7.2.4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<grammar & organizational improvements>

Delete "The rules of exiting and entering LPI are discussed in TBD. "

Add the following conditions to tx_lpi_active definition on page 80 line 30.

tx_lpi_active
This variable is set FALSE at the next wake frame if either of the conditions is true:
- a non-LP_IDLE is detected on GMII in any block
- the PHY receives SNR<1:0> set to 01 by its link partner
- the PHY transmits SNR<1:0> set to 01 to its link partner as defined in 97.7.2.4.

This variable is set TRUE on next RS frame if all of the following conditions are true:
- an LP_IDLE detected on GMII during the last 80B/81B block
- the PHY does not receive SNR<1:0> set to 01 by its link partner
- the PHY does not transmit SNR<1:0> set to 01 to its link partner as defined in 97.7.2.4."

Make links live.

Cl **97** *SC* **97.7.2.4** *P* **122** *L* **36** # 409

Regev, Alon Ixia

Comment Type **TR** *Comment Status* **D** *#379*

Change "TBD" to "97.3.2.2.16 and 97.3.5"

SuggestedRemedy

Change "TBD" to "97.3.2.2.16 and 97.3.5"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Changes per comment #379

Cl **97** *SC* **97.7.2.6** *P* **122** *L* **52** # 468

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Plural noun with singular pronoun representing it.

SuggestedRemedy

Replace: pass OAM messages and verify its delivery.

With: pass OAM messages and verify their delivery.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.7.2.6** *P* **123** *L* **49** # 469

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

An should be used before a noun starting with a vowel.

SuggestedRemedy

Replace: that a OAM message

With: that an OAM message

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.7.4.1** *P* **126** *L* **36** # 470
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
poor grammar

SuggestedRemedy
Replace: The toggle bit value associated with the eight octet OAM message transmit by the PHY.

With: The toggle bit value associated with the eight octet OAM message transmitted by the PHY.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **97** *SC* **97.7.4.1** *P* **127** *L* **23** # 380
Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D**
Line needs to be indented

SuggestedRemedy
See above

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Also fix formatting in line 27, same page

Cl **97** *SC* **97.7.4.1** *P* **127** *L* **3** # 471
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Missing period at end of sentence.

SuggestedRemedy
Add period to end of: Acknowledge from link partner in response to PHY's OAM message

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **97** *SC* **97.7.4.1** *P* **128** *L* **17** # 472
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Awkward wording.

SuggestedRemedy
Replace: The how this status is generated and the threshold for the status is implementation dependent.

With: How this status is generated and the threshold for the status is implementation dependent.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

<better wording is offered>

Change to: "Both the status threshold and condition for generating this status are implementation dependent."

Cl **97** *SC* **97.7.4.1** *P* **128** *L* **20** # 473
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
poor grammar - a befor a noun means one, not many

SuggestedRemedy
Replace: This variable is set to true whenever the transmit data stream reaches the start of a Reed Solomon frames

With: This variable is set to true whenever the transmit data stream reaches the start of a Reed Solomon frame

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

<We have RS frames, not Reed Salomon frames>

Replace: This variable is set to true whenever the transmit data stream reaches the start of a Reed Solomon frames

With: This variable is set to true whenever the transmit data stream reaches the start of an RS frame

Cl **97** *SC* **97.7.4.2** *P* **128** *L* **50** # 474
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
missing period

SuggestedRemedy
Add period after: OAM frame receive symbol count

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Change to: "A count of received OAM frames."

Cl **97** *SC* **97.7.4.3** *P* **129** *L* **9** # 475
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
missing period

SuggestedRemedy
Add period after: This function outputs a 16 bit CRC value using 10 octet input as defined in 97.7.2.2.10

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Also, change "16 bit" to "16-bit", "12 octet" to "12-octet", "9 bit" to "9-bit", "10 octet" to "10-octet" when used as an adjective, e.g." "12-bit symbol"

Cl **97** *SC* **97.7.4.4** *P* **130** *L* **4** # 381
Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D**
"Reset" should be lower case "reset"

SuggestedRemedy
Applies to both figures 97-42 and 97-43

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **97** *SC* **97.8.1** *P* **131** *L* **38** # 404
Regev, Alon Ixia

Comment Type **E** *Comment Status* **D** *#338*
Sections 97.8.1, 97.8.2, and 97.8.2.2 are empty

SuggestedRemedy
Delete 97.8.1, 97.8.2, and 97.8.2.2
Renumber 97.8.2.1 to 97.8.1.
Renumber 97.8.2.3 to 97.8.2

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Changes per comment #338

Cl **97** *SC* **97.8.1** *P* **31** *L* **38** # 338
Chini, Ahmad Broadcom

Comment Type **TR** *Comment Status* **D** *#338*
Missing subclauses 97.8.1 and 97.8.2

SuggestedRemedy
Add subclauses 97.8.1 and 97.8.2 from chini_3bp_2a_0315.pdf

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **97** *SC* **97.8.2.1** *P* **131** *L* **42** # 476

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Add commas around explanatory clause to improve readability.

SuggestedRemedy

Replace:
The differential impedance at the MDI for each transmit/receive channel shall be such that any reflection due to differential signals incident upon the MDI from a balanced cabling having a nominal differential characteristic impedance of 100 Ohm is attenuated, relative to the incident signal per Equation (97–29).

With: Replace: The differential impedance, at the MDI for each transmit/receive channel shall be such that any reflection due to differential signals incident upon the MDI from a balanced cabling having a nominal differential characteristic impedance of 100 Ohm, is attenuated, relative to the incident signal per Equation (97–29).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<suggest using parenthesis instead>

Change:
The differential impedance at the MDI for each transmit/receive channel shall be such that any reflection due to differential signals incident upon the MDI from a balanced cabling having a nominal differential characteristic impedance of 100 Ohm is attenuated, relative to the incident signal per Equation (97–29).

To:
The differential impedance at the MDI for each transmit/receive channel shall be such that any reflection (due to differential signals incident upon the MDI from a balanced cabling having a nominal differential characteristic impedance of 100 Ohm) is attenuated relative to the incident signal per Equation (97–29).

Cl **97** *SC* **97.8.2.3** *P* **132** *L* **16** # 477

Wienckowski, Natalie General Motors

Comment Type **T** *Comment Status* **D**

- 50V is not a positive voltage

SuggestedRemedy

Replace: positive voltages of up ±50 V

With: positive voltages of up to 50 V

OR With: voltages of up/down to ±50 V

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

<use absolute value instead>

Change "Ground" to "ground" in line 17, page 132.

Change "positive voltages of up ±50 V" to "voltages with the absolute value of up to 50 V"

Cl **97** *SC* **97.8.2.3** *P* **132** *L* **18** # 335

Chini, Ahmad Broadcom

Comment Type **ER** *Comment Status* **D**

No other value was suggested by Task Force, need to remove "(or TBD)"

SuggestedRemedy

remove (or TBD)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97** *SC* **97.9.1** *P* **132** *L* **44** # 478

Wienckowski, Natalie General Motors

Comment Type **TR** *Comment Status* **D** *382*

Missing content!

SuggestedRemedy

Replace: Editorial Note (to be removed prior to publication): Register descriptions to be added once we decide how to tackle autoneg registers in Clause 45.

With: correct register definitions

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Changes per comment #382

Cl **97** *SC* **97.9.1** *P* **132** *L* **44** # 382

Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D** *#382*

Editorial note can be removed.
All registers autoneg registerst are in clause 45 as of D1.4.

SuggestedRemedy

Remove editorial note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

This is a TECHNICAL comment!

Cl **97** *SC* **Figure 97-12** *P* **84** *L* **15** # 344

Rojansky, Amiel Cadence

Comment Type **T** *Comment Status* **D**

The PCS Transmit state machine transition from SEND_IDLES to SEND_DATA, might occur while a MAC frame is beting transmitted on the GMII by the MAC Tx.
This will cause a transmission of a corrupted MAC frame. Only the frame tail is transmitted, since the the frame head is cut-off, while the state machine is in SEND_IDLES.
As a result the MAC Rx of the link partner might report a CRC error on this frame.
This is not a clean way to discard MAC frames. A clean way is to discard the entire MAC frame. I think it is also not a legal Ethernet behaviour.

SuggestedRemedy

"And" the transition of the PCS Transmit state machine from SEND_IDLES to SEND_DATA, with a condition that tx_raw<99:0> is all IDLES or consists of any combination of a start of a new frame.

Note that since the minimum IPG is 12 IDLE cycles on the GMII, the condition should not cause a transmisstion of a tx_raw<99:0> that holds a combination of End of frame, Idle and a start of a new frame.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Proposed changes are not clear - please submit either the target sequence of logical condition or modified state diagram.

Cl **97** *SC* **Figure 97–14** *P* **84** *L* **35** # 345

Rojansky, Amiel Cadence

Comment Type **T** *Comment Status* **A**

The dashed box of the PCS Transmit state diagram, related to EEE, does not handle the transmission of the quit refresh cycle correctly. It actually contradics other sections of the standard.

The correct behavior is to encode LPBLOCK_T, for exactly one RS frame, and then encode tx_raw<99:0>=0 blocks (for refresh), or IBLOCK_T (in a case of wake).

SuggestedRemedy

Add a new state called SEND_REFRESH to Figure 97–14—PCS Transmit state diagram.

The state machine will transition to the SEND_REFRESH state from state SEND_LPI, after a transmission of an entire RS frame. It may also go to SEND_WAKE as today.
From SEND_REFRESH it will go to SEND_WAKE when TX_AGGREGATE * tx_data_mode * !tx_lpi_active.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use http://www.ieee802.org/3/bp/public/may15/regev_3bp_02_0515.pdf and implement all changes marked in red

Cl **97B** *SC* *P* **170** *L* **32** # 577

DiMinico, Christopher MC Communications

Comment Type **TR** *Comment Status* **A** *post deadline*

remove figure TBD

SuggestedRemedy

remove TBD in figure caption

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Figure 97B–1-Alien crosstalk test setup

Cl **97B** *SC* **97B.1.1** *P* **169** *L* **31** # 576

DiMinico, Christopher MC Communications

Comment Type **TR** *Comment Status* **D** *post deadline*

Replace TBD

SuggestedRemedy

Replace TBD with 90 dB

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **97B** *SC* **97B.3** *P* **170** *L* **34** # 578

DiMinico, Christopher MC Communications

Comment Type **TR** *Comment Status* **D** *post deadline*

Remove editors note and TBDs

SuggestedRemedy

delete editors note P170 L51
delete 98.X TBD P171 L7 add H=10mm ±10%
delete 98.X TBD P171 L21 add
add H=10mm
±10%

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Delections are in Figure 97B-2 and 97B-3.

Cl **98** *SC* **2.1.1.1** *P* **141** *L* **51** # 539

joseph, cordaro broadcom

Comment Type **TR** *Comment Status* **A** *dummy zero*

There is an inconsistency in Clause 98 for the definition of the end of the DME page. Some sort of end of page is required after the CRC for proper differential detection. Section 98.1.1.1 says that the end of the DME page is a Manchester violation [T6] (page 141 line 51) and page 142 lines 9-10 show the Manchester violation delimiter as three consecutive symbols. However, Section 982.1.13 DME page Delimiters on page 144 line 45 says, "The page end is followed by a dummy zero." Figure 98-7 on page 145 shows the end delimiter as a dummy zero.

SuggestedRemedy

Change 98.2.1.1.1 Page 141 line 50 from
"A DME page carries a 48-bit Auto-Negotiation page. It consists of 158 evenly spaced transition positions that contain a starting sync header, the 48-bit page, 16-bit CRC, and an ending Manchester Violation delimiter."
To:"A DME page carries a 48-bit Auto-Negotiation page. It consists of 156 evenly spaced transition positions that contain a starting sync header, the 48-bit page, 16-bit CRC, and an ending dummy zero."

Change 98.2.1.1.1 page 142 line 8 from
"The final 3 positions contain the ending Manchester violation delimiter, which marks the end of the page. The ending Manchester violation contains a transition at position 155 and no transitions at the remaining positions. Position 158 contains a transition from active to quiet."
To:
"The final 2 positions contain a dummy zero for proper differential detection of the last bit of the CRC. The dummy zero contains a transition at position 154 and no transition at 155. Position 156 contains a transition from active to quiet"

Change page 142 line 12 from:
"The starting sync header and ending Manchester violation delimiter are the only places where three or more intervals occur between transitions. This allows the receiver to obtain page synchronization."
To:
"The starting sync header is the only place where three or more intervals occur between transitions. This allows the receiver to obtain page synchronization"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

<removing extra spaces>

Apply changes to 98.2.1.1.1, page 142 line 8 (Slide #5, RHS, in http://www.ieee802.org/3/bp/public/may15/cordaro_3bp_01_0518.pdf) per comment #574

Apply changes to 98.2.1.1.1, page 141 line 50 per slide #7, http://www.ieee802.org/3/bp/public/may15/cordaro_3bp_01_0518.pdf

Apply changes to 98.5.1, page 155 line 38 and page 159, line 35 per comment #574

Cl **98** *SC* **98.2** *P* **140** *L* **41** # 383

Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D**

Bullets should be a, b, c, d not a, a, a, a

SuggestedRemedy

See above

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **98** *SC* **98.2.1.1.1** *P* **141** *L* **51** # 574

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **A** *dummy zero*

the end delimiter is no longer a Manchester violation

SuggestedRemedy

change "and an ending Manchester violation delimiter."
to "and an end delimiter."
also page 142 line 8
change "The final 3 transition positions contain the ending Manchester violation delimiter, which marks the end of the page. The ending Manchester violation contains a transition at position 155 and no transitions at the
remaining positions. Position 158 contains a transition from active to quiet.
The starting sync header and ending Manchester violation delimiter are the only places where three or more intervals occur between transitions. This allows the receiver to obtain page synchronization."
to "The final 2 transition positions contain the ending delimiter, which marks the end of the page. The ending delimiter contains a transition at position 155 and no transitions at the remaining positions. Position 157 contains a transition from active to quiet."
page 155 line 38
change "detect_mv_end
Status indicating that the receiver has detected a Manchester Violation end delimiter.
Values:
FALSE: set to false after any Receive State Diagram state transition (default).
TRUE: Manchester violation end delimiter has been detected."
to "detect_mv_end
Status indicating that the receiver has detected the end delimiter.
Values:
FALSE: set to false after any Receive State Diagram state transition (default).
TRUE: end delimiter has been detected."
change "mv_end_delimiter; Auto-Negotiation causes the transmission of the Manchester violation end delimiter on the MDI."
to "mv_end_delimiter; Auto-Negotiation causes the transmission of the end delimiter on the MDI."
page 159 line 35
change "transmit_mv_end_done
Status indicating that the transmission of the Manchester violation end delimiter has been completed.
Values:
FALSE: transmission of the Manchester violation end delimiter is in progress.
TRUE: transmission of the Manchester violation end delimiter has been completed."
to "transmit_mv_end_done
Status indicating that the transmission of the end delimiter has completed.
Values:
FALSE: transmission of the end delimiter is in progress.
TRUE: transmission of the end delimiter has completed."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See summary of changes in comment #539.

Cl **98** *SC* **98.2.1.1.1** *P* **142** *L* **39** # 573

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**

Oct4 through Oct10 should be changed to 48 data bits

SuggestedRemedy

change "Oct4 through Oct10"
to "D0 to D47"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Changes are in Figure 98-3

Cl **98** *SC* **98.2.1.1.1** *P* **143** *L* **5** # 384

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

Pseudo Random generator shows one of 2 possible polynominals without defining how to choose which one. No need to specify a particular polynominal since the code_sel variable (page 155 line 11) specifies general property.

SuggestedRemedy

Keep randomization as a requirement but let the way randomization is done be implementation specific. Hence:
- Delete figure 98-4
- Change page 142 line 46 from:
The polarity at position 0 is determined the pseudo-random generator as shown in Figure 98–4.
To: The polarity at position 0 is randomly determined in an implementation specific manner.
- Delete page 143 line 12. "The counter shall increment once per DME page."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **98** *SC* **98.2.1.1.2** *P* **144** *L* **32** # 575
McClellan, Brett Marvell

Comment Type **T** *Comment Status* **D**
T5 should be (4619 4620 4621)+60 assuming end delimiter is 2xT1 = 60ns

SuggestedRemedy
change " 4619 4620 4621"
to "4679 4680 4681 "

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **98** *SC* **98.2.1.1.2** *P* **144** *L* **33** # 385
Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**
T6 timing no longer exists

SuggestedRemedy
Delete T6 row from table 98-1

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **98** *SC* **98.2.1.1.3** *P* **144** *L* **38** # 482
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
Incorrect Editor's note, refers to section 105.2.1.1.3.

SuggestedRemedy
Remove note or change to correct section, 98.2.1.1.3.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Remove Editor's Note

Cl **98** *SC* **98.2.1.1.3** *P* **144** *L* **40** # 386
Lo, William Marvell Semiconducto

Comment Type **T** *Comment Status* **D**
T1 is technically more accurate

SuggestedRemedy
Change 26 x T3 to 26 x T1

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **98** *SC* **98.2.1.1.4** *P* **145** *L* **8** # 339
Chini, Ahmad Broadcom

Comment Type **TR** *Comment Status* **D**
Missing subclause 97.2.1.1.4

SuggestedRemedy
Add subclause 98.2.1.1.4 from chini_3bp_2a_0315.pdf

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **98** *SC* **98.2.1.2** *P* **145** *L* **36** # 387
Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**
Reference to 28.2.1.2 incorrect

SuggestedRemedy
Change 28.2.1.2 to
98.2.1.2.7, 98.2.1.2.8, and 98.2.1.2.9 respectively

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Change
"These bits shall function as specified in 28.2.1.2"
to
"The RF, Ack, and NP bits shall function as specified in 98.2.1.2.7, 98.2.1.2.8, and 98.2.1.2.9, respectively."

Cl **98** *SC* **98.2.1.2.6** *P* **147** *L* **26** # 388
Lo, William Marvell Semiconducto

Comment Type **E** *Comment Status* **D** *#483*
Highlighted yellow references are correct

SuggestedRemedy
Unhighlight yellow sections

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See comment #483 for changes

Cl **98** *SC* **98.2.1.2.6** *P* **147** *L* **27** # 483
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D** *#483*
There is yellow highlighting on references to clauses outside this document.

SuggestedRemedy
Change yellow highlighted referecnes to green text to match the rest of the document.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **98** *SC* **98.2.1.2.8** *P* **147** *L* **51** # 484
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
poor grammar

SuggestedRemedy
Replace: reception of at least one DME pages with

With: reception of at least one DME page with

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **98** *SC* **98.2.1.2.8** *P* **148** *L* **1** # 389
Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**
Register reference is incorrect

SuggestedRemedy
7.522, 7.523, 7.524 should be change to 7.523, 7.524, 7.525

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **98** *SC* **98.2.4.2** *P* **149** *L* **33** # 390
Lo, William Marvell Semiconducto

Comment Type **ER** *Comment Status* **D**
Incorrect reference

SuggestedRemedy
98B.3 should be 98B.4

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **98** *SC* **98.2.4.3** *P* **150** *L* **5** # 485
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
poor wording

SuggestedRemedy
Replace: message code, which contain predefined 11-bit codes, and unformatted code contains 32 bit codes.

With: message code, which contains predefined 11-bit codes, and unformatted code which contains 32 bit codes.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

<correct spelling of adjectives needed>

Change:
message code, which contain predefined 11-bit codes, and unformatted code contains 32 bit codes.

To:
message code, which contains predefined 11-bit codes, and unformatted code which contains 32-bit codes.

Cl **98** *SC* **98.2.4.3.1** *P* **150** *L* **22** # 391

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

References shown are not precise and order is incorrect.

SuggestedRemedy

Change 28.2.3.4, 28.2.1.2.5, and 28.2.1.2.6
To 98.2.1.2.9, 98.2.1.2.8, 28.2.3.4.5, 28.2.3.4.6, and 28.2.3.4.7

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Also, add "," before "respectively"

Cl **98** *SC* **98.3** *P* **152** *L* **14** # 392

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

Register reference is incorrect for BASE-T1 AN LP NEXT PAGE

SuggestedRemedy

7.524.15:0, 7.523.15:0, 7.522.15:0 should be changed to
7.525.15:0, 7.524.15:0, 7.523.15:0

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **98** *SC* **98.5.1** *P* **154** *L* **2** # 486

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

poor grammar

SuggestedRemedy

Replace: Indicates that at least one link codewords with good CRC16 was received.

With: Indicates that at least one link codeword with good CRC16 was received.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **98** *SC* **98.5.1** *P* **155** *L* **43** # 393

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D** *#393*

Changed start delimiteer to Golay. Text needs to follow.

SuggestedRemedy

Replace detect_mv_start definition as follows:
detect_mv_start
Status indicating that the receiver has detected a starting sync header as defined in Clause 98.2.1.1.1.
Values:
FALSE: set to false after any Receive State Diagram state transition (default).
TRUE: Starting sync header has been detected.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Replace detect_mv_start definition as follows:

detect_mv_start
Status indicating that the receiver has detected a starting sync header as defined in 98.2.1.1.1.
Values:
FALSE: set to false after any Receive State Diagram state transition (default).
TRUE: Starting ssync header has been detected.

Use proper text formatting. Make link live.

Cl **98** *SC* **98.5.1** *P* **155** *L* **44** # 487

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

missing period

SuggestedRemedy

Add period after: Status indicating that the receiver has detected a Manchester Violation start delimiter

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Text changed per comment #393

Cl **98** *SC* **98.5.1** *P* **155** *L* **50** # 488

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

missing period

Also see page 158, lines12&13 and 18&19

Also see page 159, lines 26&27 and lines 32&33

SuggestedRemedy

Add period after: Status indicating that the receiver has detected a transition

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **98** *SC* **98.5.1** *P* **157** *L* **6** # 394

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

Incorrect reference

SuggestedRemedy

Change 45.2.7.8 to 45.2.7.14e

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change 45.2.7.8 to 45.2.7.14e. Remove green highlight and make link live.

Cl **98** *SC* **98.5.1** *P* **158** *L* **38** # 489

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Inconsistent format

SuggestedRemedy

Replace: disable; transmission of Auto-Negotiation signals is disabled
idle; Auto-Negotiation maintains the current signal level on the MDI.
mv_end_delimiter; Auto-Negotiation causes the transmission of the Manchester violation end delimiter on the MDI.
mv_start_delimiter; Auto-Negotiation causes the transmission of the Manchester violation start delimiter on the MDI.
transition; Auto-Negotiation causes a transition in the level on the MDI.

With: disable: transmission of Auto-Negotiation signals is disabled.
idle: Auto-Negotiation maintains the current signal level on the MDI.
mv_end_delimiter: Auto-Negotiation causes the transmission of the Manchester violation end delimiter on the MDI.
mv_start_delimiter: Auto-Negotiation causes the transmission of the Manchester violation start delimiter on the MDI.
transition: Auto-Negotiation causes a transition in the level on the MDI.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **98** *SC* **98.5.1** *P* **158** *L* **4** # 395

Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**

Incorrect bit references

SuggestedRemedy

Change 1.0.11 to 1.2304.11

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **98** *SC* **98.5.1** *P* **158** *L* **42** # 396
Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**
Changed start delimiteer to Golay. Text needs to follow.

SuggestedRemedy
Under TD_AUTONEG change mv_start_delimiter definition as follows:
mv_start_delimiter; Auto-Negotiation causes the transmission of the starting sync header as defined in Clause 98.2.1.1.1 on the MDI.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Under TD_AUTONEG change mv_start_delimiter definition as follows:

mv_start_delimiter; Auto-Negotiation causes the transmission of the starting sync header on the MDI as defined in 98.2.1.1.1.

Cl **98** *SC* **98.5.1** *P* **159** *L* **42** # 397
Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**
Changed start delimiteer to Golay. Text needs to follow.

SuggestedRemedy
Replace transmit_mv_start_done definition as follows:
Status indicating that the transmission of the starting sync header as defined in Clause 98.2.1.1.1 has been completed.
Values :
FALSE: transmission of the starting sync header is in progress.
TRUE: transmission of the starting sync header has been completed.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Replace transmit_mv_start_done definition as follows:

Status indicating that the transmission of the starting sync header defined in 98.2.1.1.1 has been completed.
Values :
FALSE: transmission of the starting sync header is in progress.
TRUE: transmission of the starting sync header has been completed.

Cl **98** *SC* **98.5.3** *P* **161** *L* **27** # 398
Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**
remaining_ack_cnt - replace TBDs

SuggestedRemedy
Remove the 2 (TBDs). Values there are ok as is.
Remove "(default)" in line 32

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **98** *SC* **98.6** *P* **165** *L* **30** # 399
Lo, William Marvell Semiconducto

Comment Type **TR** *Comment Status* **D**
Missing electrical specs

SuggestedRemedy
Delete section 98.6 completely.
Add section 98.2.1.1.4 as proposed by chini_3bp_2a_0315.pdf

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **98** *SC* **98.7.1** *P* **165** *L* **41** # 491
Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**
poor wording

SuggestedRemedy
Replace: The supplier of a protocol implementation that is claimed to conform to Clause 98,

With: The supplier of a protocol implementation that is claiming to conform to Clause 98,

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Similar to previous comment - this is a boiler plate text repeated in each PICS subclause.

Cl **98.5.** *SC* **98.5.3** *P* **161** *L* **33** # 490

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

Semicolons are used after value names instead of colons.

Also see lines 44 & 52

SuggestedRemedy

Change semiconlons to colons.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Go through the whole draft and make necessary changes.

Cl **99** *SC* *P* **4** *L* **37** # 445

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **D**

incorrect grammar

You cannot use "a" and then a plural noun, e.g. a specifications.

SuggestedRemedy

Replace: This amendment adds a point-to-point 1 Gb/s Physical Layer (PHY) specifications and management...

With: This amendment adds point-to-point 1 Gb/s Physical Layer (PHY) specifications and management

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Part of frontmatter is given by WG.