

IEEE P802.3dg D1.0 100BASE-T1L 1st Task Force review comments

Cl 190 SC 190.2.2.4.3 P49 L46 # 1 [REDACTED]
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
The transmitter electrical specification is Clause 190.5.4.
SuggestedRemedy
Change "190.5.2" to "190.5.4".
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.2.2.9.1 P51 L40 # 2 [REDACTED]
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
Explanatory text for "OK" and "NOT_OK" is reversed.
SuggestedRemedy
Revert explanatory text in lines 40 and 41 for "OK" and "NOT_OK".
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.2.2.11.1 P52 L45 # 3 [REDACTED]
Graber, Steffen Pepperl+Fuchs SE
Comment Type T Comment Status D Remote Fault
A TOCT /R/ symbol is not defined in table 190-3, /I/ and /Ix/ are representing idle. In case /R/ is not needed (as it seems to be the case), please remove /R/ from list, alternatively, add /R/ to table 190-3 (and state machines).
SuggestedRemedy
Suggest to change to: "... each of which is either /I/ or /Ix/ as specified in 190.3.3.4.", besides /R/ symbol is used for some relevant purpose. See also clause 190.2.2.13.1 on page 54, line 14.
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
TFTD with presentations on Remote Fault and PCS

Cl 190 SC 190.2.2.11.4 P53 L1 # 4 [REDACTED]
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
Clauses 190.2.2.11.4 to 190.2.2.11.7 are a copy of 190.2.2.12.x.
SuggestedRemedy
Remove clauses 190.2.2.11.4 to 190.2.2.11.7.
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.2.2.16 P55 L24 # 5 [REDACTED]
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D Editorial
It should be made clear, that the PCS transmit function is meant.
SuggestedRemedy
Change "transmit function" to "PCS Transmit function".
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.2.2.16.1 P55 L32 # 6 [REDACTED]
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
PMA_PCS_TX_LPI_STATUS is associated with the transmit function.
SuggestedRemedy
Change "receive" to "transmit" in lines 32 and 33.
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.3.1 P56 L38 # 7 [REDACTED]
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
"PCS Reset" is written with a capital "R".
SuggestedRemedy
Change "PCS reset" to "PCS Reset".
Proposed Response Response Status W
PROPOSED ACCEPT.

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Cl 190 SC 190.3.1 P56 L49 # 8

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E

Comment Status D

Registers

The PCS Control Register for 100BASE-T1L is 3.2280.

SuggestedRemedy

Change register 3.2400.15 to 3.2280.15.

Proposed Response

Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
TFTD with Registers contribution

Cl 190 SC 190.3.2 P57 L7 # 9

Graber, Steffen

Pepperl+Fuchs SE

Comment Type T

Comment Status D

State Diagrams

State diagram for Transmission Enable function is missing.

SuggestedRemedy

Copy diagram from figure 146-4 and change reference in line 4 to the new figure number after inserting the content.

Proposed Response

Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
TFTD with discussion on PCS

Cl 190 SC 190.3.3 P57 L32 # 10

Graber, Steffen

Pepperl+Fuchs SE

Comment Type T

Comment Status D

Editorial

The sentence starting with "The PAM3 symbols ..." seems to be redundant to the next paragraph.

SuggestedRemedy

Remove sentence.

Proposed Response

Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.3.3.3 P59 L50 # 11

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E

Comment Status D

Editorial

"N = 8" should be set in commas, as "N = 2".

SuggestedRemedy

Add commas around "N = 8".

Proposed Response

Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.3.3.4 P60 L28 # 12

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E

Comment Status D

EZ

Should be singular.

SuggestedRemedy

Change "require" to "requires".

Proposed Response

Response Status W

PROPOSED ACCEPT.

Cl Keywor SC Keywords P3 L5 # 13

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E

Comment Status D

EZ

Please remove one of the two commas after "Ethernet" and also keywords "Physical Layer Collision Avoidance" and "PLCA" should be removed, as these are not used within this standard.

SuggestedRemedy

As per comment.

Proposed Response

Response Status W

PROPOSED ACCEPT.

IEEE P802.3dg D1.0 100BASE-T1L 1st Task Force review comments

CI	Particip	SC	Participants	P8	L4	#	14
			Graber, Steffen	Pepperl+Fuchs SE			
Comment Type	E	Comment Status	D	EZ			
Project name is P802.3dg"							
SuggestedRemedy							
Change "802.3xx" to "802.3dg".							
Proposed Response	Response Status		W				
PROPOSED ACCEPT.							

CI	1	SC	1.4.255	P20	L35	#	15
			Graber, Steffen	Pepperl+Fuchs SE			
Comment Type	E	Comment Status	D	Editorial			
6 ternary symbols convey an octet.							
SuggestedRemedy							
Replace "nibble" by "octet".							
Proposed Response	Response Status		W				
PROPOSED ACCEPT.							

CI	45	SC	45.2.1.214	P27	L15	#	16
			Graber, Steffen	Pepperl+Fuchs SE			
Comment Type	E	Comment Status	D	EZ			
"25GBASE-T1L" needs to be changed to "25GBASE-T1" (might have happened when editing the table for 100BASE-T1L).							
SuggestedRemedy							
As per comment.							
Proposed Response	Response Status		W				
PROPOSED ACCEPT.							

CI	45	SC	45.2.1.214.2	P27	L36	#	17
			Graber, Steffen	Pepperl+Fuchs SE			
Comment Type	T	Comment Status	D	AutoNeg			
Auto-Negotiation is mandatory for 100BASE-T1L, thus bit 7.512.12 always needs to be set to 1, when using 100BASE-T1L and thus setting the bits 3:0 in register 1.2100 will have no effect on setting the mode of operation to 100BASE-T1L. It can make sense to have an encoding for 100BASE-T1L (as for all other PMA types), but likely we should add some text, telling, that AN is always mandatory for 100BASE-T1L.							

SuggestedRemedy

Change "When these bits are set to 1000, the mode of operation is 100BASE-T1L." to "As Auto-Negotiation is mandatory for 100BASE-T1L, an encoding of bits 1.2100.3:0 of 1000 is reserved for 100BASE-T1L, but the mode of operation for 100BASE-T1L is always selected using Auto-Negotiation.".

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

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

We need to discuss how features are set now that autonegotiation is mandatory.

CI	45	SC	45.2.1.251	P28	L20	#	18
			Graber, Steffen	Pepperl+Fuchs SE			
Comment Type	T	Comment Status	D	PMA Electrical			
For 100BASE-T1L, the transmit amplitude is set using Auto-Negotiation, thus this bit only reflects the transmit amplitude in test mode.							
SuggestedRemedy							
Change "operating mode" to "test mode transmit voltage amplitude".							
Proposed Response	Response Status		W				
PROPOSED ACCEPT IN PRINCIPLE.							
Related to AutoNeg							

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Cl 45 SC 45.2.1.251.3 P29 L14 # 19

Graber, Steffen

Pepperl+Fuchs SE

Comment Type T Comment Status D PMA Electrical

This bit is only reflecting the transmit amplitude in test mode, not during normal operation.

SuggestedRemedy

Change text in paragraph to: "Bit 1.2318.12 is used to set the test mode transmit voltage amplitude. If bit 1.2318.12 is set to one, the PHY shall provide a transmit amplitude of 2.4 Vpp in test mode. If bit 1.2318.12 is set to zero, the PHY shall provide a transmit amplitude of 1.0 Vpp in test mode. The default value of bit 1.2318.12 is zero."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
TFTD - related to autoneg.

Cl 45 SC 45.2.1.251.5 P29 L35 # 20

Graber, Steffen

Pepperl+Fuchs SE

Comment Type T Comment Status D AutoNeg

Auto-Negotiation is mandatory for 100ABSE-T1L, thus the EEE setting is derived from AN.

SuggestedRemedy

Suggest to remove the EEE bit in table 45-212a and to remove subclause 45.2.1.251.5.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
TFTD.
Related to AutoNeg

Cl 45 SC 45.2.3 P32 L19 # 21

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

Registers 3.2282 and 3.2283 are 100BASE-T1L specific, so that the register name should reflect this.

SuggestedRemedy

Change to "100BASE-T1L advertisement" for register 3.2282 and "100BASE-T1L link partner advertisement" for register 3.2283.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.1 P40 L18 # 22

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

"attachment points" is not defined.

SuggestedRemedy

Suggest to change to: "attachment points (Medium Dependent Interface (MDI))".

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 192 SC 192.1.3 P41 L21 # 23

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D Editorial

Item topic 1 uses "every" to describe, that an auxiliary bit is added after 15 blocks, item topic two uses "each". Should read the same.

SuggestedRemedy

Suggest to change to: "An auxiliary bit is added to each 15 16B/17B blocks ..."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
Language of this item is clear - suggested remedy would read awkwardly - it is the 2nd item that needs aligning.

At P41 L24, (item topic 2), change "each" to "every".

Cl 192 SC 192.1.3 P41 L32 # 24

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

Auto-Negotiation is mandatory for 100BASE-T1L, suggest to explicitly state this. Additionally, "Auto-Negotiation" is sometimes written with a capital "N" and sometimes with a small "n", should be unified.

SuggestedRemedy

Change from "... is supported ..." to "... is supported and mandated ...". Change "Auto-negotiation" to "Auto-Negotiation" throughout the document.

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 190	SC 190.1.3	P41	L43	# 25
Graber, Steffen		Pepperl+Fuchs SE		
Comment Type	E	Comment Status	D	EZ
Should reference clause 190.4.7 instead of 190.4.6.				
SuggestedRemedy				
Change reference to Clause 190.4.7.				
Proposed Response		Response Status	W	
PROPOSED ACCEPT.				

Cl 192	SC 192.1.3	P42	L9	# 26
Graber, Steffen		Pepperl+Fuchs SE		
Comment Type	E	Comment Status	D	EZ
Should reference clause 190.7 instead of 199.7 for the link segment and 190.4 instead of 190.3.9 for the PMA.				
SuggestedRemedy				
Change references to Clause 190.7 (link segment) and 190.4 (PMA).				
Proposed Response		Response Status	W	
PROPOSED ACCEPT.				

Cl 190	SC 190.1.3.2	P43	L36	# 27
Graber, Steffen		Pepperl+Fuchs SE		
Comment Type	E	Comment Status	D	EEE
Refresh Monitor function is missing.				
SuggestedRemedy				
Change from "... and provides the PHY Control, Link Monitor and Clock Recovery functions." to "and provides the PHY Control, Link Monitor, Refresh Monitor and Clock Recovery functions.".				
Proposed Response		Response Status	W	
PROPOSED ACCEPT IN PRINCIPLE.				
TFTD - with EEE changes				

Cl 190	SC 190.1.3.2	P43	L39	# 28
Graber, Steffen		Pepperl+Fuchs SE		
Comment Type	E	Comment Status	D	EZ
Reference to the PMA should be 190.4 instead of 190.3.9.				
SuggestedRemedy				
Change reference to 190.4.				
Proposed Response		Response Status	W	
PROPOSED ACCEPT.				

Cl 190	SC 190.1.3.3	P43	L2	# 29
Graber, Steffen		Pepperl+Fuchs SE		
Comment Type	E	Comment Status	D	EZ
Small modifications to wording are necessary.				
SuggestedRemedy				
Change "send" to "sends". Remove "on" in line 3. Add dots at the end of lines 11 and 12.				
Proposed Response		Response Status	W	
PROPOSED ACCEPT.				

Cl 190	SC 190.2.1.1.3	P45	L48	# 30
Graber, Steffen		Pepperl+Fuchs SE		
Comment Type	E	Comment Status	D	EZ
The PHY Control function is specified in 190.4.4.				
SuggestedRemedy				
Change clause from 199.4.4 to 190.4.4. Also perform a search for Clause 199 being referenced instead of Clause 190 being referenced throughout the document and change references (including those to figures) accordingly (there are several occurrences throughout the document, which need to be changed).				
Proposed Response		Response Status	W	
PROPOSED ACCEPT.				

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Cl 90 SC 90.2.1.2 P46 L4 # 31
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
Should reference Clause 98 instead of Clause 190.
SuggestedRemedy
Change reference to Clause 98.4.1.
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
The primitive is based on link_status which is generated by the Clause 190 link monitor state diagram. The reference, however, should be 190.4.5, not 190.4.1, which is the PMA reset...

Cl 90 SC 90.2.1.2 P46 L4 # 32
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D Primitives
The PMA_LINK.indication primitive informs the PCS and AN. The PHY Control is already in the PMA, thus no communication using this primitive is necessary.
SuggestedRemedy
Remove "..., the PHY Control function, ..." from text.
Proposed Response Response Status W
PROPOSED ACCEPT.
Link_status does not appear in the PHY Control state diagram. Consider after any edits to PHY Control.

Cl 190 SC 190.2.2 P46 L28 # 33
Graber, Steffen Pepperl+Fuchs SE
Comment Type T Comment Status D Primitives
Primitive "PMA_LINK.indication(link_status)" is also communicated across the PMA service interface to the PCS.
SuggestedRemedy
Add "PMA_LINK.indication(link_status)" primitive to the list and also
""PMA_LINK.indication" to figure 190-3 with an arrow from PMA to PCS.
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.2.2 P47 L24 # 34
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D Primitives
"PMA_RXINFOFRAMEEND.request" should be "PMA_RXINFOFRAME.request".
SuggestedRemedy
Change "PMA_RXINFOFRAMEEND.request" to "PMA_RXINFOFRAME.request" in figure 190-3.
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.2.2 P47 L39 # 35
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
"MPA sublayer" should read as "PMA sublayer".
SuggestedRemedy
Change "MPA" to "PMA".
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.2.2.2.3 P48 L52 # 36
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D Primitives
"PMA_TXMODE.indication(tx_mode)" is an indication.
SuggestedRemedy
Suggest to change "assumed" to "indicated".
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.3.3.4 P61 L16 # 37
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
"r" too much.
SuggestedRemedy
Change "after" to "after".
Proposed Response Response Status W
PROPOSED ACCEPT.

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Cl 190	SC 190.3.3.4	P62	L23	# 38
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Graber, Steffen Pepperl+Fuchs SE

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

Table 190-2 should be referenced.

SuggestedRemedy

Change 199-2 to 190-2.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 190	SC 190.3.3.4	P62	L42	# 39
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Graber, Steffen Pepperl+Fuchs SE

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

Should be "Error Propagation".

SuggestedRemedy

Change to "Error Propagation".

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 190	SC 190.3.3.4	P63	L59	# 40
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Graber, Steffen Pepperl+Fuchs SE

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

Should reference table 190-3.

SuggestedRemedy

Change reference from 199-3 to 190-3.

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 190	SC 190.3.3.4	P63	L59	# 41
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Graber, Steffen Pepperl+Fuchs SE

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

Setting the bit of tx_octet[3] has already been described in the previous sentence. A double description should be avoided.

SuggestedRemedy

Change to "When bit TOCT[0] is 1, it may be inferred that the next octet in the block, if any, is a control octet. When bit TOCT[0] is 0, bit tx_octet[4] is set to indicate whether more control octets follow in the block."

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change at P63 L50: "When bit TOCT[0] is 1, tx_octet[3] is set to 1 and it may be inferred that the next octet in the block, if any, is a control octet. When bit TOCT[0] is 0, tx_octet[3] is set to 0 and bit tx_octet[4] is set to indicate whether more control octets follow in the block."

to

"When bit TOCT[0] is 1, it may be inferred that the next octet in the block, if any, is a control octet. When bit TOCT[0] is 0, bit tx_octet[4] is set to indicate whether more control octets follow in the block."

Cl 190	SC 190.3.3.5.2	P65	L27	# 42
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Graber, Steffen Pepperl+Fuchs SE

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

"corrupt" should be singular.

SuggestedRemedy

Change "corrupt" to "corrupts".

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 190	SC 190.3.3.6	P66	L12	# 43
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Graber, Steffen Pepperl+Fuchs SE

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

"tx_coded" should start in a new line, "ith" should have the "th" in superscript.

SuggestedRemedy

Move "tx_coded" to a new line (remove comma after "block") and write "ith" as "i^(superscript)th".

Proposed Response Response Status **W**

PROPOSED ACCEPT.

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Cl 190 SC 190.3.3.6 P66 L23 # 44

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

"Txbn[7:0]" should be "Txb(subscript)n[7:0]" and "Sdn[7:0]" should be "Sd(subscript)n[7:0]".

SuggestedRemedy

Change "Txbn[7:0]" to "Txb(subscript)n[7:0]" and "Sdn[7:0]" to "Sd(subscript)n[7:0]".

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.3.3.7 P66 L31 # 45

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

Should be GF(2⁸).

SuggestedRemedy

Change to "GF(2^{(superscript)8})".

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.3.3.8 P68 L29 # 46

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

It is an indication.

SuggestedRemedy

Replace "assumes" by "indicates", do the same in line 36.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.3.3.9 P68 L49 # 47

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

Sgn is just a single bit, no nibble.

SuggestedRemedy

Change Sgn[3:0] to Sgn.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.3.3.9 P69 L4 # 48

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

Opening bracket is missing for Scrn[32].

SuggestedRemedy

Add opening bracket for Scrn[32].

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.3.3.9 P69 L25 # 49

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

"Sgn" should have the "n" in subscript.

SuggestedRemedy

Change "Sgn" to "Sg(subscript)n", also adapt Sgn in formula in line 31 accordingly.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.3.3.10 P70 L29 # 50

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

The correct bit vector is "Sxn[3:0]".

SuggestedRemedy

Change "Sxn[7:4]" to "Sxn[3:0]".

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 190 SC 190.3.3.11 P73 L7 # 51
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D Editorial
In formulas with more than one row, curly brackets should be used to combine the rows.
SuggestedRemedy
Use curly bracket in formula for creating SX_n. Do the same for the formulas on page 74, line 42, page 75, line 48, page 76, lines 1, 7, 13 and page 79, line 8.
Proposed Response Response Status W
PROPOSED REJECT.
Text is clear.

Cl 190 SC 190.3.3.11 P73 L24 # 52
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
the "n" in "An" needs to be in subscript.
SuggestedRemedy
Change "An" to "A(subscript)n". Do the change also on page 79, line 24.
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.3.4 P74 L18 # 53
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
Unintended space in "continuously".
SuggestedRemedy
Remove unintended space in "continuously".
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.3.5.1 P74 L42 # 54
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
loc_rcvr_status is communicated in unformatted training sequence, in case the PHY is acting as follower PHY.
SuggestedRemedy
Change "config - FOLLOWER" to "config = FOLLOWER". Also change closing bracket from "]" to ")".
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 190 SC 190.3.5.2 P75 L12 # 55
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D Infocfield
The info field is 12 octets, 24 nibbles long, thus the last code group of the info field should be 503 instead of 508.
SuggestedRemedy
Change code group number 508 to code group number 503 in figure 190-8.
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
TFTD - review after infocfield/training edits.

Cl 190 SC 190.3.5.2 P75 L46 # 56
Graber, Steffen Pepperl+Fuchs SE
Comment Type E Comment Status D EZ
Scrambler bits are Syn[3:0].
SuggestedRemedy
Change second "Sdn[3:0]" in line 12 to "Sy(subscript)n[3:0]".
Proposed Response Response Status W
PROPOSED ACCEPT.

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Cl 190 SC 190.3.5.2 P75 L48 # 57
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D EZ
 Closing bracket at the end of the line should be ")" instead of "]".
 SuggestedRemedy
 Change closing bracket to ")" and also for the next 3 formulas.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 190 SC 190.3.5.2.3 P77 L1 # 58
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D Registers
 Register bits" 3.2405.0, 3.2405.1 and 3.2405.2" need to be changed to "3.2283.0 and 3.2283.1".
 SuggestedRemedy
 Change register bits" 3.2405.0, 3.2405.1 and 3.2405.2" to "3.2283.0 and 3.2283.1". Also change "Oct10<0>, Oct10<1> and Oct10 <2>" to "Oct10<0> and Oct10<1>".
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Review after Registers contribution

Cl 190 SC 190.3.5.2.4 P77 L12 # 59
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D EZ
 "In" before "Figure 190-10" is missing.
 SuggestedRemedy
 Add "In" before "Figure 190-10".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 190 SC 190.3.5.3 P77 L33 # 60
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D EZ
 "n" in "Sdn[3:0]" needs to be in subscript.
 SuggestedRemedy
 Change "Sdn[3:0]" to "Sd(subscript)n[3:0]".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 190 SC 190.3.5.3 P79 L2 # 61
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D EZ
 the "n" in "RDn" needs to be in subscript.
 SuggestedRemedy
 Change "RDn" to "RD(subscript)n".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 190 SC 190.3.5.3 P79 L8 # 62
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D EZ
 Closing bracket at the end of the line should be ")" instead of "]".
 SuggestedRemedy
 Change closing bracket to ")", additionally also for the formula on page 73, line 8.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

IEEE P802.3dg D1.0 100BASE-T1L 1st Task Force review comments

CI 190 SC 190.4 P85 L10 # 63

Graber, Steffen

Pepperl+Fuchs SE

Comment Type T Comment Status D EEE

The "Refresh Monitor" for EEE is missing (see clause 190.4.6).

SuggestedRemedy

Add "Refresh Monitor, " between "Link Monitor, " and "and Clock Recovery". Add the refresh monitor block also to figure 190-14 (with the state machine signals connected to the other blocks). As the loc_rcvr_status signal is generated by PMA Receive function, the Refresh Monitor state machine should not directly influence the loc_rcvr_status variable, but the pma_refresh_status variable can be used in the PMA Receive function to reset the loc_rcvr_status variable, in case the pma_refresh_status is FALSE.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
Review after EEE edits with contribution

CI 190 SC 190.4 P85 L14 # 64

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

The PMA Reference diagram is figure 190-14.

SuggestedRemedy

Change 199-12 to 190-14.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 190 SC 190.4.2 P86 L17 # 65

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D Editorial

The PHY Control state diagram is split into figures 190-15 to 190-17.

SuggestedRemedy

Change "Figure 190-17" to "Figure 190-15 to Figure 190-17", see also page 87, line 1, page 87, line 15, page 87, line 44. Another option might be to rename the PHY control state diagrams to Figure 190-15a, 190-15b, 190-15c (as in principle it is one larger diagram) and just reference Figure 190-15.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 190 SC 190.4.2 P86 L20 # 66

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

The electrical specifications are defined in 190.5.4.

SuggestedRemedy

Change 190.5.3 to 190.5.4.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 190 SC 190.4.2 P86 L35 # 67

Graber, Steffen

Pepperl+Fuchs SE

Comment Type T Comment Status D PMA Electrical

-53 dBm is a very small power value. Likely -40 dBm for a disabled transmitter could be easier to measure, especially, if the PHY IC is in another circuit.

SuggestedRemedy

Suggest to change to -40 dBm and replace comma at the end of the sentence by a dot.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
TFTD

CI 190 SC 190.4.3 P86 L40 # 68

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D Editorial

It is not clear, to what part of the sentence "both" belongs.

SuggestedRemedy

Add a comma or ":" after both.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
Delete "both" it is unnecessary

IEEE P802.3dg D1.0 100BASE-T1L 1st Task Force review comments

Cl 190 SC 190.4.3 P86 L43 # 69
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D EZ
 10-10 should be 10 with superscript -10.
 SuggestedRemedy
 Change 10-10 to 10 superscript -10.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 190 SC 190.4.3 P86 L45 # 70
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D EZ
 Should be singular.
 SuggestedRemedy
 Change "include" to "includes".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 190 SC 190.4.3 P86 L51 # 71
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D EZ
 "generates" should read as "generate".
 SuggestedRemedy
 Change "generates" to "generate".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 190 SC 190.4.3 P87 L9 # 72
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D EZ
 The PMA specific receive fault bit is specified in 45.2.1.252.7.
 SuggestedRemedy
 Change reference for PMA specific receive fault bit (in yellow marking) to "45.2.1.252.7".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 190 SC 190.4.4.1 P87 L31 # 73
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D Registers
 The transmit disable register bit is in 1.2318.14, the receive fault register bit is in 1.2319.1.
 SuggestedRemedy
 Change transmit disable register bit to 1.2318.14 and receive fault register bit to 1.2319.1.
 It also should be discussed, if clause 190.4.4.1 is needed or not (as the information is redundant to specifications in clause 45).
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Consider after any register changes

Cl 190 SC 190.4.4.2 P87 L51 # 74
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D Editorial
 Suggest to use logical equations in description.
 SuggestedRemedy
 Change "loc_rcvr_status OK" to "loc_rcvr_status = OK" and "rem_rcvr_status OK" to "rem_rcvr_status = OK".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 190 SC 190.4.6 P88 L33 # 75
 Graber, Steffen Pepperl+Fuchs SE
 Comment Type E Comment Status D EZ
 The Refresh monitor state diagram is in Figure 190-19.
 SuggestedRemedy
 Change 190-18 to 190-19.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

IEEE P802.3dg D1.0 100BASE-T1L 1st Task Force review comments

CI 190 SC 190.4.7 P88 L43 # 76

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

The PAM2_TRAINING state is specified in figure 190-15.

SuggestedRemedy
Change 190-18 to 190-15.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 190 SC 190.4.8.1 P89 L7 # 77

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

The convolutional sum should use variable m as an index instead of n (below the sum sign), the PMA electrical specification is stated in 190.5.4 and the explanatory text for formula 190-7 is doubled.

SuggestedRemedy
Change "n = 0" to "m = 0" below sum sign, change reference from 190.5.2 to 190.5.4 in line 12 and remove second (doubled) paragraph after formula 190-7 (lines 14 to16) from text.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 190 SC 190.4.8.2 P89 L24 # 78

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

The convolutional sum should use variable m as an index instead of n (below the sum sign), the closing bracket after w(t) is too much. It should be stated, that the symbols are transmitted by the transmit symbol source in the explanatory text (as this makes clear, that in hR(t) also the transmit filter impulse response hT(t) is included) and w(t) needs to be written in italic in the explanatory text.

SuggestedRemedy
Change "n = 0" to "m = 0" below sum sign, and remove closing bracket after w(t). After "transmit symbol source" in explanatory text (line 28) add " (transmitting PAM3 symbols a subscript m (in italic))". Change style of w(t) in explanatory text to italic (line 28).

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 190 SC 190.4.9.1 P89 L49 # 79

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D State Diagrams

Definition of loc_rcvr_status is missing.

SuggestedRemedy
Add "loc_rcvr_status (new line) Parameter set by the PHY Control function and communicated through the PMA_RXSTATUS.indication primitive. See 190.2.2.8." after loc_phy_ready.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 190 SC 190.4.9.1 P90 L2 # 80

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

PMA Receive function uses a capital letter in "Receive". After "Values:" in line 5 TRUE and FALSE is specified (which is not done for all other variables).

SuggestedRemedy
Change "receive" to "Receive". Remove "TRUE or FALSE" in line 5.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 190 SC 190.4.9.1 P90 L25 # 81

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

":" is missing after "Values".

SuggestedRemedy
Add ":" after "Values".

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 190	SC 190.4.9.3	P92	L 40	# 82
Graber, Steffen		Pepperl+Fuchs SE		
Comment Type	T	Comment Status	D	State Diagrams
In the condition at the output of PAM2_TRAINING_WAIT (to INFO_EXCHANGE state), it seems, that an and condition at the end of the first line is missing, it also seems, that the second part of condition should reference the LEADER PYH and not the FOLLOWER PHY.				
SuggestedRemedy				
Change condition to: "loc_rcvr_status = OK * ((config = LEADER * rem_rcvr_status = OK) + (config = FOLLOWER * rx_info_frame))"				
Proposed Response		Response Status W		
PROPOSED ACCEPT. (this seems like a typo)				

Cl 190	SC 190.4.9.3	P93	L 19	# 83
Graber, Steffen		Pepperl+Fuchs SE		
Comment Type	T	Comment Status	D	State Diagrams
States SEND_IDLE_NOT_READY and PAM3_TUNING do not have an exit condition to LINK FAIL state in case the loc_rcvr_status = NOT_OK. Therefore the state machine can get stuck in case loc_rcvr_status gets false during PAM3_TUNING. In this case likely the link up timer of AN would restart the PHY. If this is the intention, we would keep it like it is (but then also the other branches to LINK FAIL would likely not be necessary). To handle the failure scenario locally in PHY Control (and also faster than waiting for AN to restart the state machine), it may make sense to add branches to LINK FAIL state if loc_rcvr_status =NOT_OK to SEND_IDLE_NOT_READY and PAM3_TUNING states.				
SuggestedRemedy				
Suggest to add branches to LINK FAIL state, if loc_rcvr_status = NOT_OK to SEND_IDLE_NOT_READY and PAM3_TUNING states.				
Proposed Response	Response Status		W	
PROPOSED ACCEPT IN PRINCIPLE. TFTD. Discussion needed				

Cl 190	SC 190.4.9.3	P94	L14	# 84
Graber, Steffen		Pepperl+Fuchs SE		
Comment Type	T	Comment Status	D	State Diagrams
In SEND_IDLE_STATE loc_phy_ready is set to TRUE. This results in the far end PHY signaling rem_phy_ready = TRUE. If both PHYs signal ready, then normal operation (state SEND_IDLE_OR_DATA) can start.				
SuggestedRemedy				
Change "rem_phy_idle" to "rem_phy_ready".				
Proposed Response	Response Status		W	
PROPOSED ACCEPT. (see curran_3dg_01a_01202025.pdf slide 33)				

Cl 190	SC 190.4.9.3	P94	L20	# 85
Graber, Steffen		Pepperl+Fuchs SE		
Comment Type	T	Comment Status	D	State Diagrams
If either loc_rcvr_status = NOT_OK or pma_refresh_status = FAIL, the link should be restarted (LINK_FAIL state).				
SuggestedRemedy				
Change "and (*)" to "or (+)" condition.				
Proposed Response	Response Status		W	
PROPOSED ACCEPT. (see curran_3dg_01a_01202025.pdf slide 33)				

Cl 190	SC 190.4.9.3	P95	L23	# 86
Graber, Steffen		Pepperl+Fuchs SE		
Comment Type	T	Comment Status	D	EEE
In state LPI_REFRESH_TIMEOUT, loc_rcvr_status is set to NOT_OK. Variable loc_rcvr_status is already set by the PHY control function. Thus the PHY control function needs to react on pma_refresh_status = FAIL (going from sending data or idle to LINK_FAIL) and reset loc_rcvr_status accordingly.				
SuggestedRemedy				
Remove "loc_rcvr_status <= FAIL" from LPI_REFRESH_TIMEOUT state. Add variable pma_refresh_status to the list for the parameters influencing loc_rcvr_status in Clause 190.4.3, page 86, line 50 (change "pcs_status and scr_status," to "pcs_status, scr_status, and pma_refresh_status,").				
Proposed Response		Response Status W		
PROPOSED ACCEPT IN PRINCIPLE. TFTD. Discussion needed. (see curran_3dg_01a_01202025.pdf slide 35)				

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Cl 190 SC 190.6.1 P96 L3 # 87

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

Auto-negotiation should read "Auto-Negotiation" and five primary purposes instead of two purposes are following the sentence.

SuggestedRemedy

Change "Auto-negotiation" to "Auto-Negotiation" and "two" to "five".

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.6.1 P96 L5 # 88

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D AutoNeg

Make clear, that low-speed mode is mandatory and high-speed mode is optional. If "low-speed mode" is written with lower case letters, also "High-speed-mode" should use lower case letters.

SuggestedRemedy

Change "To negotiate that the PHY is capable of supporting low-speed mode (LSM) of Clause 98 Auto-Negotiation to cover longer cable length and High-speed mode (HSM) optional for 100BASE-T1L." to "To negotiate that the PHY is capable of supporting low-speed mode (LSM, mandatory) of Clause 98 Auto-Negotiation to cover longer cable length and high-speed mode (HSM, optional) for 100BASE-T1L."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

Cl 190 SC 190.6.1 P96 L12 # 89

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D AutoNeg

Amplitude selection should be topic "e" in the list above. 2.0 Vpp mode should be 2.4 Vpp mode (as e.g. described in the management registers, if technically feasible, otherwise change all occurrences in the document to 2.0 Vpp).

SuggestedRemedy

Change text to: "e) To negotiate the low (1.0 Vpp, same as 10BASE-T1L for Intrinsically Safe applications) and high transmit level (2.4 Vpp) operating modes between the PHYs at each end of the link."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD.

Cl 190 SC 190.7.1.4 P99 L4 # 90

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D Link Segment

Currently only one TCL specification, independent from the noise environment is provided.

SuggestedRemedy

Suggest to remove "and depends on the electromagnetic noise environment".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

Cl 190 SC 190.7.2.1 P100 L23 # 91

Graber, Steffen Pepperl+Fuchs SE

Comment Type E Comment Status D Link Segment

The IL is in dB, thus also the number, which is subtracted should be in dB.

SuggestedRemedy

Suggest to change "IL20MHz -16" to "IL20MHz - 16 dB" and also to add a space before the "16 dB" and to change "IL20MHz - 21" to "IL20MHz - 21 dB" (see line 25). Change also the text for PSAACRF on page 101, lines 28 and 31 accordingly.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change P100 L20 (IL20MHz definition) to "is the measured insertion loss at 20 MHz in dB"

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Cl 190 SC 190.7.2.2 P101 L1 # 92

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

Should read as: "Power sum alien attenuation to crosstalk ratio far-end".

SuggestedRemedy

Change "Power sum attention to alien crosstalk ratio far-end" to "Power sum alien attenuation to crosstalk ratio far-end".

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.7.2.2 P101 L9 # 93

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

Should be "100BASE-T1L" instead of "10BASE-T1L".

SuggestedRemedy

Change to "100BASE-T1L" (2x).

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.7.2.2 P101 L15 # 94

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D EZ

Some wording does not fit.

SuggestedRemedy

Suggest to change "... segment. PSAACRF over ..." to "... segment over ...".

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 190 SC 190.7.2.2 P102 L1 # 95

Graber, Steffen

Pepperl+Fuchs SE

Comment Type E Comment Status D Editorial

The curve is plotted for "N = 0".

SuggestedRemedy

Suggest to change "Equation (190–5) is plotted in Figure 190–24, which is provided for information only." to "Equation (190–5) when N=0 is plotted in Figure 190–24, which is provided for information only.".

Proposed Response Response Status W

PROPOSED ACCEPT.