29

C/FM SC FM	P3	L 21
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Grow, Robert

RMG Consulting / KDPOF

Comment Type ER Comment Status X

I can't convince myself that the front matter is current as the accept to I#44 would require. What is here is not consistent with the Word document template on the IEEE SA web site, and I am not supposed to evaluate if the legalese at this point and others is substantively important. Three possibilities come to mind: 1) This draft used the 802.3 templates and they are not current with IEEE SA templates. 2) The Word and FrameMaker IEEE SA templates do not agree. 3) We failed to update front matter to the latest provided content.

SuggestedRemedy

Proposed Response

Get all templates (IEEE SA FrameMaker, IEEE SA Word, 802.3 tools templates) to agree on front matter content. And update to the current mandatory content.

C/ 44	SC 44.1.1	P 27	L 19	# 1
Ran, Ade	e	Cisco		
Commen	tType F	Comment Status X		

Response Status O

Most other introduction clauses in the standard use a consistent phrasing: "<X> Gigabit Ethernet uses the IEEE 802.3 MAC sublayer operating at a data rate of <X> Gb/s, coupled with any IEEE 802.3 <X>GBASE Physical Layer implementation". The only exceptions are clauses 44 and 105. If the text is changed by this amendment, it would be better align all clauses.

My comment #261 against D2.0 suggested adding a reference to Table 44-1, and was accepted, but I now see that the result is inconsistent with other introductory clauses. Although table references may be helpful, adding them should be considered a maintenance activity.

SuggestedRemedy

Change "10 Gigabit Ethernet uses the IEEE 802.3 MAC sublayer, connected through a 10 Gigabit Media Independent Interface (XGMII) to one of a number of 10 Gb/s Physical Layer devices (PHYs) specified in this standard (see Table 44–1)"

to "10 Gigabit Ethernet uses the IEEE 802.3 MAC sublayer operating at a data rate of 10 Gb/s, coupled with any IEEE 802.3 10GBASE Physical Layer implementation".

Proposed Response Response Status O

C/ 45	SC 45.2.3.94	P 41	L 53	# 18
Ran, Adee		Cisco		

Comment Type T Comment Status X

A 16-bit counter for bit errors can saturate quickly under typical conditions of operation with RS_FEC capable of correcting 11 symbol errors per codeword. I assume a pre-FEC BER of 1e-6 is acceptable (and perhaps far from worst case); with this performance, at 50 Gb/s, the counter will saturate in about 1 second, which isn't very useful.

SuggestedRemedy

Consider allocating a 32-bit counter and registers.

Proposed Response Response Status O

C/ 105	SC 105.1.1		P 49	L 19	#	2
Ran, Ade	е		Cisco			
• •		~				

Comment Type E Comment Status X

Most other introduction clauses in the standard use a consistent phrasing: "<X> Gigabit Ethernet uses the IEEE 802.3 MAC sublayer operating at a data rate of <X> Gb/s, coupled with any IEEE 802.3 <X>GBASE Physical Layer implementation". The only exceptions are clauses 44 and 105. If the text is changed by this amendment, it would be better align all clauses.

My comment #264 against D2.0 suggested adding a reference to Table 105-2, and was accepted, but I now see that the result is inconsistent with other introductory clauses. Although table references may be helpful, adding them should be considered a maintenance activity.

SuggestedRemedy

Change "25 Gigabit Ethernet uses the IEEE 802.3 MAC sublayer operating at data rate of 25 Gb/s, coupled with any IEEE 802.3 25GBASE Physical Layer devices specified in this standard (see Table 105–2)"

To "25 Gigabit Ethernet uses the IEEE 802.3 MAC sublayer operating at a data rate of 25 Gb/s, coupled with any IEEE 802.3 25GBASE Physical Layer implementation"."

Proposed Response Response Status **O**

C/ 105 SC 105.1.1 Page 1 of 8 30/06/2022 10:53:35

C/ 166	SC 166	P 0	L	# 17
Ran, Adee		Cisco		

Comment Type Comment Status X Е

There seem to be too many "shall" statements in this clause. "shall" is a normative requirement, and has to be accompanied by a PICS item. Preferably, the PICS should not be too long, and should not include statements that are merely definitions.

As a specific example, 166.5 has "The test modes and patterns shall be configured by setting the BASE-U PCS control register, operation mode bits defined in 45.2.3.90" - but there is no requirement to configure the test modes and patterns. This should say "The test modes and patterns are configured" instead.

SuggestedRemedy

With editorial license, change "shall" to "is/are" or other language as adequate, wherever the text defines something rather than making a normative requirement.

Proposed Response Response Status O

C/ 166	SC 166.1.4	P 64	L 34	# 4
Ran, Adee		Cisco		
Comment Ty	pe E	Comment Status 🗙		

"The PMD Tx and PMD Rx compose the PMD sublayer"

The abbreviations "Tx" and "Rx" are conventionally not used in clause text for "transmitter" and "receiver". They are only used as parts of variable names, functions, registers, etc., or within expressions such as "Tx direction", "the "Rx reference point".

The full words should be used, as in the preceding sentence "The local PMD transmitter and PMD receiver are connected to the link partner using the fiber optic cabling".

This should be applied across clause 166.

SuggestedRemedy

Change independent instances of "Tx" (where it is used as abbreviation of "transmitter") to "transmitter", and change independent instances of "Rx" (where it is used as abbreviation of "receiver") to "receiver".

Independent instances exclude variable names, register names, etc., where abbreviations are conventionally used.

Implement across clause 166 with editorial license.

Proposed Response Response Status 0

C/ 166	SC 166.1.4	P 65	L 36	#	5
Ran, Adee		Cisco			

Comment Type Comment Status X Е

The nominal signaling rate for 2.5GBASE-AU is still stated in MBd, while all other rates were changed to GBd. Units should be consistent.

Also, the word "nominal" is unnecessarily repeated multiple times and the phrase "over two optical fibers" is disconnected from the main sentence. The resulting sentence is difficult to parse, and could be simplified.

SuggestedRemedy

Change "The PMA provides full duplex communications at nominal 2656.25 MBd for 2.5GBASE-AU, nominal 5.3125 GBd for 5GBASE-AU, nominal 10.625 GBd for 10GBASE-AU, and nominal 26.5625 GBd for 25GBASE-AU and 50GBASE-AU over two optical fibers" to

"The PMA provides full duplex communication over two optical fibers, with nominal signaling rates of 2.65625 GBd for 2.5GBASE-AU, 5.3125 GBd for 5GBASE-AU, 10.625 GBd for 10GBASE-AU, and 26.5625 GBd for 25GBASE-AU and 50GBASE-AU".

Proposed Response		Response	Status O		
C/ 166	SC 166.2.2	.1.1	P 69	L 27	# 6
Ran, Adee			Cisco		
Comment 7	Туре Т	Commen	t Status 🗙		
"This fi	eld indicates t	he PHY suppor	ts EEE ability a	nd has enabled th	e announcement of

EEE ability. Therefore, the PHY is announcing that it is able to transmit and receive Low Power Idle (see 166.4)"

But It only indicates/announces that if the value is 1.

The second sentence starting with "Therefore" seems unnecessary in the description. The reference to 166.4 is enough.

Similarly for the PHD.CAP.OAM description.

SuggestedRemedy

Change the description of PHD.CAP.LPI to "This field indicates whether the PHY supports EEE and has enabled the announcement of this ability (see 166.4)".

Change the description of PHD.CAP.OAM to

"This field indicates whether the PHY supports BASE-U OAM and has enabled the announcement of this ability (see 166.11)".

Proposed Response Response Status O

TYPE: TR/technical required ER/editorial required GR/gener	al required T/technical E/editorial G/general	C/ 166	Page 2 of 8
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn	SC 166.2.2.1.1	30/06/2022 10:53:35
SORT ORDER: Clause, Subclause, page, line			

C/ 166	SC	166.2.2.7.1	P 7	6 I	<u>_</u>	# 8	C/ 166	SC	166.2.3.2	P87	L 22	# 9	
Ran, Adee	e		Cisco				Ran, Adee			Cisco			
Comment	Туре	Е	Comment Status	Х			Comment	Туре	т	Comment Status 🗙			
The bl when Blocks dialog reveal	locks a viewed s and li , to pre	nd lines in fig in full page nes should b event this issumanual alig	gure 166-10 are no view, probably due e positioned in exa ue. Visual inspectio pment of object do	t fully aligned; to aliasing, the ct locations, u n of the Frame	the differen ey stand ou sing the "Ol eMaker sou general	ces are small but t quite badly. pject properties" rce may not always	The er errors fewer t should The su	ror co that co han th not b	rrection abil ould not be ne 11 symbo e considere	ity of the RS-FEC deco corrected" might occur ol errors that the RS co d compliant.	oder is not specif due to a wrong de enables corre	ied. "a codeword c implementation cho ecting; such impler	contains oice, with nentation
loved	n, and	indiada ang			gonorai		Suggested	Domo	dy				
Also ir	n figure	166-11 and	maybe others.				Insort	the fel	uy Ilowing cont	onco aftar tha first cont	onco of this clau	150.	
Suggested Updat	d <i>Reme</i> e the fi	<i>dy</i> gures to corr	ect these effects.				"RS-FI errors	EC de	coder shall odeword".	be capable of correctir	ig any combinati	on of up to t=11 sy	mbol
Proposed	Respo	nse	Response Status	0			Proposed I	Respo	onse	Response Status C)		
C/ 166	SC	166.2.3.1	P8	7	16	# 3	C/ 166	SC	166.3.2	P 96	L 3	# 14	
Ran, Adee	Э		Cisco				Ran, Adee			Cisco			
Comment	Туре	т	Comment Status	Х			Comment	Туре	т	Comment Status X			
Comm respor detail	nent #2 nse sta how it i	54 against D tes that "Scr is actually su	2.0 asked to clarify ambler lock does n pposed to be acqu	how the desc ot need to be ired (using cor	rambler loc adquired" b relation with	k is acquired. The ut then explains in n the known sequence	It is no to a sti conver	t state ream o ted to	ed here (or a of symbols of bits, which	anywhere) that the PM/ of the set {-1, +1} or {-1 are what the PCS exp	A converts the si , -1/3, +1/3, +1}, ects.	gnal received from and how these sy	the PMD mbols are
sent b	y the tr	ansmitter be	fore the link is esta	blished) It also	o provides a	reference	Suggested	Reme	dy				
While	l appre	eciate the res	ponse to the quest the standard, who	ion in the com may not all be	ment, I thin e experts in	k this is valuable	Add te extract and co	xt sim ed fro nverte	ilar to 166.3 om the PMD ed to bits (pe	6.1 (PMA transmit funct input signal (PMD_CC er table 166-6) that are	ion) that specifie MSIGNAL.indica delivered to the	s that a stream of ation(rx_signal) in PCS sublayer.	symbols is 166.6.1.2)
Having and co	g it writ ommen	ten in the sta ts to find this	andard could help r answer.	eaders avoid s	earching th	rough presentations	Proposed I	Respo	onse	Response Status C)		
Suggested	Reme	dy											

Add the following note at the end of 166.2.3.1:

NOTE—The timing of descrambler initialization is established during link establishment, using knowledge of the sequence (LBLOCK_T) sent by the link partner.

Proposed Response Response Status **O**

C/ 166 SC 166.3.2

C/ 166	SC 166.3.3	P 96	L15	# 10	C/ 166	SC 166.3.5.1	P104	L 5	# 15
Ran, Adee	•	Cisco			Ran, Adee	e	Cisco		
Comment	Туре Т	Comment Status X			Comment	Туре т	Comment Status X		
"The ir implen	nterface between nentation is spec	the PMA and the PMD are s ified"	signals for which	no specific	"RS-F (Stres	EC frame error ra sed receiver conf	tio" is not defined here. RFI ormance test block diagram	ER has a definit) which is proba	ion in 166.7.10.1 ably the wrong place.
This so anythi	entence adds no ng.	value; the standard does no	t specify specific	implementation of	The te blocks reduce	erm "frame" has a are referred to a es the risk of cont	very specific meaning in Et s codewords, not frames, in usion.	hernet, the MAC other places in	C frame. The RS-FEC this draft. This choice
The in This si an abs	terface signals ar ubclause could st stract manner in 1	re actually specified as an in tate that "The interface betwo 166.6.1".	terface (not imple een the PMA and	ementation) in 166.6.1. I the PMD is specified in	Note t frame	hat most other cla in this context (th	auses in the base standard a e unfortunate exceptions ar	also use the ten e clauses 65, 9	n codeword rather than 7, 149 and 153).
Altern	atively 166.3.3 c	an be deleted entirely, if its s	ubclauses are de	eleted (subject of other	Suggested	lRemedy			
comm	ents).				Chang	ge to "RS-FEC co	deword error ratio", and add	a definition of t	his term here; either as a
Suggestea	Remedy				ratio c	t register values	as in 166.7.10.1) or in some	e other way.	
Delete	this subclause.				Chang	ge the term "RFE	R" to "RS-FEC codeword er	rror ratio" (no ne	ed for an abbreviation, as
Proposed	Response	Response Status O			this te	rm appears only	our times in this draft).		
		,			Proposed	Response	Response Status O		
C/ 166	SC 166.3.3.1	P 96	L 19	# 12	CI 166	SC 166 A	P106	/ 16	# 16
Ran, Adee	•	Cisco			Dan Ada	00 100.4	Ciese	210	# 10
Comment	Туре Т	Comment Status X			Commont				
This s	ubclause seems	to add no value; it repeats in	formation given i	n 166.3.1.		<i>Type</i>	Comment Status X	ro. The first sub	dausa 166 / 1 has a
The su	ıbclause mav be	deleted.			norma	itive statement (s	hall) about EEE, which read	s as the time of	enablement (not a
Suggester	Remedy				condit	ion, if/otherwise).	, .		,
Delete	this subclause				Only 1	66 4 2 savs it is (ontional and still does not s	tate what hanne	ons if it's not implemented
Proposed	Response	Pesnanse Status			Suggester	Remedy			no il ito not implemented.
i ioposcu i	(csponse				Suggestet Add te	artin 166.4 statin	n that FFF is ontional and th	nat subclauses :	166.4.2, 166.4.3 and
					166.4	4 apply only whe	n EEE is implemented and e	enabled (as defi	ned in 166.4.1).
C/ 166	SC 166.3.3.2	P 96	L 26	# 13	Chan	no the text in 166	4.1 to "EEE canability is on	abled when the	
Ran, Adee)	Cisco			Table	166–2) is equal t	o one in both the transmitted	d	IIEIU FIID.CAF.LFI (SEE
Comment	Туре Т	Comment Status X			and re	eceived PHD. It is	disabled otherwise".		
This so and is	ubclause seems not referred to by	like an excerpt from a textbo y any other subclause. It doe	ok. It has no non s not help the rea	native requirements ader in any way.	Proposed	Response	Response Status O		
Suggestea	Remedy								
Delete	this subclause, o	or move its content to an info	ormative annex.						
Proposed	Response	Response Status O							
	technical reguine	d ED/aditorial required CD		T/technical E/aditorial C/a	(operal			66	Dage 4 of 9
1 I F E. I K/	Leonnical require	u Envenionarreguireu GR/	yenerai required	TRECHINCAL E/EUROPAL G/Q	cilcial		U/ 1	00	Fage 4 01 0

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

Page	e 4 of 8	
30/06	6/2022	10:53:35

SC 166.4

C/ 166	SC 166.5.1	P 110	L 36	# 19	C/ 166	SC 16
Ran, Adee		Cisco			Ran, A	dee

Comment Type **T** Comment Status **X**

What BER is considered acceptable when BER test is enabled?

What is the BER test actually used for? The receiver sensitivity in 166.6.10 is defined in terms of RS-FEC codeword errors (and it is appropriate). Any other receiver tests could also use this metric. BER is a poor metric for performance with RS-FEC, especially when errors are not only due to stationary white noise (e.g. DFE error correlation, low-frequency noise, etc.)

If BER test is not used for any normative testing, the implementation of BER test mode need not be specified.

SuggestedRemedy

Clarify what the BER test mode is used for and what result is considered acceptable.

Alternatively, remove the specification of BER test mode.

Proposed Response Response Status O

C/ 166	SC 166.5.5	P112	L 15	#	20
Ran, Adee		Cisco			

Comment Type T Comment Status X

The definition of SSPR-PAM4 seems similar to that of SSPRQ in 120.5.11.2.3, since both use the same generating polynomial. It is unclear whether the differences are a matter of language of the definition, or these are different patterns.

If the intent is to use the same pattern, consider replacing the definition in this subclause with a reference to 120.5.11.2.3, to remove the need to verify that these definitions are indeed equivalent.

If it was not the intent, consider changing the pattern to the one already defined, unless there is a good reason to define another one.

SuggestedRemedy

Per comment; If however the pattern is different and is not changed to be the same as in SSPRQ, add a note stating that this pattern is different from SSPRQ as defined in 120.5.11.2.3.

Proposed Response Response Status O

C/ 166	SC 166.6.1	P 113	L 52	# 11	
Ran, Adee		Cisco			

Comment Type T Comment Status X

"The PMD service interface supports the exchange of analog signals between PMA and PMD sublayers"

But this subclause has no specifications for these analog signals.

To enable a modular design where the PMD and PMA is implemented on different chips (possibly by different vendors), specification of analog parameters, such as signal levels, differential vs. single-ended, AC vs DC coupling, are required for transmitters, and tolerance specifications are required for receivers. For example, if the PMA has to recover PAM4 signals, the PMD output signal toward the PMA should not be so large that the PMA will saturate.

SuggestedRemedy

Add electrical specifications for the PMD input and output signals towards the PMA. Examples of such specifications can be found e.g. in annex 120E (which specifies the chip-to module interface for 50G PAM4 modules).

Proposed Response Response Status O

C/ 166	SC 166.6.3.1	P117	L 1	# 30
Murty, Ram	ana	Broadcom		

Comment Type TR Comment Status X

Is there any interoperability between the PHY for different PMDs defined in Tables 166-8, 9, and 10? If nothing is stated, it will be assumed that there is interoperability between transceivers designed for different data rates. As an example, when multiple reaches are defined in a project, frequently there is interoperability over the shorter reach. See 802.3cu or 802.3db.

SuggestedRemedy

If interoperability between transceivers designed for different speeds is not intended, state that in the draft.

Proposed Response Response Status **O**

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

C/ 166 SC 166.6.3.1 Page 5 of 8 30/06/2022 10:53:35

C/ 166	SC 166.6.3.2	P 118	L 28	# 31	C/ 166	SC 166.	.8.2	P 126	L 36	# 26
Murty, Ra	amana	Broadcom			Ran, Adee			Cisco		
Comment	Type TR	Comment Status 🗙			Comment	Туре Т	Co	omment Status X		
Table 25G ti allowe transc	166-9 suggests a ransceiver at the o ed OMA and wors ceiver have sufficio	a 2.5G link can be made using other end. Consider the output t case channel insertion loss. ent sensitivity?	g a 2.5G transco It of a 2.5G tran Does the recei	eiver on one end and a sceiver with lowest ver on the 25G	l assur minima achieve	ne that a bit ally compliar e this BER.	error rate t transmitt	of 1.757e-4 used in TI er and channel, a rece	DFOM measurem eiver with the refe	ent means that with a rence equalizer can
Suggestee	dRemedy				With a	bit error rate	e of 1.757e	e-4, and with only unco	orrelated errors, I	calculated the
Consi opera	ider all combinatic ition in all corners	ons of different rate transceive of the link budget. Update Ta	ers that are allow bles 166-9 and	ved and ensure 166-10 as needed.	This is objectiv	very close t ve.	o 6.2e-10,	the frame loss ratio e	quivalent of BER	-1e-12 in the project
Proposed	Response	Response Status O			A 14h			imon in slafin asl an land	u u de sisie u fe sell	
					no erro	or propagatio	nce equai n (since it	uses the transmitted is	ng decision leed pattern), impleme	ntations with DFEs will
CI 166	50 166 6 2 2	D110	/ 40	# 22	have e	rror propaga	ition, in ad	dition to other implem	entation-specific i	mpairments. The effect
Murty Po	3C 100.0.3.2	F 110 Proodoom	L 40	# 32	of erroi severe	r propagatio Iv degrade t	n (especia he perform	ally with PAM4) and ot nance of RS-FFC and	her non-stationar increase the fram	y error processes can
o					PHYs,	an order of	magnitude	improvement in BER	is typically requir	ed to mitigate these
comm is not the V0	nunication VCSEL very different from CSEL waveelngth	s operate in the 840 - 950 nm n conditions in which many day range enables more VCSEL	n range. The au atacom VCSEL: suppliers.	comotive mission profile s operate. Expanding	ine FEr improv differer	rements ove nce.	the refere	ence equalizer (such a	s longer filters) w	ill always mitigate this
Suggestee	dRemedy				Consid	ler tightenin	the TDF	OM spec by requiring a	BER of 1e-5 wit	h the reference receive
Expar	nd the center wave	elength range to 840 - 990 nr	n in Tables 166	9 and 166-10.	Bronosed E	Pesnonse			DEITOR IC-5 WIL	
Proposed	Response	Response Status O			Froposed F	response	Re	sponse Status U		
CI 466	50 466 7 8	D424	1.46	# [24	C/ 166	SC 166.	.8.2	P 126	L 36	# 23
	30 100.7.0	P124	L 40	# 21	Ran, Adee			Cisco		
Ran, Ade	e 				Comment T	Туре Е	Co	omment Status X		
Comment "Tran	<i>i ype</i> I smitter and distort	ion figure of merit" is an odd	term [.] transmitte	r is a device and	Accord	ling to the st	yle manua	l, multiplication sign sl	hould be used ins dash rather than	tead of central dot.
distortion is an effect.			Succested	Romody	10013 31100					
"Trans	omittor distortion f	inure of monit" ocome to make			Chapa		ant across	s the draft as necessar	5 /	
i rans		igure of ment seems to make	e more sense.		Change Dremens at f		-nt, acios		у.	
Suggester	arcemeay ac "Transmitter er	d distantion figure of re-suit!! to	"Tropopoitter d	startian figure of marily	Proposed F	response	Re	sponse Status O		
Chang	ye mansmiller ar			Stortion ligure of merit.						
Proposed	Response	Response Status O								

C/ 166 SC 166.7.8.2

C/ 166	SC 166.7.8.2.1	P 126	L 126	# 22	C/ 166	SC 1	66.7.10.4	Р	L 23	# 28
Ran, Adee	•	Cisco			Ran, Adee			Cisco		
Comment	Туре Т	Comment Status X			Comment	Гуре	т	Comment Status X		
The re	ference equalizer	definition is rather cryptic.			For a F	PHY that	operates v	vith a signaling rate of m	ultiple GHz, it see	ems odd that jitter
It woul equaliz if this t	d help readers if t zer (FFE) and dec erm is preferred.	he equalizer is described us ision feedback equalizer (DP	ing the well-knov FE) or alternative	vn terms, feed forward ly feedback filter (FBF)	toleran than w 136 foi	ce is spe hat is acl 50 Gb/s	hievable in	oup to 100 kHz. This ass other PHYs (4 to 10 MH	umes very low Cl z, see clause 11(JR bandwidth, far lower) for 25 Gb/s and clause
Suggested	Remedy				Having	this low	bandwidth	requires measuring tran	smitter jitter with	very low CRU corner
Chang license	e the text, tables a	and figures to use the terms	listed in the com	ment, with editorial	treque compo noisy e	ncy (0.1 nents at environm	hundreds ent such a	of kHz (e.g. due to power s automotive. It may be u	ntroduce oscillator supply switching infeasible to build	or jitter with strong i noises), especially in a i such transmitters.
Proposed I	Response	Response Status O			l do no PHYs	t see a r with simil	eason to h lar modula	ave jitter and CDR specit tion and signaling rates.	fications that are	so different from other
C/ 166	SC 166.7.8.2.2	2 <i>P</i> 128	L 45	# 24	Suggested	Remedy				
Ran, Adee	•	Cisco			Consid	er chang	ging the CF	RU bandwidth to 4 MHz a	nd changing the	jitter tolerance
Comment	Туре Т	Comment Status X			Branaad		nungiy.	D		
The ter RS-FE (detect	rm SER (symbol e C symbol error ra tor error ratio) in a	error ratio) is used in many p tio. The error ratio related to nnex 93A and many clauses	laces in the base PAM4 symbols that refer to it.	e standard to denote is denoted as DER	C/ 166	, SC 10	66.7.10.4	P135	L 23	# 27
confus	ion.	asing the same term and act		it tillings, to reduce	Ran, Adee	_	_	Cisco		
Suggested	Remedy				Comment	l ype	Τ	Comment Status X		ing afting and a
Chang	e SER to DER an	d make any changes necess	sary to the text, v	variable names etc.	dimens	aimensi sionless i	on of frequ number (as	s listed in the table. a nur	nber of UI). For e	xample. 15000/(100
Proposed I	Response	Response Status O			kHz) is	0.15 se	conds, not	0.15 UI.		
					This ha units.	as been o	corrected a	cross the base standard	by writing the nu	merator with frequency
C/ 166	SC 166.7.10	P 133	L17	# 25	Suggested	Remedy				
Ran, Adee	•	Cisco			Chang	e "15000)/f" to "15 k	Hz/f" and "6000/f" to "6 k	:Hz/f".	
Comment	Туре Е	Comment Status X			Proposed I	Respons	e	Response Status 0		
A list o The ini Also, n Also, c	of steps with a spe ner list, which lists nake the margins correct the text size	cific order should use a letter conditions that have no spe correct (using the predefined e in the cross-reference to 1	red list instead o ecific order, shou d paragraph forn 66.3.5.1.	f a dashed list. Id be a dashed list. nats should work).	.,	,				
Suggested Per co	<i>Remedy</i> mment.									
Proposed I	Response	Response Status O								

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

C/ 166 SC 166.7.10.4 Page 7 of 8 30/06/2022 10:53:35

C/ 166	SC 166.11	P13	37	L 25	# 7								
Ran, Adee		Cisco											
Comment T	уре Т	Comment Status	Х										
In the fi subclau	rst sentence, OA se has normative	M (as a channel?) is e statements that are	s stateo e unco	l as optional, but o nditional.	other than that this								
It is unc	It is unclear that the requirements hold only when OAM is enabled.												
The OA is alway	The OAM bits are defined in the PHD (table 166-2), so my understanding is that the channel is always there - it is unused if OAM is not enabled.												
SuggestedF	Remedy												
Change	e the first paragra	ph to the following t	wo par	agraphs:									
"OAM is reliably link part enablec received The BA impact f BASE-U	 "OAM is optional. If supported and enabled, the OAM channel provides a mechanism to reliably exchange messages between station management entity (STA) peers attached to link partners, with the specifications in this subclause. If OAM is not supported or not enabled, all OAM fields shall be set to zero in the transmitted PHD, and ignored in the received PHD. The BASE-U OAM message exchange occurs in the PCS, as part of the PHD, and does not impact the normal xMII to xMII data transmission. Moreover, the 												
Proposed R	esponse	Response Status	0										
C/ 166	SC Table 166	- 19 <i>P</i> 1:	36	L 20	# 33	l							
Ferretti, Vin	се	Corni	ng										
Comment T	ype TR	Comment Status	Х										
Based on needs to	on literature for c o be taken into a	abled attenuation in ccount for this applic	extrem cation	ie environments, i	.e., aviation, aging								
SuggestedF	Remedy												
Sugges be gene	t adding 0.4dB c erated to verify fo	able attenuation agii or 40 meter length	ng pen	alty as a placehold	ler until more data can								
Proposed R	esponse	Response Status	ο										

C/ 166 SC Table 166-19 Page 8 of 8 30/06/2022 10:53:35