---

*Cl* **00**     *SC* **0**     *P* **1**     *L* **18**     # r02-15
Donahue, Curtis

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

When the words "twisted" and "pair" and used together in the draft text all instances have a "-" between them, such as "twisted-pair", however the draft title "Physical Layer Specifications and Management Parameters for 100 Mb/s Operation over a Single Balanced Twisted Pair Cable (100BASE-T1)" do not. All instances should be consistent. This also happens in the P802.3bp draft.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Suggest change "Twisted Pair" to "Twisted-Pair".

Additionally,
page 2, line 3: Change from "twisted pair" to "twisted-pair".
page 17, line 11: Change from "Twisted Pair" to "Twisted-Pair".

*Response*     *Response Status* **C**

ACCEPT IN PRINCIPLE.

This comment will be passed on to the publication editor for consideration during preparation for publication.

---

*Cl* **00**     *SC* **0**     *P* **13**     *L*     # r02-74
RAN, ADEE     Intel Corporation

*Comment Type* **G**     *Comment Status* **A**     *EZ*

Two pages in the "compare" document are numbered 13. All my comments use the PDF page numbers rather than the numbers appearing on the pages.

*SuggestedRemedy*

I assume that this will be correct in the published standard.

*Response*     *Response Status* **C**

ACCEPT IN PRINCIPLE.

This will be corrected in the published standard.

---

*Cl* **01**     *SC* **1.3**     *P* **18**     *L*     # r02-16
Donahue, Curtis

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

No space in "Part1".

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Change "Part1" to "Part 1".

*Response*     *Response Status* **C**

ACCEPT.

---

*Cl* **01**     *SC* **1.3**     *P* **18**     *L* **50**     # r02-17
Donahue, Curtis

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

"(There are many parts to this. I did not list all parts and dates.)" should not be in the draft text.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Remove "(There are many parts to this. I did not list all parts and dates.)" and add part #'s and dates for ISO 11452 reference if necessary.

*Response*     *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove "(There are many parts to this. I did not list all parts and dates.)"

---

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

*Cl* **01**
*SC* **1.3**

Page 1 of 22
8/20/2015 2:44:06 PM

---

*Cl* **01**    *SC* **1.4.150**         *P* **20**       *L* **31**        # r02-63

RAN, ADEE                              Intel Corporation

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

Acknowledging that this text is not changed from previous drafts, therefore not "required".

The inserted text is longer than the corresponding existing descriptions, and is confusing. In 96.3.3.1 a code group is simply a "pair of ternary symbols".

Also, the cross references to clause 96 and 96.3 don't work.

*SuggestedRemedy*

Change inserted text to
"For 100BASE-T1, a pair of ternary symbols that, when representing data, conveys three bits, as defined in 96.3".

Fix cross references (throughout the document).

*Response*              *Response Status* **C**

ACCEPT.

---

*Cl* **01**    *SC* **1.4.193**         *P* **20**       *L* **8**         # r02-4

Chini, Ahmad

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

Text crosses (strike throughs) show up in the CLEAN version of the doc.

*SuggestedRemedy*

See comment.

*Response*              *Response Status* **C**

ACCEPT IN PRINCIPLE.

Strike throughs and underlines will be present in a project draft when modifying previously amended clauses, but such edits should not be present in Clause 96 of this draft. The editor will scrub the draft for erroneous strike throughs and underlines.

---

*Cl* **01**    *SC* **1.4.221a**        *P* **22**       *L* **30**        # r02-66

RAN, ADEE                              Intel Corporation

*Comment Type* **ER**       *Comment Status* **R**                                    *bw*

Acknowledging that this comment is not against changes from the previous draft. According to the definition of "FORCE mode", this is not a mode, it is a procedure. "mode" suggest that there is another mode of operation, except forcing one side to be master and the other to slave. But for 100BASE-T1 this the only way to configure M/S.

Programming two devices so that they interoperate (such as assigning M/S roles) is in general a _management_ function. If this management overrides some other method then it may be colloquially called "force mode", but we have never used this term in the standard and it does not seem necessary to define it now.

*SuggestedRemedy*

Delete this definition from 1.4; in 96.2, change "FORCE mode" to "management control"; in 96.4.4, change "FORCE mode is used" to "management control is used", and delete "Using force mode," in the second sentence; in 96.4.5, change "FORCE mode" to "Management control".

*Response*              *Response Status* **W**

REJECT.

FORCE mode is a 100BASE-T1 specific mode of operation.

This comment is out of scope.

---

*Cl* **01**    *SC* **1.4.394**         *P* **22**       *L* **5**         # r02-64

RAN, ADEE                              Intel Corporation

*Comment Type* **E**        *Comment Status* **R**                                    *bw*

Description for 100BASE-T1 is not equivalent to 1000BASE-T, the resulting text is confusing.

*SuggestedRemedy*

Change to "In 100BASE-T1, the time interval for transmission of one ternary symbol, equal to 15 ns".

*Response*              *Response Status* **C**

REJECT.

The existing text correctly describes the symbol time and code-group time intervals.

---

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

*Cl* **01**
*SC* **1.4.394**

Page 2 of 22
8/20/2015  2:44:07 PM

---

*Cl* **01**    *SC* **1.4.87a**    *P* **22**    *L* **25**    *#* r02-65
RAN, ADEE    Intel Corporation

*Comment Type* **ER**    *Comment Status* **R**    *bw*

Acknowledging that this comment is not against changes from the previous draft. This overline seems to be a notation for a recurring decimal. I have not seen this used before (at least within 802.3), it does not appear in the style guide, and is not a universally accepted notation (see Wikipedia for "repeating decimal").

*SuggestedRemedy*

Either change 33.333 to 100/3 and 66.666 to 200/3 everywhere, or explicitly define the overline notation (possibly in 1.2.6?) and then use 33.3(overline) and 66.6(overline) everywhere.

*Response*    *Response Status* **W**

REJECT.

Use of this notation is defined in subclause 9.5.1 'Algebraic Functions' of ANSI/IEEE Std 260.3-1993 'American National Standard for Mathematical Signs and Symbols for Use in Physical Sciences and Technology', item 9.5.1.15 where it is defined as 'cycle delineator for a repeating decimal number'.

ANSI/IEEE Std 260.3 is referenced by the IEEE-SA Standards Style Manual.

---

*Cl* **01**    *SC* **1.5**    *P* **21**    *L* **46**    *#* r02-18
Donahue, Curtis

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

PSAACRF is defined as "power sum alien attenuation to crosstalk ratio far end" but the title of 96.7.1.6 is "Power sum alien attenuation to crosstalk ratio far-end (PSAACRF)". Also, in 1.5 PSANEXT is defined as "power sum alien near-end crosstalk".

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Change the definition of PSAACRF in 1.5 to "power sum alien attenuation to crosstalk ratio far-end".

*Response*    *Response Status* **C**

ACCEPT.

---

*Cl* **45**    *SC* **45.2.1.131.2**    *P* **26**    *L* **49**    *#* r02-20
Donahue, Curtis

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

"MASTER/SLAVE" is not consistent nomenclature with rest of draft.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Change title "BASE-T1 MASTER/SLAVE config value (1.2100.14)" to "BASE-T1 MASTER-SLAVE config value (1.2100.14)".

*Response*    *Response Status* **C**

ACCEPT.

---

*Cl* **45**    *SC* **45.2.1.131.2**    *P* **27**    *L* **51**    *#* r02-67
RAN, ADEE    Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft. The condition "MASTER-SLAVE manual config enable bit is set to one" is always true by the preceding subclause, so is redundant.

*SuggestedRemedy*

Delete "if MASTER-SLAVE manual config enable bit 1.2100.15 is set to one".

*Response*    *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change
"if MASTER-SLAVE manual config enable bit 1.2100.15 is set to one"
to
"when MASTER-SLAVE manual config enable bit 1.2100.15 is set to one"

---

*Cl* **45**    *SC* **45.2.1.131.3**    *P* **28**    *L* **4**    *#* r02-68
RAN, ADEE    Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft. "Future modes of operation may use additional settings of these four bits" - this goes without saying, and is not used in other subclauses (as the standard doesn't predict the future). Will probably be deleted in maintenance if it stays this way.

*SuggestedRemedy*

Delete "Future modes of operation may use additional settings of these four bits."

*Response*    *Response Status* **C**

ACCEPT.

---

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

*Cl* **45**
*SC* **45.2.1.131.3**

Page 3 of 22
8/20/2015  2:44:07 PM

---

*Cl* **45**          *SC* **45.2.1.132**          *P* **28**          *L* **16**          # r02-69

RAN, ADEE                                    Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft. Reserved values are conventionally described as simply "Reserved". Compare to table 45-57. The extra wording will probably be deleted in maintenance if it stays this way.

*SuggestedRemedy*

Change all occurrences of "Reserved for future use, operations not defined yet" to "Reserved".

*Response*          *Response Status*  **C**

ACCEPT.

---

*Cl* **45**          *SC* **45.2.1.6**          *P* **24**          *L* **38**          # r02-1

Wienckowski, Natalie                         General Motors Comp

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

The text refers to Table 45-4; however, the table it refers to is 45-7, which is the correct table in Clause 45.

*SuggestedRemedy*

Replace:  Replace indicated line in the 1.7.5:0 row of Table 45-4 with five new lines...

With:  Replace indicated line in the 1.7.5:0 row of Table 45-7 with five new lines...

*Response*          *Response Status*  **C**

ACCEPT.

---

*Cl* **45**          *SC* **45.2.1.6**          *P* **24**          *L* **38**          # r02-19

Donahue, Curtis

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

Reference to "Table 45-4" should be "Table 45-7"

*SuggestedRemedy*

Change "Table 45-4" to "Table 45-7"

*Response*          *Response Status*  **C**

ACCEPT IN PRINCIPLE.


See response to comment #r02-01.
The response to comment r02-01 is copied below for the convenience of the reader.


ACCEPT.

---

*Cl* **45**          *SC* **45.2.1.6**          *P* **24**          *L* **38**          # r02-5

Chini, Ahmad

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

Table number is not correct.

*SuggestedRemedy*

Change "Table 45-4" to "Table 45-7".

*Response*          *Response Status*  **C**

ACCEPT IN PRINCIPLE.


See response to comment #r02-01.
The response to comment r02-01 is copied below for the convenience of the reader.

ACCEPT.

---

*Cl* **45**          *SC* **45.2.3.1.2**          *P* **27**          *L* **41**          # r02-22

Donahue, Curtis

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

Text in 45.2.3.1.2 was modified to accommodate 100BASE-T1 but the "shalls" in that paragraph were not modified to reflect this update.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Modify RM13, RM14, RM15, RM16 as necessary to include 100BASE-T1.

*Response*          *Response Status*  **C**

ACCEPT.

---

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

*Cl* **45**
*SC* **45.2.3.1.2**

Page 4 of 22
8/20/2015  2:44:07 PM

*Cl* **45**　　　*SC* **45.2.3.1.2**　　　*P* **27**　　　*L* **41**　　　# r02-23
Donahue, Curtis

*Comment Type*　**E**　　　*Comment Status* **A**　　　　　　　　*bw*
The first sentence of 45.2.3.1.2 does not include "100BASE-T1", should it?

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Modify the paragraph in 45.2.3.1.2 as necessary.

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

Change
"When the 10GBASE-T or the 10GBASE-R mode of operation is selected for the PCS using the PCS type
selection field (3.7.1:0), the PCS shall be placed in a loopback mode of operation when bit 3.0.14 is set to a
one."

to

"When the 100BASE-T1, 10GBASE-T or the 10GBASE-R mode of operation is selected for the PCS using the PCS type selection field (3.7.1:0), the PCS shall be placed in a loopback mode of operation when bit 3.0.14 is set to a one."

*Cl* **45**　　　*SC* **45.2.3.1.2**　　　*P* **27**　　　*L* **45**　　　# r02-21
Donahue, Curtis

*Comment Type*　**E**　　　*Comment Status* **A**　　　　　　　　*EZ*
Cross reference "96.3.4" is incorrect.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Change "96.3.4" to "96.3.5"

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

See response to comment #r02-06.
The response to comment r02-06 is copied below for the convenience of the reader.

ACCEPT.

*Cl* **45**　　　*SC* **45.2.3.1.2**　　　*P* **27**　　　*L* **45**　　　# r02-6
Chini, Ahmad

*Comment Type*　**E**　　　*Comment Status* **A**　　　　　　　　*EZ*
Wrong reference.

*SuggestedRemedy*
Change 96.3.4 to 96.3.5.

*Response*　　　　*Response Status* **C**
ACCEPT.

*Cl* **96**　　　*SC* **96.1**　　　*P* **30**　　　*L* **43**　　　# r02-7
Chini, Ahmad

*Comment Type*　**E**　　　*Comment Status* **A**　　　　　　　　*EZ*
Wrong Figure number.

*SuggestedRemedy*
Change "Figure 96-2" to "Figure 96-3"

*Response*　　　　*Response Status* **C**
ACCEPT.

*Cl* **96**　　　*SC* **96.1**　　　*P* **30**　　　*L* **43**　　　# r02-24
Donahue, Curtis

*Comment Type*　**E**　　　*Comment Status* **A**　　　　　　　　*EZ*
Cross reference "Figure 96-2" is incorrect.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Change "Figure 96-2" to "Figure 96-3"

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

See response to comment #r02-07.
The response to comment r02-07 is copied below for the convenience of the reader.

ACCEPT.

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

*Cl* **96**
*SC* **96.1**

Page 5 of 22
8/20/2015 2:44:07 PM

---

*Cl* **96**    *SC* **96.1**        *P* **30**    *L* **9**    # r02-2

Anslow, Peter                Ciena Corporation

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

The newly inserted "Clause 45" should be a cross-reference. Same issue in the first line of 96.6.3

*SuggestedRemedy*

Change "Clause 45" to be a cross-reference in 96.1 and 96.6.3

*Response*        *Response Status* **C**

ACCEPT.

---

*Cl* **96**    *SC* **96.1**        *P* **31**    *L* **10**    # r02-70

RAN, ADEE              Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft. "It is suitable for a variety of applications" looks like marketing text, which does not belong in a standard. It does not appear in similar clauses.

*SuggestedRemedy*

Delete "It is suitable for a variety of applications".

*Response*        *Response Status* **C**

ACCEPT.

---

*Cl* **96**    *SC* **96.1.1**      *P* **31**    *L* **50**    # r02-25

Donahue, Curtis

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

Cross reference "Figure 96-2" is incorrect.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Change "Figure 96-2" to "Figure 96-15"

*Response*        *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment #r02-08.
The response to comment r02-08 is copied below for the convenience of the reader.

ACCEPT.

---

*Cl* **96**    *SC* **96.1.1**      *P* **31**    *L* **50**    # r02-8

Chini, Ahmad

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

Wrong Figure number.

*SuggestedRemedy*

Change "Figure 96-2" to "Figure 96-15"

*Response*        *Response Status* **C**

ACCEPT.

---

*Cl* **96**    *SC* **96.1.1**      *P* **34**    *L* **41**    # r02-71

RAN, ADEE              Intel Corporation

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

The text starting from "In contrast" until the end of this paragraph is not required for describing the architecture of 100GBASE-T1, has no normative meaning and does not help readability. The part about Clause 40 is not "in contrast" since it is a different speed (should we also mention 10GBASE-T?). This text is only weakly relevant and informative at best.

*SuggestedRemedy*

Replace the text from "In contrast" up to the end of the paragraph, to "This PHY uses ternary signaling and interfaces to the Clause 22 MII".
Add a NOTE (informative text) after the paragraph: "The 100BASE-TX PHY, specified in Clause 25, also interfaces to a Clause 22 MII, but operates over two pairs of balanced twisted-pair cabling".

*Response*        *Response Status* **W**

ACCEPT IN PRINCIPLE.

Replace text but do not include NOTE.

---

*Cl* **96**    *SC* **96.1.1**      *P* **34**    *L* **46**    # r02-72

RAN, ADEE              Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft. This text is badly phrased: the "significant changes in the PCS" are unrelated to the PMA.

*SuggestedRemedy*

change ", but with significant changes to the PCS, as specified in 96.3" to "The PCS (specified in 96.3) is different from the PCS defined in Clause 40".

*Response*        *Response Status* **C**

ACCEPT.

---

TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general    *Cl* **96**    Page 6 of 22

COMMENT STATUS: D/dispatched  A/accepted  R/rejected    RESPONSE STATUS: O/open  W/written  C/closed  U/unsatisfied  Z/withdrawn    *SC* **96.1.1**    8/20/2015  2:44:07 PM

SORT ORDER: Clause, Subclause, page, line

*Cl* **96**     *SC* **96.1.1**     *P* **35**     *L* **4**     # r02-73

RAN, ADEE     Intel Corporation

*Comment Type* **G**     *Comment Status* **A**          bw

Acknowledging that this comment is not against changes from the previous draft. Objectives are not part of the standard, and "Adopt" is not the feature. Echo cancellation is not mentioned anywhere else, and PAM3 does not "help minimize the bandwidth" and definitely does not reduce EMI, compared to its usage in 100BASE-TX. Altogether, this text does not seem to be required in the standard.

*SuggestedRemedy*

Change "achieving the objectives" to "operation over a single balanced twisted-pair". Change item a) to "Full-duplex communication" and item b) to "3-level pulse amplitude modulation (PAM3). Alternatively, delete the text in lines 4-9.

*Response*     *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change
"The specification features that enable achieving the objectives are:
a) Adopt full-duplex communication using echo cancellation on a single balanced twisted-pair channel
to reduce cabling while preserving Ethernet MAC compatibility.
b) Adopt Pulse Amplitude Modulation 3 (PAM3) to help minimize the bandwidth and reduce EMI
over a single balanced twisted-pair."
To
"The specification features that enable  operation over a single balanced twisted-pair are:
a) Full-duplex communication with Ethernet MAC compatibility.
b) Adopt Pulse Amplitude Modulation 3 (PAM3) to provide trade-off between  bandwidth and EMI performance."

*Cl* **96**     *SC* **96.11.4.1**     *P* **82**     *L* **10**     # r02-56

Donahue, Curtis

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

PCT13 is a duplicate of PCT11.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Remove PCT13, renumber PICS items as necessary.

*Proposed Response*     *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

*Cl* **96**     *SC* **96.11.4.1**     *P* **82**     *L* **3**     # r02-10

Chini, Ahmad

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

Duplicate entries for PCT11 and PCT13.

*SuggestedRemedy*

Remove the row for PCT11 (because PCT11 is the same as PCT13).

*Response*     *Response Status* **C**

ACCEPT IN PRINCIPLE.

PCT11 and PCT13 are different. PCT11 is in reference to the  "encoding rules" for Syn, and PCT13 is in reference to the "generation" of Syn. However the "Feature" of these PICS should be modified to point out the difference.

Change
"Generation of Syn[2:0] and Scn[2:0] shall conform to the encoding rules from 40.3.1.3.2 and 40.3.1.3.3."
to
"Generation of Syn[2:0] and Scn[2:0] shall conform to and generated in accordance with the encoding rules in 40.3.1.3.2 and 40.3.1.3.3."

Add "Syn[3] is not used by definition." to the end of the first paragraph.

Remove second paragraph of 96.3.3.3.2.

Update PICS as needed.

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

*Cl* **96**
*SC* **96.11.4.1**

Page 7 of 22
8/20/2015 2:44:07 PM

---

*Cl* **96**      *SC* **96.11.4.1**              *P* **82**          *L* **7**          # r02-11
Chini, Ahmad

*Comment Type*   **T**        *Comment Status*  **A**                                          *bw*
No need for PCT12, because it is covered in PCT14.

*SuggestedRemedy*
Remove the row for PCT12 (because PCT12 is covered in PCT14).

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

See response to comment #r02-10.
The response to comment r02-10 is copied below for the convenience of the reader.

ACCEPT IN PRINCIPLE.

PCT11 and PCT13 are different. PCT11 is in reference to the  "encoding rules" for Syn, and PCT13 is in reference to the "generation" of Syn. However the "Feature" of these PICS should be modified to point out the difference.

Change
"Generation of Syn[2:0] and Scn[2:0] shall conform to the encoding rules from 40.3.1.3.2 and 40.3.1.3.3."
to
"Generation of Syn[2:0] and Scn[2:0] shall conform to and generated in accordance with the encoding rules in 40.3.1.3.2 and 40.3.1.3.3."

Add "Syn[3] is not used by definition." to the end of the first paragraph.

Remove second paragraph of 96.3.3.3.2.

Update PICS as needed.

---

*Cl* **96**      *SC* **96.11.4.5**              *P* **87**          *L* **8**          # r02-13
Chini, Ahmad

*Comment Type*   **E**        *Comment Status*  **A**                                          *EZ*
Apply consistent format.

*SuggestedRemedy*
Change "5.4 volts" to "5.4 V".

*Response*                  *Response Status*   **C**
ACCEPT.

---

*Cl* **96**      *SC* **96.11.4.5**              *P* **88**          *L* **23**         # r02-14
Chini, Ahmad

*Comment Type*   **E**        *Comment Status*  **A**                                          *EZ*
For "96.5.7" is not pdf active link.

*SuggestedRemedy*
See comment.

*Response*                  *Response Status*   **C**
ACCEPT.

---

*Cl* **96**      *SC* **96.2**                   *P* **33**          *L* **12**         # r02-26
Donahue, Curtis

*Comment Type*   **E**        *Comment Status*  **A**                                          *EZ*
Cross reference "96.4.4" is incorrectly marked in green text. Green text signifies a subclause cross reference that is not included in the present draft.

Note: page#, subclause#, and line# are in reference to "clean" draft version.

*SuggestedRemedy*
Change "96.4.4" from green text to normal black text formatting.

*Response*                  *Response Status*   **C**
ACCEPT.

---

*Cl* **96**      *SC* **96.2**                   *P* **36**          *L* **15**         # r02-75
RAN, ADEE                                  Intel Corporation

*Comment Type*   **E**        *Comment Status*  **A**                                          *bw*
Acknowledging that this comment is not against changes from the previous draft. The clarifications and differences are related to 40.2, so are not "general". Also, They Should Not Be Capitalized.

*SuggestedRemedy*
Change "General Clarifications and Differences" to "Differences from the 40.2 service interface".

*Response*                  *Response Status*   **C**
ACCEPT.

---

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

*Cl* **96**
*SC* **96.2**

Page 8 of 22
8/20/2015 2:44:07 PM

*Cl* **96**    *SC* **96.2.1**         *P* **36**    *L* **23**    # r02-80
RAN, ADEE                    Intel Corporation

*Comment Type* **T**    *Comment Status* **R**                    *bw*

Acknowledging that this comment is not against changes from the previous draft.

The "symbol vectors" used throughout this clause are actually scalars (single lane), while "symbol pairs" are actually vectors. There are also vectors that refer to bits.

Using these "vectors" is an unnecessary and confusing complication for a single-lane PHY. Changing all "symbol vectors" to "symbols" would improve readability.

*SuggestedRemedy*

Change "symbol vectors" to "symbols" in 96.2.1.
Change tx_symb_vector to tx_symb and rx_symb_vector to rx_symb throughout.
Change "A vector of ternary symbols" or (A vector of one ternary symbol" to "A ternary symbol" in 96.2.4.1, 96.2.5.1, 96.3.4.1.1.
Change "sequences of vectors" to "sequences of symbols" and "a vector of zeros" to "a zero symbol" in 96.3.3.2.
Change "A vector of two ternary symbols" to "A ternary symbol pair" and "A sequence of ternary vectors" to "A sequence of ternary symbol pairs" in all variable definitions in 96.3.3.2.1.
Delete "VECTOR" from all state names in figure 96-7 (PCS transmit state diagram).
Change "vector" to "pair" in 96.3.3.3.9.

*Response*                *Response Status* **C**
REJECT.

The word vector also applies to arrays with a single element. It was kept to be consistent with Clause 40 state machines.


This comment is not against a changed portion of the draft, a portion of the draft affected
by changes, or a portion of the draft that is the subject of unresolved comments associated
with "Disapprove" votes. It is therefore out of the scope of the recirculation ballot.

*Cl* **96**    *SC* **96.2.1**         *P* **36**    *L* **24**    # r02-76
RAN, ADEE                    Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft. It would be better to explicitly state which service interface "the service interface" refers to.

*SuggestedRemedy*

Change "the service interface" to "the PMA service interface".

*Response*                *Response Status* **C**
ACCEPT.

*Cl* **96**    *SC* **96.2.3**         *P* **40**    *L* **15**    # r02-77
RAN, ADEE                    Intel Corporation

*Comment Type* **T**    *Comment Status* **R**                    *bw*

Acknowledging that this comment is not against changes from the previous draft. Introduction of this primitive is not clear, and does not describe the primitive like other similar subclauses (e.g. 96.2.2).

*SuggestedRemedy*

Change the text to "This primitive is generated by the PMA to indicate the type of signaling required from the PCS, based on the link status."

*Response*                *Response Status* **C**
REJECT.

Similar to Clause 40.2.3, the current text defines the scope of this primitive.


This comment is not against a changed portion of the draft, a portion of the draft affected
by changes, or a portion of the draft that is the subject of unresolved comments associated
with "Disapprove" votes. It is therefore out of the scope of the recirculation ballot.

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

*Cl*  **96**
*SC*  **96.2.3**

Page 9 of 22
8/20/2015 2:44:07 PM

*Cl* **96**　　　*SC* **96.2.3.1**　　　　　*P* **40**　　　*L* **26**　　　# r02-78
RAN, ADEE　　　　　　　　　Intel Corporation

*Comment Type* **T**　　*Comment Status* **A**　　　　　　　　*EZ*
Acknowledging that this comment is not against changes from the previous draft. For parameters that take one of the listed possible values, "of the form" is unneeded and confusing (and arguably wrong). This occurs several times, and is not even consistent.

*SuggestedRemedy*
Delete "of the form" in 96.2.3.1, 96.2.6.1, 96.2.7.1, 96.2.8.1, 96.2.10.1.

*Response*　　　　　*Response Status* **C**
ACCEPT.

---

*Cl* **96**　　　*SC* **96.2.3.3**　　　　　*P* **35**　　　*L* **49**　　　# r02-27
Donahue, Curtis

*Comment Type* **E**　　*Comment Status* **A**　　　　　　　　*EZ*
Cross reference "96.3.2" is incorrect.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Change "96.3.2" to "96.3.3".

*Response*　　　　　*Response Status* **C**
ACCEPT.

---

*Cl* **96**　　　*SC* **96.2.3.3**　　　　　*P* **40**　　　*L* **40**　　　# r02-79
RAN, ADEE　　　　　　　　　Intel Corporation

*Comment Type* **TR**　　*Comment Status* **A**　　　　　　　　*bw*
Acknowledging that this comment is not against changes from the previous draft. This primitive is related to the "Data Transmission Enabling" function, not the Transmit function.

*SuggestedRemedy*
Change "Transmit" to "Data Transmission Enabling".

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

Change
"Upon receipt of this primitive, the PCS performs its Transmit function as described in 96.3.2."
To
"Upon receipt of this primitive, the PCS performs its Transmit function as described in 96.3.3."

---

*Cl* **96**　　　*SC* **96.2.4**　　　　　*P* **36**　　　*L* **44**　　　# r02-58
Donahue, Curtis

*Comment Type* **E**　　*Comment Status* **A**　　　　　　　　*EZ*
Cross reference "Figure 96-7" is incorrect.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Change "Figure 96-7" to "96-6a and Figure 96-6b"

*Response*　　　　　*Response Status* **C**
ACCEPT.

---

*Cl* **96**　　　*SC* **96.2.4**　　　　　*P* **6**　　　*L* **36**　　　# r02-57
Donahue, Curtis

*Comment Type* **E**　　*Comment Status* **A**　　　　　　　　*EZ*
Cross reference "96.3.2" is incorrect.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Change "96.3.2" to "96.3.3".

*Response*　　　　　*Response Status* **C**
ACCEPT.

---

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

*Cl* **96**
*SC* **96.2.4**

Page 10 of 22
8/20/2015  2:44:07 PM

*Cl* **96**    *SC* **96.2.4.1**        *P* **41**        *L* **53**        # r02-81
RAN, ADEE                               Intel Corporation

*Comment Type* **TR**    *Comment Status* **R**                                *bw*

This comment results from the deletion of the definition of SYMB_1D (1.4.392a).

The parameter of this primitive is a single ternary symbol (a term defined in 1.4.398).
There is no need to use the (now undefined) term SYMB_1D, call it a vector of length 1,
and refer to its elements with an index [BI_DA] that is never used elsewhere.

Comment also applies to 96.2.5.1.

*SuggestedRemedy*

In 96.2.4.1, replace the text starting from "The tx_symb_vector" up to the end of this
subclause to:
"The tx_symb parameter is a ternary symbol".

In 96.2.5.1, replace the text starting from "The rx_symb_vector" up to the end of this
subclause to:
"The rx_symb parameter is a ternary symbol".

*Response*                *Response Status* **W**

REJECT.

The usage of SYMB_1D is similar to usage of SYMB_4D in Clause 40. Removing it will
require more changes to the text than suggested.

*Cl* **96**    *SC* **96.2.5.1**        *P* **36**        *L* **39**        # r02-28
Donahue, Curtis

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

Change the beginning of the paragraph from "During reception the" to "During reception,
the". This would be consistent with the first paragraph of 96.2.4.1.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

See comment.

*Response*                *Response Status* **C**

ACCEPT.

*Cl* **96**    *SC* **96.2.9.1**        *P* **43**        *L* **23**        # r02-83
RAN, ADEE                               Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft.

This subclause and the next one refer to 96.4.1, which just refers further to 40.4.2.1.
Save the reader's time by removing this indirection and placing the reference directly here.
96.4.1 may be removed.

*SuggestedRemedy*

Change the text in 96.2.9.1 to
"This primitive is generated under the conditions described in 40.4.2.1.

Change the text in 96.2.9.2 to
"The effect of receipt of this primitive is specified in 40.4.2.1".

Optionally, also delete subclause 96.4.1.

*Response*                *Response Status* **C**

ACCEPT IN PRINCIPLE.

Apply the first two suggested remedies. Do not implement the optional third suggested
remedy.

*Cl* **96**    *SC* **96.3**        *P* **44**        *L* **3**        # r02-84
RAN, ADEE                               Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft.

The PCS Data Transmission Enable function, also a part of the PCS, is missing.

*SuggestedRemedy*

Insert "the PCS Data Transmission Enable, " between "PCS Reset" and "PCS Transmit".

Also, add a comma between "Transmit" and the final "and".

*Response*                *Response Status* **C**

ACCEPT.

TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general          *Cl* **96**              Page 11 of 22
COMMENT STATUS: D/dispatched  A/accepted  R/rejected     RESPONSE STATUS: O/open  W/written  C/closed  U/unsatisfied  Z/withdrawn          *SC* **96.3**          8/20/2015  2:44:08 PM
SORT ORDER: Clause, Subclause, page, line

*Cl* **96**     *SC* **96.3.3.1.2**          *P* **48**          *L* **46**          # r02-85

RAN, ADEE                              Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft.

The IPG doesn't "help" anything.

*SuggestedRemedy*

Change "helps to flush" to "enables flushing"

*Response*                  *Response Status*  **C**

ACCEPT.

---

*Cl* **96**     *SC* **96.3.3.2**          *P* **44**          *L* **21**          # r02-29

Donahue, Curtis

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

Change "State Diagram" to "state diagram". This would be consistent with the rest of the draft.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

See comment.

*Response*                  *Response Status*  **C**

ACCEPT.

---

*Cl* **96**     *SC* **96.3.3.2**          *P* **44**          *L* **25**          # r02-30

Donahue, Curtis

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

Change "{-1, 0, or 1}" to "{-1, 0, or +1}". This would be consistent with the rest of the draft.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

See comment.

*Response*                  *Response Status*  **C**

ACCEPT.

---

*Cl* **96**     *SC* **96.3.3.2**          *P* **44**          *L* **38**          # r02-61

Donahue, Curtis

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

Multiple definitions of ESD1 and ESD2.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Modify to: "Therefore, at the end of a frame, tx_error is examined to determine whether ESD3 or ERR_ESD3 are to be transmitted following two consecutive special pairs (0, 0) for ESD1 and ESD2, as shown in Figure 96-7."

to

"Therefore, at the end of a frame, tx_error is examined to determine whether ESD3 or ERR_ESD3 are to be transmitted following ESD1 and ESD2, as shown in Figure 96-7."

*Response*                  *Response Status*  **C**

ACCEPT.

---

*Cl* **96**     *SC* **96.3.3.2**          *P* **50**          *L* **28**          # r02-86

RAN, ADEE                              Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft.

The sentence starting with "In the normal mode of operation" and ending with "the parameter tx_enable" is unclear and badly phrased.

 What does "when between streams of data" mean? (tx_enable has the value false?)

A simple reference to the rules would be easier to understand.

*SuggestedRemedy*

Change this sentence to:

"In the normal mode of operation, the PCS Transmit generates sequences of vectors using the encoding rules defined for SEND_N in 96.3.3.3.7 and 96.3.3.3.8, according to the value of tx_enable.".

*Response*                  *Response Status*  **W**

ACCEPT.

---

TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general           *Cl* **96**                        Page 12 of 22
COMMENT STATUS: D/dispatched  A/accepted  R/rejected     RESPONSE STATUS: O/open  W/written  C/closed  U/unsatisfied  Z/withdrawn      *SC* **96.3.3.2**          8/20/2015  2:44:08 PM
SORT ORDER: Clause, Subclause, page, line

*Cl* **96**     *SC* **96.3.3.2**          *P* **50**        *L* **33**          # r02-87
RAN, ADEE                          Intel Corporation

*Comment Type*  **TR**     *Comment Status*  **A**                                      *EZ*
   Acknowledging that this comment is not against changes from the previous draft.

   PAM3 modulation occurs at all times, not just "until tx_enable is re-asserted".

   The modulation is part of the PMA function and should not be stated for the PCS.

*SuggestedRemedy*
   Delete "and these ternary symbols are converted to an analog signal using a PAM3
   modulation scheme".

*Response*                  *Response Status*  **W**
   ACCEPT.

---

*Cl* **96**     *SC* **96.3.3.2**          *P* **50**        *L* **51**          # r02-88
RAN, ADEE                          Intel Corporation

*Comment Type*  **E**     *Comment Status*  **A**                                      *EZ*
   Acknowledging that this comment is not against changes from the previous draft.

   Which of the following subsections? Help the readers find their way.

   This comment was received after the close of ballot.

*SuggestedRemedy*
   Change "in the following subsections" to "in 96.3.3.3.6".

*Response*                  *Response Status*  **C**
   ACCEPT.

---

*Cl* **96**     *SC* **96.3.3.2**          *P* **51**        *L* **2**          # r02-89
RAN, ADEE                          Intel Corporation

*Comment Type*  **E**     *Comment Status*  **A**                                      *EZ*
   Acknowledging that this comment is not against changes from the previous draft.

   Which of the following subsections? Help the readers find their way.

   This comment was received after the close of ballot.

*SuggestedRemedy*
   Change "in the following subsections" to "in 96.3.3.3.5".

*Response*                  *Response Status*  **C**
   ACCEPT.

---

*Cl* **96**     *SC* **96.3.3.2**          *P* **51**        *L* **3**          # r02-90
RAN, ADEE                          Intel Corporation

*Comment Type*  **E**     *Comment Status*  **A**                                      *EZ*
   Acknowledging that this comment is not against changes from the previous draft.

   Signaled by "inserting an SSD" or "by an ESD" - inconsistent. On the receiving side, there
   is no insertion, and mode is signaled by the delimiter.

   This comment was received after the close of ballot.

*SuggestedRemedy*
   Delete "inserting".

*Response*                  *Response Status*  **C**
   ACCEPT.

---

*Cl* **96**     *SC* **96.3.3.2.1**          *P* **15**        *L* **45**          # r02-59
Donahue, Curtis

*Comment Type*  **E**     *Comment Status*  **A**                                      *EZ*
   Cross reference "96.3.2" is incorrect.

   Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
   Change "96.3.2" to "96.3"

*Response*                  *Response Status*  **C**
   ACCEPT.

---

*Cl* **96**     *SC* **96.3.3.2.1**          *P* **45**        *L* **15**          # r02-60
Donahue, Curtis

*Comment Type*  **E**     *Comment Status*  **A**                                      *EZ*
   Cross reference "96.3.2" is incorrect.

   Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
   Change "96.3.2" to "96.3.3"

*Response*                  *Response Status*  **C**
   ACCEPT.

---

TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general          *Cl* **96**          Page 13 of 22
COMMENT STATUS: D/dispatched  A/accepted  R/rejected      RESPONSE STATUS: O/open  W/written  C/closed  U/unsatisfied  Z/withdrawn          *SC* **96.3.3.2.1**          8/20/2015  2:44:08 PM
SORT ORDER: Clause, Subclause, page, line

*Cl* **96**    *SC* **96.3.3.2.1**    *P* **45**    *L* **18**    # r02-62
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    *EZ*
Definition does not specify a subclause for ERR_ESD3.

*SuggestedRemedy*
Add subclause refeerence into definition.

*Response*    *Response Status* **C**
ACCEPT.

---

*Cl* **96**    *SC* **96.3.3.2.1**    *P* **52**    *L* **31**    # r02-91
RAN, ADEE    Intel Corporation

*Comment Type* **T**    *Comment Status* **A**    *bw*
Acknowledging that this comment is not against changes from the previous draft.

SYMB_2D is not defined. It is already stated that this is a pair of ternary symbols.

Comment also applies to 96.3.4.1.1.

This comment was received after the close of ballot.

*SuggestedRemedy*
Delete "Value: SYMB_2D: A pair of ternary transmit symbols." in 96.3.3.2.1.

Delete "Value: SYMB_2D: A pair of ternary receive symbols." in 96.3.4.1.1.

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

In 96.3.3.2.1, delete "SYMB_2D:"
In 96.3.4.1.1, delete "SYMB_2D:"

---

*Cl* **96**    *SC* **96.3.3.2.3**    *P* **46**    *L* **45**    # r02-31
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    *EZ*
Formatting and spacing of timer definitions are not consistent.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Fix formatting for text in timer definition in 96.3.3.2.3.

*Response*    *Response Status* **C**
ACCEPT.

---

*Cl* **96**    *SC* **96.3.3.2.3**    *P* **47**    *L* **38**    # r02-32
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    *EZ*
Missing arrow tip where exit conditions for SSD3 VECTOR and TRANSMIT DATA merge.
Add arrow tip to be consistent with other instances within the draft.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

*Response*    *Response Status* **C**
ACCEPT.

---

*Cl* **96**    *SC* **96.3.3.2.3**    *P* **52**    *L* **45**    # r02-92
RAN, ADEE    Intel Corporation

*Comment Type* **E**    *Comment Status* **A**    *EZ*
Acknowledging that this comment is not against changes from the previous draft.

Non-uniform tabs in the list. Also in other timer definitions.

This comment was received after the close of ballot.

*SuggestedRemedy*
Format as necessary.

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

See response to comment #r02-32.
The response to comment r02-32 is copied below for the convenience of the reader.

ACCEPT.

---

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

*Cl* **96**
*SC* **96.3.3.2.3**

Page 14 of 22
8/20/2015  2:44:08 PM

*Cl* **96**    *SC* **96.3.3.2.3**    *P* **52**    *L* **51**    # r02-94
RAN, ADEE    Intel Corporation

*Comment Type* **T**    *Comment Status* **R**    *bw*
Acknowledging that this comment is not against changes from the previous draft.

Neither symb_timer not its "done" condition seem to be used anywhere.

This comment was received after the close of ballot.

*SuggestedRemedy*
Delete this timer definition.

*Response*    *Response Status* **C**
REJECT.

This definition is needed because it is used in PMA_UNITDATA.request primitive.

This comment was received after the close of ballot.

---

*Cl* **96**    *SC* **96.3.3.2.4**    *P* **54**    *L* **6**    # r02-93
RAN, ADEE    Intel Corporation

*Comment Type* **T**    *Comment Status* **R**    *bw*
Acknowledging that this comment is not against changes from the previous draft.

"Messages" are parts of the service interface. The thingy defined here is an alias for a variable.

It is also a poorly named alias, since by acronym it suggests "symb_timer_done" while it actually refers to "symb_pair_timer_done".

*SuggestedRemedy*
Delete this subclause.

In the definition of symb_pair_timer, rename the condition from "symb_pair_timer_done" to "SPTD".

In the state diagrams, rename the condition from STD to SPTD.

*Response*    *Response Status* **C**
REJECT.

The definition of this variable  is clear and consistent for symb_pair_timer_done.

This comment was received after the close of ballot.

*Cl* **96**    *SC* **96.3.3.3**    *P* **48**    *L* **31**    # r02-33
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    *EZ*
Line at bottom of the figure does not extend to the edge where other lines start/stop.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Extend line to allign with the other lines in figure.

*Response*    *Response Status* **C**
ACCEPT.

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

*Cl* **96**
*SC* **96.3.3.3**

Page 15 of 22
8/20/2015 2:44:08 PM

*Cl* **96**     *SC* **96.3.3.3.2**          *P* **54**          *L* **48**          # r02-95
RAN, ADEE                    Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft.

The last paragraph repeats (in different words) what was already stated in the previous paragraph

*SuggestedRemedy*

Delete this paragraph.

*Response*                  *Response Status*   **C**

ACCEPT IN PRINCIPLE.

See response to comment #r02-10.
The response to comment r02-10 is copied below for the convenience of the reader.

ACCEPT IN PRINCIPLE.

PCT11 and PCT13 are different. PCT11 is in reference to the  "encoding rules" for Syn, and PCT13 is in reference to the "generation" of Syn. However the "Feature" of these PICS should be modified to point out the difference.

Change
"Generation of Syn[2:0] and Scn[2:0] shall conform to the encoding rules from 40.3.1.3.2 and 40.3.1.3.3."
to
"Generation of Syn[2:0] and Scn[2:0] shall conform to and generated in accordance with the encoding rules in 40.3.1.3.2 and 40.3.1.3.3."

Add "Syn[3] is not used by definition." to the end of the first paragraph.

Remove second paragraph of 96.3.3.3.2.

Update PICS as needed.


This comment was received after the close of ballot.

---

*Cl* **96**     *SC* **96.3.3.3.4**          *P* **55**          *L* **18**          # r02-96
RAN, ADEE                    Intel Corporation

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

Acknowledging that this comment is not against changes from the previous draft.

The conditions used in these definitions are not aligned correctly. Also, superfluous space in [1 :0].

This comment was received after the close of ballot.

*SuggestedRemedy*

Format and correct as necessary.

*Response*                  *Response Status*   **C**

ACCEPT.

---

*Cl* **96**     *SC* **96.3.3.3.6**          *P* **49**          *L* **39**          # r02-34
Donahue, Curtis

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

Several instances of numbers less than 11 are typed as the number as opposed to spelling the number out. Such as:
"9" is used instead of "nine" in 96.3.3.3.6, pg 49, line 36
"6" is used instead of "six" in 96.3.3.3.6, pg 49, line 39
"3" is used instead of "three" in 96.4.3, pg 60, line 26
etc.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Follow IEEE style guide and type the word of the number if it is less than 11, fix all instances throught draft.

*Response*                  *Response Status*   **C**

ACCEPT.

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

*Cl* **96**
*SC* **96.3.3.3.6**

Page 16 of 22
8/20/2015 2:44:08 PM

---

*Cl* **96**    *SC* **96.3.3.3.6**         *P* **55**       *L* **37**       # r02-97
RAN, ADEE                         Intel Corporation

*Comment Type* **E**       *Comment Status* **R**                                 *bw*
Acknowledging that this comment is not against changes from the previous draft.

Subclases 96.3.3.3.6 to 96.3.3.3.9 are specific cases of generaton of ternary pairs. They should be subclauses of 93.3.3.3.5.

*SuggestedRemedy*
Change subclause hierarchy.

*Response*              *Response Status* **C**
REJECT.

This comment is not against a changed portion of the draft, a portion of the draft affected by changes, or a portion of the draft that is the subject of unresolved comments associated with "Disapprove" votes. It is therefore out of the scope of the recirculation ballot.

---

*Cl* **96**    *SC* **96.3.4.1**         *P* **59**       *L* **40**       # r02-98
RAN, ADEE                         Intel Corporation

*Comment Type* **T**       *Comment Status* **A**                                 *EZ*
Acknowledging that this comment is not against changes from the previous draft.

Time is not less than a timer (a timer is a specified object).

This comment was received after the close of ballot.

*SuggestedRemedy*
Change "a timer specified by" to "the period specified for".

*Response*              *Response Status* **C**
ACCEPT.

---

*Cl* **96**    *SC* **96.3.4.1**         *P* **60**       *L* **27**       # r02-82
RAN, ADEE                         Intel Corporation

*Comment Type* **T**       *Comment Status* **A**                                 *bw*
Acknowledging that this comment is not against changes from the previous draft.

The text in this paragraph does not add any requirement beyond what the state diagram contains. It seems like an observation that is merely informative. It should therefore be a NOTE.

In addition, the number 4 should be spelled out in the text.

*SuggestedRemedy*
Make this paragraph a NOTE.

Change the numeric "4" to "four" twice in this paragraph.

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

Change the numeric "4" to "four" twice in this paragraph.

---

*Cl* **96**    *SC* **96.3.4.1.1**         *P* **55**       *L* **10**       # r02-37
Donahue, Curtis

*Comment Type* **E**       *Comment Status* **A**                                 *EZ*
"Data phase" is not used anywhere else in the draft.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Change "Data phase" to "Data mode".

*Response*              *Response Status* **C**
ACCEPT.

---

TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general          *Cl* **96**              Page 17 of 22
COMMENT STATUS: D/dispatched  A/accepted  R/rejected     RESPONSE STATUS: O/open  W/written  C/closed  U/unsatisfied  Z/withdrawn          *SC* **96.3.4.1.1**        8/20/2015  2:44:08 PM
SORT ORDER: Clause, Subclause, page, line

*Cl* **96**     *SC* **96.3.4.1.1**     *P* **55**     *L* **18**     # r02-36
Donahue, Curtis

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

The subscript 'n' of several variables ($Rx_n$, $RA_n$, $RB_n$, $Scr_n$, $x0_n$, etc.) is not italicized in several locations throughout, however $Tx_n$ has an italicized 'n'.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Fix all instances of the subscript 'n' to italicized, making the font consistent throughout the draft.

*Response*     *Response Status* **C**

ACCEPT.

---

*Cl* **96**     *SC* **96.3.4.1.1**     *P* **55**     *L* **33**     # r02-35
Donahue, Curtis

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

SYMB_1D does not have a definition next to it but a few lines above it SYMB_2D does.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Suggest that the definition of SYMB_1D be added for consistency or remove the definition of SYMB_2D on line 26 (already defined in 96.3.3.2.1)..

*Proposed Response*     *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

---

*Cl* **96**     *SC* **96.3.4.1.2**     *P* **61**     *L* **40**     # r02-99
RAN, ADEE        Intel Corporation

*Comment Type* **E**     *Comment Status* **R**        *bw*

Acknowledging that this comment is not against changes from the previous draft.

"after de-interleaving rx_symb_vectors" does not need to be repeated.

This comment was received after the close of ballot.

*SuggestedRemedy*

Delete the second occurrence of "after de-interleaving rx_symb_vectors".

Depending on acceptance of another comment, change "rx_symb_vectors" to "the stream of rx_symb symbols" in the first occurrence.

*Response*     *Response Status* **C**

REJECT.

This comment is not against a changed portion of the draft, a portion of the draft affected by changes, or a portion of the draft that is the subject of unresolved comments associated with "Disapprove" votes. It is therefore out of the scope of the recirculation ballot.

---

*Cl* **96**     *SC* **96.3.4.1.3**     *P* **55**     *L* **52**     # r02-38
Donahue, Curtis

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

Several equations, definitions, and state diagram text that use operators or symbols do not have consistent spacing around the surrounding numbers. Such as "1.08 ms +/-54 us".

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Fix all such instances to have a space before and after the operator/symbol.

*Response*     *Response Status* **C**

ACCEPT.

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

*Cl* **96**
*SC* **96.3.4.1.3**

Page 18 of 22
8/20/2015  2:44:08 PM

---

*Cl* **96**　　　*SC* **96.3.4.5**　　　　　*P* **57**　　　　*L* **23**　　　# r02-39

Donahue, Curtis

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

The use of "should" in this sentence leaves the result ambiguous. Either the "false carrier error" is indicated on the MII after conversion or its not.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Either make this a testable requirement and change "should" to a "shall", or make it a requirement that does not need to be tested by changing "should" to "will".

*Response*　　　　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "should" to "shall".

Add appropriate PICS.

---

*Cl* **96**　　　*SC* **96.4**　　　　　*P* **58**　　　　*L* **29**　　　# r02-40

Donahue, Curtis

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

Cross reference "96.2.2" is incorrect.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Change "96.2.2" to "96.2.1"

*Response*　　　　　　　*Response Status* **C**

ACCEPT.

---

*Cl* **96**　　　*SC* **96.4.3**　　　　　*P* **60**　　　　*L* **27**　　　# r02-41

Donahue, Curtis

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

"and" is missing.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Change "Receivers, Abilities, Sub-Functions" to "Receivers, Abilities, and Sub-Functions".

*Response*　　　　　　　*Response Status* **C**

ACCEPT.

---

*Cl* **96**　　　*SC* **96.4.4**　　　　　*P* **61**　　　　*L* **19**　　　# r02-43

Donahue, Curtis

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

"Master" and "Slave" need to be completely capitalized.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

Change "Master" to "MASTER" and "Slave" to "SLAVE".

*Response*　　　　　　　*Response Status* **C**

ACCEPT.

---

*Cl* **96**　　　*SC* **96.4.6**　　　　　*P* **61**　　　　*L* **40**　　　# r02-42

Donahue, Curtis

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

Change "variable" to "variables".

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

See comment.

*Response*　　　　　　　*Response Status* **C**

ACCEPT.

---

*Cl* **96**　　　*SC* **96.4.7.1**　　　　　*P* **62**　　　　*L* **16**　　　# r02-44

Donahue, Curtis

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

Change "Start maxwait_timer" to "start maxwait_timer".

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*

See comment.

*Response*　　　　　　　*Response Status* **C**

ACCEPT.

---

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

*Cl* **96**
*SC* **96.4.7.1**

Page 19 of 22
8/20/2015 2:44:08 PM

*Cl* **96**    *SC* **96.4.7.1**    *P* **63**    *L* **5**    # r02-45
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    *EZ*
In Figure 96-19 the line connecting the exit of LINK UP to the entrance of LINK DOWN is missing an arrow tip.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Add arrow tip to the line at the top of LINK DOWN.

*Response*    *Response Status* **C**
ACCEPT.

---

*Cl* **96**    *SC* **96.4.7.1**    *P* **64**    *L* **12**    # r02-46
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    *EZ*
Change "PCS transmit function" to "PCS Transmit function".

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
See comment.

*Response*    *Response Status* **C**
ACCEPT.

---

*Cl* **96**    *SC* **96.4.7.1**    *P* **64**    *L* **19**    # r02-47
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **D**    *bw*
"tx_enable" is defined in 96.4.7.1, but it is defined earlier in 96.3.3.2.1 with a different definition. Additionally it is not used in the PHY Control diagrams.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Remove tx_enable and its definition from 96.4.7.1.

*Proposed Response*    *Response Status* **Z**
REJECT.

This comment was WITHDRAWN by the commenter.

---

*Cl* **96**    *SC* **96.5.1.1**    *P* **64**    *L* **53**    # r02-48
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    *bw*
Since RF means "radio frequency", "radio frequency CM RF noise" seems redundant".

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Suggest changing to "RF CM noise" since that is what it says in line 49.

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

Change
"radio frequency CM RF noise"
to
"RF CM noise"

---

*Cl* **96**    *SC* **96.5.2**    *P* **65**    *L* **12**    # r02-3
Chini, Ahmad

*Comment Type* **T**    *Comment Status* **A**    *EZ*
PICS is missing for Test modes.

*SuggestedRemedy*
Add a PICS for this statement:"The test modes described in this subclause shall be provided to allow testing of the transmitter waveform,
transmitter distortion, transmitter jitter, and transmitter droop.

*Response*    *Response Status* **C**
ACCEPT.

---

*Cl* **96**    *SC* **96.5.2**    *P* **65**    *L* **14**    # r02-49
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    *EZ*
Change "2102.15:13" to "1.2102.15:13".

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
See comment.

*Response*    *Response Status* **C**
ACCEPT.

---

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

*Cl* **96**
*SC* **96.5.2**

Page 20 of 22
8/20/2015 2:44:08 PM

*Cl* **96**    *SC* **96.5.2**    *P* **66**    *L* **14**    # r02-9
Chini, Ahmad

*Comment Type* **E**    *Comment Status* **A**    EZ
Wrong reference.

*SuggestedRemedy*
"the scrambling function described in 96.3.3.3." should be read "the scrambling function described in 96.3.3.3.1."

*Response*    *Response Status* **C**
ACCEPT.

---

*Cl* **96**    *SC* **96.5.2**    *P* **66**    *L* **15**    # r02-50
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    EZ
Cross reference "96.3.3.3" is incorrect.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Change "96.3.3.3" to "96.3.3.3.1"

*Response*    *Response Status* **C**
ACCEPT.

---

*Cl* **96**    *SC* **96.5.3**    *P* **66**    *L* **27**    # r02-51
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    EZ
"Transmitter Under Test" is left aligned while other figures have the same text center aligned.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Either change the text in Figure 96-20 to center aligned or change text in Figure 96-21 and Figure 96-22 to left aligned.

*Response*    *Response Status* **C**
ACCEPT.

---

*Cl* **96**    *SC* **96.5.3**    *P* **67**    *L* **45**    # r02-12
Chini, Ahmad

*Comment Type* **E**    *Comment Status* **A**    EZ
Apply consistent format.

*SuggestedRemedy*
Change "5.4 volts" to "5.4 V".

*Response*    *Response Status* **C**
ACCEPT.

---

*Cl* **96**    *SC* **96.5.3**    *P* **67**    *L* **45**    # r02-52
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    EZ
This is the only instance of "volts" being used in the draft but there are other locations where "V" is used.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Suggest changing "5.4 volts" to "5.4 V".

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

See response to comment #r02-12.
The response to comment r02-12 is copied below for the convenience of the reader.

ACCEPT.

---

*Cl* **96**    *SC* **96.5.4.4**    *P* **70**    *L* **48**    # r02-53
Donahue, Curtis

*Comment Type* **E**    *Comment Status* **A**    EZ
Missing ":" between "be" and "resolution" and "and" before "RMS detector".

*SuggestedRemedy*
Change "be resolution bandwidth = 10 kHz, video bandwidth = 30 kHz, sweep time > 60 s, RMS detector." to "be: resolution bandwidth = 10 kHz, video bandwidth = 30 kHz, sweep time > 60 s, and RMS detector.".

*Response*    *Response Status* **C**
ACCEPT.

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

*Cl* **96**
*SC* **96.5.4.4**

Page 21 of 22
8/20/2015 2:44:08 PM

*Cl* **96**　　*SC* **96.5.5**　　　　　*P* **72**　　　*L* **3**　　　　# r02-54
Donahue, Curtis

*Comment Type* **E**　　　*Comment Status* **A**　　　　　　*EZ*
Change "PMA Receive Function" to "PMA Receive function".

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
See comment.

*Response*　　　　　*Response Status* **C**
ACCEPT.

---

*Cl* **96**　　*SC* **96.7.1**　　　　　*P* **74**　　　*L* **54**　　　　# r02-55
Donahue, Curtis

*Comment Type* **E**　　　*Comment Status* **A**　　　　　　*EZ*
The last paragraph of 96.7.1 lists the the transmission parameters definied in the children subclauses but does not list PSANEXT or PSAACRF.

Note: page#, subclause#, and line# are in reference to "clean" draft version

*SuggestedRemedy*
Change "The transmission parameters of the link segment include insertion loss, return loss, mode conversion loss, and characteristic impedance." to "The transmission parameters of the link segment include insertion loss, return loss, mode conversion loss, characteristic impedance, power sum alien near-end crosstalk, and power sum alien attenuation to crosstalk ratio far-end.".

*Response*　　　　　*Response Status* **C**
ACCEPT.

TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general　　　*Cl* **96**　　Page 22 of 22
COMMENT STATUS: D/dispatched  A/accepted  R/rejected　　RESPONSE STATUS: O/open  W/written  C/closed  U/unsatisfied  Z/withdrawn　*SC* **96.7.1**　8/20/2015  2:44:08 PM
SORT ORDER: Clause, Subclause, page, line