Cl **30**　　　*SC* **30.5.1.1.4**　　　*P* **30**　　　*L* **23**　　　# 12

Brychta, Michal　　　　　　　　　　　　Analog Devices

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

The text ", 100BASE-T1L," shall be deleted

SuggestedRemedy

In line 39, remove 100BASE-T1L as follows:
For 10BASE-T1L, 100BASE-T1L, and 100BASE-T1,

Response　　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace, " For 10BASE-T1L, 100BASE-T1L, and 100BASE-T1, a…"

with, "For 10BASE-T1L and 100BASE-T1, a…"

Cl **30**　　　*SC* **30.6.1.1.5**　　　*P* **31**　　　*L* **39**　　　# 1

Graber, Steffen　　　　　　　　　　　Pepperl+Fuchs SE

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

"10BASE-T1ITL" should read as "10BASE-T1LITL", as the base standard is "10BASE-T1L" with increased transmit level "ITL".

SuggestedRemedy

Change "10BASE-T1ITL" to "10BASE-T1LITL".

Response　　　　　*Response Status* **C**

ACCEPT.

Cl **90**　　　*SC* **90.11.4.3.2**　　　*P* **152**　　　*L* **50**　　　# 9

Maguire, Valerie　　　　　　　Copperopolis; aff'l w/ CME Consulting , Cisco, ADI, an

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

Feature language for PMAE14 and PMAE15 PICS should be the same, with the exception of "standard" or "increased".

SuggestedRemedy

In PMAE14, change, "Transmitter output voltage"

to, " Standard transmit level output voltage"

In PMAE15, change, " Increased transmitter level"

to, " Increased transmit level output voltage"

Response　　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

In PMAE14, change, "Transmitter output voltage"

to, "Standard transmit level output voltage"

In PMAE15, change, " Increased transmitter level"

to, "Increased transmit level output voltage"

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COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn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 **90**
SC **90.11.4.3.2**

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Cl **90**   *SC* **90.11.4.3.2**   *P* **153**   *L* **24**   # 10

Maguire, Valerie   Copperopolis; aff'l w/ CME Consulting , Cisco, ADI, an

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

Feature language for PMAE19 and PMAE20 PICS should be the same, with the exception of "standard" or "increased". We don't use 'mode' regularly in the amendment (another Maguire proposes to get rid of its use altogether). Change the language in the Value/Comment so that it is aligned with PMAE21 and reads better.

SuggestedRemedy

In PMAE19, change, "Transmit power in standard transmit level"
to, "Standard transmit level transmit power"

and change, "0.0 ± 1.2 dBm while transmitting as LEADER in standard transmit level mode"
to, "0.0 ± 1.2 dBm while transmitting as LEADER for the standard transmit level"

In PMAE20, change, "Transmit power in increased transmit level mode"
to, "Increased transmit level transmit power"

and change, " 6.0 ± 1.2 dBm while transmitting as LEADER in increased transmit level"
to, "6.0 ± 1.2 dBm while transmitting as LEADER for the increased transmit level"

Response   *Response Status* **C**

ACCEPT.

In PMAE19, change, "Transmit power in standard transmit level"
to, "Transmit power, standard level"

and change, "0.0 ± 1.2 dBm while transmitting as LEADER in standard transmit level mode"
to, "0.0 ± 1.2 dBm while transmitting as LEADER"

In PMAE20, change, "Transmit power in increased transmit level mode"
to, "Transmit power, increased level"

and change, " 6.0 ± 1.2 dBm while transmitting as LEADER in increased transmit level"
to, "6.0 ± 1.2 dBm while transmitting as LEADER"

Cl **98B**   *SC* **98B.3.c**   *P* **157**   *L* **13**   # 20

Brychta, Michal   Analog Devices

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

There is no text to limit which Technology Ability Fields bits may be set when the BASE-T1L category is selected. For example, BASE-T1 abilities may still be advertised in this case. This means that the BASE-T1L category does not specify a family of related PHY technologies as was intended and is expected by downshift / upshift.

SuggestedRemedy

Add the following text before the existing text on line 13:

"When the BASE-T1L category is selected, only Technology Ability Field bits that are associated with BASE-T1L abilities may be set."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following text before the existing text on line 13:

"When the BASE-T1L category is selected, only Technology Ability Field bits that are associated with BASE-T1L abilities should be set."

Cl **190**   *SC* **5**   *P* **131**   *L*   # 21

Fuller, Paul   Infineon

Comment Type **T**   *Comment Status* **R**   *BER*

The BER is specified as 10^-10 in multiple locations on this page. Should this be 10^-12 instead? 10^-12 is typical in many standards as 10^-10 seems like a low BER. Only an observation.

SuggestedRemedy

Response   *Response Status* **C**

REJECT.

The CRG disagrees with the commenter. The target BER corresponds to the reciprocal bit rate because of the mean time between errors. 10^-12 is used for multigigabit rates, originating from 10 Gb/s where it corresponds to an error every 100 seconds on average. At 100 Mb/s, 10^-10 BER corresponds to the same mean time between errors (100 sec).

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 **190**
SC **5**

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Cl **190**   *SC* **190.3.2.2**   *P* **78**   *L* **41**   # 13

Brychta, Michal   Analog Devices

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

Figure 190–4—PCS Transmit bit ordering incorrectly depicts non-negative disparity (NND) code-groups at the PMA service interface. Running disparity control converts each NND code group (TA_n, TB_n, TC_n, TD_n, TE_n, TF_n) into a balanced code-group (A_n, B_n, C_n, D_n, E_n, F_n) before the symbols are transferred to the PMA. See 190.3.2.6.6 8B6T encoding, page 92 lines 4 to 12 and 190.3.4.3 4B6B encoding, page 100 lines 34 to 42.

SuggestedRemedy

Replace "TA_0" with "A_0", "TB_0" with "B_0", "TC_0" with "C_0", "TD_0" with "D_0", "TE_0" with "E_0" and "TF_0" with "F_0". Replace "TA_1" with "A_1" and "TF_1" with "F_1". Replace "TF_16N-1" with "F_16N-1".

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Replace "TA_0" with "A_0", "TB_0" with "B_0", "TC_0" with "C_0", "TD_0" with "D_0", "TE_0" with "E_0" and "TF_0" with "F_0". Replace "TA_1" with "A_1" and "TF_1" with "F_1". Replace "TF_16N-1" with "F_16N-1".

Move the ". . ." into the cell after F_1.

Cl **190**   *SC* **190.3.6.1.2**   *P* **105**   *L* **4**   # 14

Brychta, Michal   Analog Devices

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

The description of rx_char is incorrect in a few respects and confusing in others:

The use of "enumeration" differs from the "control symbol indication (CSI)" that is used to describe the corresponding encoder in 190.3.2.4. Also the enumeration is specified to use the value 1 to indicate data and 0 to indicate control. This is the opposite of the encoding used for CSI. Although this value is not exposed, there is no reason to depart from the convention used in the corresponding encoder.

The description refers to a 9-bit character. This is confusing since the structure consists of a 1-bit value (CSI) and an 8-bit numerical value.

The description refers to rx_coded which is not defined. It indicates that the enumeration is extracted from rx_coded<0> which is incorrect. It also indicates that the 8-bit numerical value is extracted from rx_coded<8n+1:8n+8> and this is also incorrect.

SuggestedRemedy

Completely replace the entire description of rx_char with the following text:

"Structure representing one of the N characters that are output by the (8N)B/(8N + 1)B decoder. The structure is comprised of a 1-bit control symbol indication (CSI) and an 8-bit numerical value. The CSI value indicates whether the numerical value represents data (0) or control (1). An (8N + 1)B block is received every 2N RX_CLK cycles. rx_char is extracted from the (8N+1)B block in the inverse process to the block encoding for the PCS Transmit in 190.3.2.4. In the absence of errors, the 1-bit CSI value and the 8-bit numerical value will correspond respectively to CSI and TOCT in the link partner's PCS Transmit. When there are errors, see the processing in the Figure 190-13 for rx_char."

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Replace the entire description of rx_char with the following text:

Structure representing one of the N characters that are output by the (8N)B/(8N + 1)B decoder. The structure is comprised of a 1-bit control symbol indication (CSI) and an 8-bit numerical value. The CSI value indicates whether the numerical value represents data (0) or control (1). An (8N + 1)B block is received every 2N RX_CLK cycles, and rx_char is extracted from the (8N+1)B block in the inverse process to the block encoding for the PCS Transmit in 190.3.2.4. In the absence of errors, the 1-bit CSI value corresponds to CSI and the 8-bit numerical value corresponds to TOCT in the link partner's PCS Transmit. See the processing for rx_char in Figure 190-13 when there are errors.

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 **190**
SC **190.3.6.1.2**

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Cl **190**   *SC* **190.3.6.2**   *P* **111**   *L* **13**   # 8

Maguire, Valerie   Copperopolis; aff'l w/ CME Consulting , Cisco, ADI, an

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

Line width of entry and exit pentagons is incorrect (too bold).

SuggestedRemedy

Change line width of 2 entry pentagons and 5 exit pentagons in Figure 190-13 to 0.5 pt.
Change line width of 1 entry pentagon and 2 exit pentagons in Figure 190-14 to 0.5 pt. Grant
Editor license to correct the line width of any other entry or exit pentagon.

Response   *Response Status* **C**

ACCEPT.

Cl **190**   *SC* **190.5.2**   *P* **125**   *L* **25**   # 15

Brychta, Michal   Analog Devices

Comment Type **T**   *Comment Status* **A**   *Test Modes*

The text specifies that when test mode 5 or 6 is enabled, the PHY shall transmit in the
LEADER data mode. This is at odds with the definition of bit 1.2302.11 as specified in
45.2.1.236c.2.

The same issue arises at line 28 for test modes 7 and 8 and again at line 31 for test modes 9
and 10.

In 190.5.2.1, there is no indication of what data mode should be used in the PHY external
loopback test modes. However, the example at line 44 suggests that either data mode could
be used.

SuggestedRemedy

Insert the following text before line 24:

"When test mode 5 through 14 is enabled, the PHY transmits signaling as specified in the
following paragraphs. In each of these test modes, if MDIO interface is implemented, the PHY
can be configured to transmit as LEADER by setting bit 1.2302.11 to one or to transmit as
FOLLOWER by setting bit 1.2302.11 to zero as described in 45.2.1.236c.2."

Remove the text "and in the LEADER data mode" at line 25, line 28 and line 31.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert the following paragraph before line 24:

"When each of test modes 5 through 14 is enabled, the PHY transmits signaling as specified
in the following paragraphs. In each of these test modes, if MDIO interface is implemented,
the PHY can be configured to transmit as LEADER by setting bit 1.2302.11 to one or to
transmit as FOLLOWER by setting bit 1.2302.11 to zero as described in 45.2.1.236c.2."

Remove the text "and in the LEADER data mode" at line 25, line 28 and line 31.

Cl **190**   *SC* **190.5.4.2**   *P* **127**   *L* **46**   # 2

Graber, Steffen   Pepperl+Fuchs SE

Comment Type **E**   *Comment Status* **A**   *Test Modes*

The standard transmit level is no more mandatory.

SuggestedRemedy

Change "test mode 3" to "test mode 3 (if standard transmit level is supported)".

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 **190**
SC **190.5.4.2**

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Cl **190**   *SC* **190.5.4.2**   *P* **127**   *L* **46**   # 16

Brychta, Michal   Analog Devices

Comment Type **E**   *Comment Status* **A**   *Test Modes*

The paragraph beginning at line 46 contains language implying that support for standard transmit level is mandatory.

SuggestedRemedy

Replace paragraph beginning at line 46 with the following text:

"The transmitter output droop is measured with the transmitter in test mode 3 for standard transmit level if supported, and in test mode 4 for increased transmit level if supported, using the transmitter test fixture shown in Figure 190–23."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Accommodated by comment #2.

Cl **190**   *SC* **190.5.4.2**   *P* **128**   *L* **2**   # 17

Brychta, Michal   Analog Devices

Comment Type **T**   *Comment Status* **A**   *PMA Electrical*

The value of "25%" was carried over from clause 146 without any analysis or discussion. The symbol period in 100BASE-T1L is about 10 times smaller than for 10BASE-T1L. With such a large droop value the equivalent open-circuit inductance (OCL) is very low. This eats into the signal passband. Using an equivalent OCL corresponding to the 100BASE-T1 droop (60% over 500ns) results in a droop requirement of 10.8% over 62.5ns. I propose to bring this up to 12.5%. See presentation for further detail.

SuggestedRemedy

Change "25%" to "12.5%".

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "25%" to "12.5%" on page 128, line 2 and in PICS PMAE17.

Cl **190**   *SC* **190.5.4.3**   *P* **128**   *L* **15**   # 18

Brychta, Michal   Analog Devices

Comment Type **E**   *Comment Status* **A**   *Test Modes*

The text at line 15 contains language implying that support for standard transmit level is mandatory.

SuggestedRemedy

Change the following text at line 15:

"for standard transmit level"

to:

"for standard transmit level if supported"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace,
"When tested using the test fixture shown in Figure 190–23 or Figure 190–25 with the transmitter in test mode 1 for standard transmit level, and test mode 2 for increased transmit level if supported, the RMS value of the MDI output jitter relative to an unjittered reference shall be less than 50 ps."

with,
"When tested using the test fixture shown in Figure 190–23 or Figure 190–25, with the transmitter in test mode 1 (if standard transmit level is supported) and test mode 2 (if increased transmit level is supported), the RMS value of the MDI output jitter relative to an unjittered reference shall be less than 50 ps."

Cl **190**   *SC* **190.5.4.3**   *P* **128**   *L* **15**   # 3

Graber, Steffen   Pepperl+Fuchs SE

Comment Type **E**   *Comment Status* **A**   *Test Modes*

The standard transmit level is no more mandatory.

SuggestedRemedy

Change "test mode 1 for standard transmit level" to "test mode 1 for standard transmit level if supported".

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Accommodated by Comment #18

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **190**   Page 5 of 7
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **190.5.4.3**   12/19/2025 10:31:02 AM
SORT ORDER: Clause, Subclause, page, line

Cl **190**   *SC* **190.5.4.4**   *P* **128**   *L* **28**   # 4

Graber, Steffen   Pepperl+Fuchs SE

Comment Type **E**   *Comment Status* **A**   *Test Modes*

The standard transmit level is no more mandatory.

SuggestedRemedy

Change "For the standard transmit level mode, in test mode 7, and, if RS-FEC encoding is supported, in test mode 9, the transmit power shall be 0.0 ± 1.2 dBm." to "If standard transmit level is supported, with the transmitter in test mode 7 and, if RS-FEC encoding is supported, in test mode 9, the transmit power shall be 0.0 ± 1.2 dBm.".

Response   *Response Status* **C**

ACCEPT.

Cl **190**   *SC* **190.5.4.4**   *P* **128**   *L* **28**   # 19

Brychta, Michal   Analog Devices

Comment Type **T**   *Comment Status* **A**   *Test Modes*

The text at line 28 contains language implying that support for standard transmit level is mandatory.

SuggestedRemedy

Change the following text at line 28:

"For the standard transmit level, in test mode 7, and, if RS-FEC encoding is supported, in test mode 9, the transmit power shall be 0.0 ± 1.2 dBm."

to:

"If standard transmit level is supported, with the transmitter in test mode 7 and, if RS-FEC encoding is supported, in test mode 9, the transmit power shall be 0.0 ± 1.2 dBm."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Accomodated by Comment #4.

Cl **190**   *SC* **190.7.1.1**   *P* **135**   *L* **1**   # 5

Graber, Steffen   Pepperl+Fuchs SE

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

There is a mixture between "transmit level" and transmit level mode", should be unified.

SuggestedRemedy

Change "standard transmit level mode" to "standard transmit level". Do also a search for "standard transmit level mode" or "increased transmit level mode" throughout the document and replace "standard transmit level mode" by "standard transmit level" and "increased transmit level mode" by "increased transmit level" (see PICS PMAE19 and PMAE20 on page 153).

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Page 135, Line 1 - "Replace "standard transmit level mode" with "standard transmit level"

P153, Line 26 - Delete "mode" at the end of the Value Comment for PMAE19

P153, Line 28 - Delete "mode" at the end of the Feature for PMAE20

Editorial license to change any other occurences if found.

Cl **190**   *SC* **190.7.1.1**   *P* **135**   *L* **1**   # 11

Maguire, Valerie   Copperopolis; aff'l w/ CME Consulting , Cisco, ADI, an

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

We don't seem to be using the term 'transmit level mode' consistently or that often. Recommend deleting three occurrences of "mode" following 'transmit level' in the draft. Note: Another Maguire comment related to aligning PMAE19 and PMAE20 PICS Feature language could make the proposed changes to PMAE19 and PMAE20 OBE.

SuggestedRemedy

Page 135, Line 1 - "Replace "standard transmit level mode" with "standard transmit level"

P153, Line 26 - Delete "mode" at the end of the Value Comment for PMAE19

P153, Line 28 - Delete "mode" at the end of the Feature for PMAE20

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Accomodated by Comment #5.

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 **190**
SC **190.7.1.1**

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Cl **190**　　　*SC* **190.11.4.2.1**　　　*P* **149**　　　*L* **48**　　　# 6

Graber, Steffen　　　　　　　　　Pepperl+Fuchs SE

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

PCST16 is not applicable unless the optional EEE mode is supported. Similarly for several other requirements, including those listed as mandatory with EEE and for ITL, STL, or FEC options. The "Support" column for such items should include the "N/A[ ]" entry.

SuggestedRemedy

Add "N/A [ ]" to the support column for the following PICS entries: PCST16, PCST17, PCST18, TRNG3, TRNG6, LPIS1, LPIS2, LPIS3, LPIS4, PMAF6, PMAF8, PMAE2, PMAE3, PMAE8, PMAE10, PMAE14, PMAE15, PMAE16, PMAE17, PMAE19, PMAE20, PMAE23, and PMAE24

Response　　　　　　　*Response Status* **C**

ACCEPT.

Cl **190**　　　*SC* **190.11.4.8**　　　*P* **155**　　　*L* **38**　　　# 7

Graber, Steffen　　　　　　　　　Pepperl+Fuchs SE

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

TR1 and TR2 should not be status "!FEC:M", but "M". "FEC" is refering to the capability of a PHY to support RS-FEC and is not dependent on, if it is enabled or not. As RS-FEC could be disabled for any 100BASE-T1L PHY, TR1 and TR2 are mandatory requirements.

SuggestedRemedy

Change "!FEC:M" to "M" in rows TR1 and TR2.

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 **190**
SC **190.11.4.8**

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