CI 93A	SC	93A.5.1	P 234	L <b>3</b>	# R3-11	C/ 120G	SC 1200	i.3.1	P <b>257</b>	L <b>22</b>	# R3-13
Dawe, Pie	ers J G		NVIDIA			Dawe, Pier	s J G		NVIDIA		
Comment	Туре	т	Comment Status X			Comment 7	ype TR		Comment Status X		
Hctf is should Includ them i	not sta be ind ing it w more lil	atic, so righ cluded in E rill improve ke the use-	for ERL is filtered by the traintly it is not included here, but RL. the accuracy and relevance case and less susceptible to	t the effect of f of ERL measu	p2 is always there, so it rements by making	https://i https://i ensure definitio	eee802.org eee802.org adequate e in of VEC i	/3/ck/p /3/ck/p ye wid the d	18, I-115, I-116, I-211, I-212 public/22_06/dawe_3ck_01 public/20_10/healey_3ck_0 dth because eye width does draft. In experiments we ha 12 dB, even before the effective of	a_0622.pdf and 1a_1020.pdf dis not correlate w ve seen eye wid	I scuss, the draft does no vell to the weakened dths between 90 mUI
Suggested									public/21_09/dudek_3ck_01		
text sa limits 162, 1 have t differe be diff accord	aying th approp 63 anc he san nt fp2, ferent f dingly.	hat if a clau riately. I 120F will   The ERL lim We should for the same	pass filter H2 = 1/(1+jf/fp2). se does not specify fp2 for E pick up the fp2 value from the it as 162, and 120F has the set fp2 explicitly, overriding e reflection response and the and 4 to show H2.	RL, Hp2 is set e COM tables. same fp2 as 16 Table 120F-8, a	to 1. Adjust the ERL For 120G, because we 2, but 120G has a and value of the ERL will	slightly and rigl with ba eye wic Suggested Add ES Host ou	different ch nt) as in da d eye width th. Remedy MW spec I Itput and m	annels we_3cl , which imits: odule :	low, for a spec limit. There s, and unsymmetric eyes an k_01a_0622. The draft spec h endanger the link BER, w stressed input >= 110 mUI;	re possible (sigr ec skews the sp hile failing usab	nificantly different to left bec to passing signals
Proposed	Respo	nse	Response Status 0			ESMW	is defined	around	stressed input >= 130 mUI. Its in the same way that Es alibration, these are limits no		around Tcmid in 120E.
C/ 120F	SC	120F.5.2	P <b>250</b>	L <b>36</b>	# <u>R</u> 3-3	The rea	son for hos	t spec	being less than module is	that almost all t	the bad stuff is in the
Ran, Adee	e		Cisco System	s, Inc.					not all the host channel and ven "far end".	package impai	rments are in the
Comment	Туре	Е	Comment Status X						ven "far end". ost 220 mUI, module near 2	65 mUI. module	e far 200 mUI (with a
			OG is missing the "Protocol s other PICS sections.	ummary" and "	Date of Statement"	less ca	bable equa	iser), s	so these specs are allowing ally out of control.		
Suggested Add th		<i>dy</i> bles as app	propriate.			Proposed F	lesponse		Response Status <b>O</b>		

Proposed Response

SORT ORDER: Clause, Subclause, page, line

Response Status 0

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

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## IEEE P802.3ck D3.3 3rd Sponsor recirculation ballot comments

C/ 120G SC ·	120G.3.2	P <b>260</b>	L <b>8</b>	# R3-6
Dawe, Piers J G		NVIDIA		
Comment Type	т	Comment Status X		

A module is allowed to make 80 mV pk-pk AC common-mode voltage yet its differential pkpk voltage is limited to 845 or 600 mV, so pmax must be less than 422.5 or 300 mV. Taking off 15 dB (as for one interpretation of the SCMR formula) gives 75 or 53 mV, which seems high anyway. A module contains very sensitive amplifiers (so is motivated to be quiet), and does not contain the long paths that might have skew which cables and hosts have. The host has to suffer all this AC CM, unlike when it's receiving from a CR cable with significant attenuation - yet the next i/o in the host ASIC might be trying to receive from a CR cable. This is bad for crosstalk.

 $https://ieee802.org/3/ck/public/22_06/ghiasi\_3ck\_01c\_0622.pdf \ and \ comment \ R2-9 \ give more information.$ 

Summary: the changed definition of VCM\_FB gives a welcome reduction in pk-pk AC common-mode voltage yet it is still too large.

#### SuggestedRemedy

Proposed Pespense

Reduce the max. module output full-band peak-to-peak AC common-mode voltage, VCM\_FB, from 80 mV to 65 mV (50 mV would be better). Make the same change for the min host input full-band peak-to-peak AC common-mode voltage tolerance, VCM\_FB. Or, different limits for short and long modes could be used.

Fioposed Re	esponse	Response Stat	us <b>O</b>	

Deenenee Statue

C/ <b>120G</b>	SC 120G.5.2	P <b>274</b>	L <b>44</b>	# R3-7
Dawe, Piers	JG	NVIDIA		
Comment Ty	vpe TR	Comment Status X		

I-209: the range of gDC, gDC2 combinations for TP4 should be a subset of the TP1a ones, because the range of channels is a subset of the TP1a ones.

I-206: The limits for TP4 gDC, gDC2 should not be the same for short and long output modes.

### SuggestedRemedy

Fix. Use values in I-208 and I-209 or choose better values.

Proposed Response Response Status O

C/ 162	SC 162.9.4.8	P 173	L <b>20</b>	# R3-10
Dawe, Pie	ers J G	NVIDIA		
Comment	Type TR	Comment Status X		

R2-16: the draft spec does not provide a precise reproducible definition of ERL because 93A.5.1 refers to 93A.1.1 which recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B are specified to 50 GHz. Including out-of-spec elements in a measurement is bad practice; it is better to stop at 50 GHz and use consistent extrapolation. As we have agreed the test fixture frequency range fmax after plenty of discussion, no more information is needed. We have to use it in the spec. The reflection response is filtered by the sinc function for NRZ signalling (21 dB at 50 GHz) + driver Gaussian filter Tr (15) + Butterworth filter (8.5) + Tukey filter (17.7) + twice the test fixture trace loss. So there can be very little energy between 50 GHz and 53.125 GHz where the Tukey filter cuts off.

The ambiguity of "93A.1.1 "It is recommended ... from a start frequency no larger than fmin" is either building inaccuracy into the spec, or is unnecessary. For ERL, it's probably unnecessary: it's a tiny fraction of the bandwidth and reflections should be low there. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz.

A 10 MHz step should be good enough: probably coarser would work, but we can leave such cost reduction to implementers.

### SuggestedRemedy

Because 93A.1.1 doesn't enforce the start, step and stop frequencies, we could add text in our ERL definitions to do so, or, better and more forward-looking, modify the sentence in 93A.5.1 from:

See 93A.1.1 for scattering parameters measurement recommendations including frequency step, start frequency, and stop frequency.

to

Some clauses define some ERL parameters by reference to COM parameter tables, which take precedence over the scattering parameters measurement recommendations including frequency step, start frequency, and stop frequency in 93A.1.1.

Then the modifications for COM definition in another comment will apply to ERL in all clauses too.

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/ 162 SC 162.9.4.8 Page 2 of 4 2022-06-27 1:29:28 PM

# IEEE P802.3ck D3.3 3rd Sponsor recirculation ballot comments

Dave, Piers J G       NVIDA         Comment Type       E       Comment Status X         There are many more than "three cable assembly types". There should be two loss categories (see comment 1-180), and according to 162D-1.1 there are multiple cable assembly types, as 162D-1 asses. Some cables can be in all of a b. and c.         Suggested/Remedy       Item "AUIFEC" is relevant only for 100GABSE-CR4:         Proposed Response       Response Status O         C1 162       SC 162.11.7       P187       L35       # R3.4         Consent Type       T       Consent Status X       Consent Status X         R2: 16 d draft spec does not provide a precise reproducible definition of cable COM because 50.AL 1: ecommend including (reguency range including reguency range regrostical and use in the species are fitted by the sinc function ron NIX2 signalisat refere regrostical and user is very tilte energy shows 50 GHz and the COM result is quite tolerant to the strapolation. See that specific reference is very rittle energy shows 50 GHz and the bearse of SAL 1: and to precise is very rittle energy shows 50 GHz and the specific reference is very rittle energy shows 50 GHz and the COM result is quite tolerant to the strapolation. See assembly types for the regression for the regression for the regression for the regresense is very rittle energy shows 50 GHz and the COM re	mment Type       E       Comment Status X         There are many more than "three cable assembly types". There should be two loss categories (accomment 1540, and according to 1620.1: three are multiple cable cable cables cannot be above the FEC).       Comment Type       E       Comment Type       E <td< th=""><th>162 SC 162.11 P 187 L 33</th><th># R3-8</th><th>C/ 162</th><th>SC 162.14.3</th><th></th><th>P <b>194</b></th><th>L 23</th><th># R3-1</th></td<>	162 SC 162.11 P 187 L 33	# R3-8	C/ 162	SC 162.14.3		P <b>194</b>	L 23	# R3-1
There are many more than "three cable assembly types". There should be two loss categories (see comment Holl) and according to 1620.1.1 three are multiple cable assembly types, as 1620.1 says. Some cables can be in all of a, b and c.         Suggested/Remedy         Unlink what we have have are are "cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 33, for the three actient assembly types". Also at lines 4.4. At page 157 line 33, for the three cable assembly types". Also at lines 4.4. At page 157 line 32, for the three cable assembly types at east 53.125 OHz while the test intrume for 40000 lines. The cable to base particle it. The three is two page frage at 150 OHz at the test page 150 OHz. At the base for the test is valid to the table to base page at 160 OHz at page	There is an many more than "these cable assembly types". There should be two loss catagories (see comment 1:400, and according to 1820.1.1 there are multiple cable assembly types, as 162D.1 says. Some cables can be in all of a, b and c.         ggested/Remedy       Ithink what we here are "cable assembly types". Also at lines 44. At page 187 line 33. 'for the three cable assembly types' could be deleted, or changed to 'for 100GBASE-CR2, or 400GBASE-CR2, or 400GBA	ve, Piers J G NVIDIA		Ran, Adee		(	Cisco Systen	ns, Inc.	
categories (see comment 1-190), and according to fis2D.1.1 there are multiple cable assembly types, as 162D.1 says. Some cables can be in all of a, b and c.         SuggestedRemedy         I think what we have here are "cable assemblies for three PHY types". Also at lines 44. At types 137 line 3, for the three cable assembly types" could be deleted, or change 14D/FEC' feature to "CAULI-n C2C" and status "CR1:0". Change *AULIFEC' feature to "CAULI-n C2C" and status "CR1:0". Cross-reference "Aunex 16:2E'. Suggested/Remedy In Table 16	categories (see comment 1-180), and according to 162D.1.1 there are multiple cable assembly types, as 162D.1 says. Some cables can be in all of a, band c.       issembly types, as 162D.1 says. Some cables can be in all of a, band c.         iggestedRemedy       I think what we have here are "cable assembly topes" cauld be deleted, or changed to "to" 100GBASE-CR1. 200GBASE-CR2. or 400GBASE-CR4"       SuggestedRemedy         1162       SC 162.11.7       P 187       L 35       # R3.9         1462       SC 162.11.7       P 187       L 35       # R3.9         1462       SC 162.11.7       P 187       L 35       # R3.9         awe, Piers J G       NVIDIA       Sc meeting the sc close so not provide a precise reproducible definition of cable COM because 39A.1.1 recommends including frequencies up to at least 53.125 GHz while the statisture for the sc flow the requency range flow to first scale disces even at 40 GHz and use consistent extrapolation. As we have agreed fleet to stop at 50 GHz and use consistent extrapolation. As we have agreed fleet to stop at 50 GHz and use consistent extrapolation. See share segreed flow to first paceure is vary filter energy above 50 GHz and the COM result is guite tolerant to the estrapolation.       Part 3       L 8       # R3.4         Cl 162C       SC 162C.3.1       P 313       L 8       # R3.4         If the assument is adjust collerant to the strapolation.       If the assument is adjust collerant to the strapolation.       If the scale disces even at the flow firmin to firmas. The cable responses at lower do the strapolation as reassand? <td>nment Type E Comment Status X</td> <td></td> <td>Comment 7</td> <td>ype E</td> <td>Comment St</td> <td>atus X</td> <td></td> <td></td>	nment Type E Comment Status X		Comment 7	ype E	Comment St	atus X		
In think what we have have have have have have have hav	I think what we have here are "cable assemblies for three PHY types". Also at lines 44. At page 187 line 33, "for the three cable assembly types" could be deleted, or changed to "for 100GBASE-CR1. 200GBASE-CR2. or 400GBASE-CR4.       Change "PCS400" feature to "CAUI-n C2C" and status "CR1:0". Change "PCS400" feature name to "400GBASE-R PCS".         opposed Response       Response Status       O         162       SC 162.11.7       P187       L 35       # R3-9         wave, Piers J G       NVIDA       Comment Status X       Console VCS400" feature name to "400GBASE-R PCS".         R2:16: the draft spec does not provide a precise reproducible definition of cable COM because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B are specified to 50 GHz. Including out-of-spec elements in a measurement is indexed. We have to use it in the spec.       C 162B       SC 162B.5.1       P 298       L 8       # R3-4         R2:16: the draft spec does not provide a precise reproducible definition of cable COM becausion, no more information is needed. We have to use it in the spec.       Comment Type E       Comment Type I       Comment Tstatus X         R2:6.11: spect reprovession, no more information is needed. We have to use in the spec.       The spect spect is goint of local precision.       Poposed Response       Response Status O         C1 162C       SC 162D.1.1       Poposed Response Response Status X       Comment Type E       Comment.         Poposed Response       Response Status X	categories (see comment I-180), and according to 162D.1.1 there are m	ultiple cable	irreleva	nt, it cannot be	above the FEC)			CAUI-n (AUI-n is
page 187 line 33, "for the three cable assembly types" could be deleted, or changed to "for 100GBASE-CR2, or 400GBASE-CR2, or 400GBASE-CR2,"       Change "PCS400" feature name to "400GBASE-R PCS".         Proposed Response       Response Status O         CI 162       SC 162.11.7       P 187       L 35       # 33.9         Dawe, Piers J G       NVIDIA       Comment Type TR       Comment Status X       Comment Status X         R2-16: the draft spec does not provide a precise reproducible definition of cable COM because 93.4.11 recommends including requencies us to sop at 50 CHz and use consistent extrapolation. As we have agreed the test fixture frequency range fmax after plenty of discussion, no more information is needed. We have to use in the spec. The response are filtered by the sing function for NRZ signaling + driver Gaussian filter Tr (6.5 dB dt 5) + p.2 of the CTLE. So there is a terregues, parked the heave to speciation. The ambguity of '35A.1.1 "It is recommended from a start frequency range fmax after plenty of discussion, no more information is needed. We have to use in it the spec. The to Special coleration is 100 SD dTL2. The ambguity of '35A.1.1 "It is recommended from a start frequency range fmax after plandwith VNAs that go to 50 GHz. For these cable lengths, a 10 th Mz step should be good enough.       Ci 162C SC 162C.3.1       P 313       L8       # R3-5         SuggestedRemedy       In Table 16.21.1, insert a row for fmax, value 50 GHz. The beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delial 1 min to fmax. The cable represenses at lower and higher frequencies are setmated by careful extrapolation as necessary".       Ci 162C SC 162C.3.1<	page 187 line 33. "for the three cable assembly types" could be deleted, or changed to "for         progesd Response       Response Status O <b>162</b> SC 162.11.7 P 197 L 35 # R3-9 <b>162</b> SC 162.11.7 P 197 L 35 # R3-9 <b>awe</b> , Piers J G <b>NVIDIA 762</b> SC 162.11.7 P 197 L 35 # R3-9 <b>762</b> SC 162.11.7 P 197 L 35 # R3-9 <b>762</b> SC 162.11.7 P 197 Comment Status X <b>762</b> SC 162 S	igestedRemedy		Suggestedl	Remedy				
Proposed Response       Response Status       0         Cl 162       SC 162.11.7       P 187       L 35       # R3-9         Dawe, Piers J G       NVIDIA       Comment Status X       Cl 162B       SC 162B.5.1       P 298       L 8       # R3-4         Comment Type       TR       Comment Status X       Comment Status X       Comment Status X       Conse-reference "Figure 162B" should be "Annex 162B".         R2-16: the draft spec does not provide a precise reproducible definition of cable COM because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B test provide Gaussian filter Tr (8.5 dB at 50 GHz) + minimum -16 dB cable loss even at 40 GHz + PCBs + packages + Butremorth filter (6.5) + p2 of the CTLE. So there is very little energy above 50 GHz and use evolded. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz.         The bandwidth VNAs that go to 50 GHz.       At the baginning of this paragraph, insert "COM is based on measurements with uniform frequency sup Delta I from fim to fmax, value 50 GHz.       At the baginning of this paragraph, insert "COM is based on measurements with uniform frequency sup Delta I from fim to fmax, value 50 GHz.       Comment 100-F8.         Suggested/Remedy       In Table 162-11, insert a row for fmax, value 50 GHz.       Comment Tope E Comment.         Note 120-12, insert a row for fmax, value 50 GHz.       Comment and the represences and higher frequency to 50 GHz.         At the baginning of this paragraph, ins	apposed Response       Response Status       0         162       SC 162.11.7       P187       L 35       # R3-9         awe, Piers J G       NVIDIA       A       Cli 1628       SC 162.8.5.1       P 298       L 8       # R3-4         Provided Response       TR       Comment Status X       Ran, Adee       Cisco Systems, Inc.         R2-16: the draft spec does not provide a precise reproducible definition of cable COM because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the comment si bad practice; it is better to stop at 50 GHz and use consistent extrapolation. As we have agreed the test fixtures of specified in Annex 162B are specified to 50 GHz. and use consistent extrapolation. As we have agreed the test fixture frequency range fmax after plenty of discussion, no more information is needed. We have to use it in the spec. The responses are filtered by the sinc function for NR2 signalling + diver Gaussian filter Tr (8.5 dB at 50 GHz) + p2 of the CTLE. So there is very little energy above 50 GHz and use spec. or is unnecessary. Whichever, it should be avanex 162C.1       P313       L 8       # R3-5         Ran, Adee       Cisco Systems, Inc.       Comment Type E       Comment.       Proposed Response         Proposed Response       File Sub at 50 GHz.       File Sub at 50 GHz.       Ran, Adee       Cisco Systems, Inc.         The esponse Status of OHZ       File Sub at 50 GHz.       File Sub at 50 GHz.       Ran, Adee       Cisco Systems, Inc.         If add at 50 GHz.	page 187 line 33, "for the three cable assembly types" could be deleted,		Change	e "PCS400" feat	ure name to "40	0GBASE-R I		
Cl 162       SC 162.11.7       P 187       L 35       # R3.9         Dawe, Piers J G       NVIDIA         Comment Type       TR       Comment Status X         R2-16: the draft spee does not provide a precise reproducible definition of cable COM because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the test fixture of specified in Annex 162B are specified to 50 GHz. Including out-of-spec test fixtures of specified in Annex 162B are specified to 50 GHz. Including out-of-spec test fixture is a response to 50 GHz. Including out-of-spec test and 0 GHz + ZPOB + packages + Butterworth filter (35) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM result is quite tolerant to the extrapolation. The ambiguity of '93A.1.1 *It is recommended Irom a start frequency no larger than firm' is either building incluration to the spec, or is unnecessary. Whichever, it holder the higher frequency spo Delta Fird frequency spo Delta Fird frequency and the spec. or is unnecessary. Whichever, it holder the higher frequency spo Delta Fird frequency in the spec. or is unnecessary. Whichever, it holder the higher frequency spo Delta Fird frequency the sponse at lower and higher frequency spo Delta Fird frequency to a store and the first frequency to based on measurements with uniform frequency spo Delta Fird frequency test may to the a reference to firm. Delta f and first the sponse of the first in a new for firmax, with a not that for clauses that don't provide an explicit first, there is a recommendation in 93A.1.1.	162       SC 162.11.7       P 187       L 35       # R3-9         awe, Piers J G       NVIDIA         mment Type       TR       Comment Status X         R2-16: the draft spec does not provide a precisise reproducible definition of cable COM because 93A.11 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B are specified to 50 GHz. Including out-of-species consistent extrapolation. As we have agreed the test fixture frequency range fmax after plenty of discussion, no more information is needed. We have to use it in the spec. The responses are filtered by the sinc function for NRZ signalling + driver Gaussian filter Tr (8.5 dB at 50 GHz) + numinum - 16 dB cable loss even at 0 GHz + PCBs + packages t+ Butterworth filter (8.5) + p2 of the CTLE. So there is very little energy above 50 GHz and the spec, or is unnecessary. Whichever, it should be good enough.       Cl 162C SC 162C.3.1       P 313       L 8       # R3-5         WiggestedRemedy       Cross-reference 'Annex 162C.3' should be "Annex 162C".       SuggestedRemedy       Cross-reference' Annex 162C.3' should be "Annex 162C".         SuggestedRemedy       For these cable lengths, a 10 MHz step should be good enough.       For these cable lengths, insert 'COM is based on measurements with uniform frequency step Delta I from fint to fmax. The cable responses at the dori provide an explicit fmax, there is a recommendation in 93A.1.1.       SuggestedRemedy         For these cable lengths, a 10 MHz step should be good enough.       Progosed Response Response Status O       O         Torestare for the sharana row in Table 163-11 and			Proposed F	Response	Response Sta	atus <b>O</b>		
Cl 162       SC 162.11.7       P 187       L 35       # [3:9]         Dawe, Piers J G       NVIDIA         Comment Type       TR       Comment Status X         R2-16: the draft spec does not provide a precise reproducible definition of cable COM because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162 B are specified to 50 GHz. Including out-of-spec elements in a measurement is bad practice; it is better to stop at 50 GHz and use consistent extrapolation. As we have agreed the test fixture frequency range fmax after plenty of discussion, no more information is needed. We have to use it in the spec. The responses are filtered by the sinc function for NRZ signalling + driver Gaussian filter T. (8.5 dH as 50 GHz) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM result is quite tolerant to the extrapolation.       Ran, Adee       Cisco Systems, Inc.         The ambiguity of '93A.1.1 'It is recommended from a start frequency no larger than fmm'' is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be devided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz.       Nt labe 162-11, insert a row for fmax, value 50 GHz.         At the beginning of this paragraph, insert 'COM is based on measurements with uniform frequency series are estimated by careful extrapolation as necessary'.       Ran dmax there. In Table 63-A1, ad a row for fmax, with a not that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	162       SC 162.11.7       P187       L 35       # 83-9         wwe, Piers J G       NVIDIA         parment Type       TR       Comment Status X         R2-16: the draft spec does not provide a precise reproducible definition of cable COM       East Status S (Status S (Stat	Josed Response Response Status O							
Dave, Piers J G       NVIDIA         Comment Type       R       Comment Status X         R2-16: the draft spec does not provide a precise reproducible definition of cable COM because 93A.11 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B are specified to 50 GHz. Including out-of-spec elements in a measurement is bad practice; it is better to stop at 50 GHz and use consistent extrapolation. As we have agreed the test fixture frequency range fmax after plenty of discussion, no more information is needed. We have to use it in the spec. The responses are filtered by the sinc function for NRZ signalling + driver Gaussian filter Tr (8.5 dB at 50 GHz) + minimum -16 dB cable loss even at 40 GHz + PCBs + packages + buterworth filter (8.5) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM result is quite tolerant to the extrapolation.       Note Comment Status X         Comment Type       Comment Status SX       Comment Status SX         Suggested/Remedy       Charage per comment.       Patian SA         In table 162-11, insert a row for fmax, value 50 GHz.       At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency supe Dellat from fmin to max. The cable response at lower and higher frequencies are estimated by careful extrapolation as necessary."       Proposed Response       Response Status O         Suggested/Remedy       Name Type IE       Comment Status X       Cross-reference "Annex 162C.3." should be "Annex 162C".         Suggested/Remedy       In table 162-11, insert a row for fmax, with an ote that and type At the dar oreful tor forequese statu	awe, Piers J G       NVIDIA       Comment Type       TR       Comment Status X         R2-16: the draft spec does not provide a precise reproducible definition of cable COM because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B are specified to 50 GHz. Including out-of-spec elements in a measurement is bad practice, it is better to stop at 50 GHz and use consistent extrapolation. As we have agreed the test fixture frequency range fmax after plenty of discussion, no more information is needed. We have to use it in the spec. The responses are filtered by the sinc function for NRZ signalling + driver Gaussian filter Tr (8.5 dB at 50 GHz) + minimum -16 dB cable loss even at 40 GHz + PCBs + packages + Buttenworth filter (8.5) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM result is quite tolerant to the extrapolation. The ambiguity of '93A.1.1' ti ti recommended from a start frequency no larger than fimin' is either building incarcuracy into the spec, or is unnecessary. Whichever, it should be cable loss even at 40 GHz. For the scale lengths, a 10 MHz step should be good enough.       Ran, Adee       Cisco Systems, Inc. <i>reggestedRemedy</i> In Table 162-11, insert a row for fmax, value 50 GHz.       SuggestedRemedy       Channex 162C.3' should be "Annex 162C". <i>requency</i> step Delta ffrom fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary'.       Proposed Response       Response Status <b>0</b> <i>response Status</i> <b>1</b> The for lower for this the 16 3-11 and 12DF-8.       For the san estimated by careful extrapolation as necessary'.       Proposed Response       Response Status			C/ 162B	SC 162B.5.1		P 298	L 8	# R3-4
Comment Type TR Comment Status X R2-16: the draft spec does not provide a precise reproducible definition of cable COM because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B are specified to 50 GHz. Including out-of-spec elements in a measurement is bad practice; it is better to stop at 50 GHz and use consistent extrapolation. As we have agreed the test fixture frequency range fmax after plenty of discussion, no more information is needed. We have to use it in the spec. The responses are filtered by the sinc function for NRZ signalling – driver Gaussian filter Tr (8:5 dB at 50 GHz) + minimum -16 dB cable loss even at 40 GHz + PCBs + packages + Butterworth filter (8:5) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM result is quite tolerant to the estrapolation. The ambiguity of '93A.1.1 "It is recommended from a start frequency no larger than fmin' is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz. At the beginning of this paragraph, insert 'COM is based on measurements with uniform frequency step Delta If from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary'. For ties and 120E: Add fmax row in Table 163-11 and 120F-8. 163A.3.1.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta I and fmax there. In Table 59A.1.1, so add similar clear reference to fmin, Delta I and fmax there. In Table 59A.1.1, so add similar clear reference to fmin, Delta I and fmax there. In Table 59A.1.1, so add similar clear reference to fmin, Delta I and fmax there. In Table 59A.1.1, so add similar clear reference to fmin, Delta I and fmax there. In Table 59A.1.1, so add similar clear reference to fmin, Delta I and fmax there. In Table 59A.1.1, so add similar clear reference to fmin, Delta I and fmax there. I	Imment TypeTRComment Status XR2-16: the draft spee closes not provide a precise reproducible definition of cable COM because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B are specified to 50 GHz.Cross-reference "Figure 162B" should be "Annex 162B".consistent extrapolation. As we have agreed the test fixture frequency range fram a fair plenty of discussion, no more information is needed. We have to use it in the spec.Proposed ResponseResponse Status OThe responses are filtered by the sinc function for NRZ signaling in driver Gaussian filter Tr (8.5 dB at 50 GHz) + minimum ~16 dB cable loss even at 40 GHz + PCBs + packages + Butterworth filter (8.5) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM response for filter form fini's is either building inaccuracy into the spec, or is unnecessary.Cross-reference "Figure 162B" should be "Annex 162B".response are filtered by the sinc thread by the sinc function for NRZ signaling.Cross-reference "Figure 162B" should be "Annex 162B".Suggested/RemedyChange per comment.For these cable lengths, at 0 b0 GHz.For these cable lengths, insert "COM is based on measurements with uniform frequencies are estimated by careful extrapolation. as necessary". <i>soggestedRemedy</i> Change per comment. <i>requencies are estimated by careful extrapolation.requencies are estimated by careful extrapolation.requency step</i> Delta f from finin to finax. The cable responses at lower and higher frequencies are estimated by careful extrapolation. <i>requency step</i> Delta from finin to finax row in Table 163-11, is add similar clear reference to finin, Delta f and fmax there.<	162 SC 162.11.7 P 187 L 35	# R3-9	Ran, Adee			Cisco Systen	ns, Inc.	
R2-16: the draft spec does not provide a precise reproducible definition of cable COM because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B are specified to 50 GHz. Including out-of-spec elements in a measurement is bad practice; it is better to stop at 50 GHz and use consistent extrapolation. As we have agreed the test fixture frequency range fmax after plenty of discussion, no more information is needed. We have to use it in the spec. The responses are filtered by the sine function for NRZ signalling + driver Gaussian filter Tr (8:5 dB at 50 GHz) + minimum –16 dB cable loss even at 40 GHz + PCBs + packages + Butterworth filter (8:5) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM result is quite tolerant to the extrapolation. The ambiguity of "93A.1.1 "It is recommended from a start frequency no larger than fmin" is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequencies are estimated by careful extrapolation as necessary. For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A.1, ad, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A.1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	R2-16: the draft spec does not provide a precise reproducible definition of cable COM because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B are specified to 50 GHz. Including out-of-spec elements in a measurement is bad practice; it is better to stop at 50 GHz and use consistent extrapolation. As we have agreed the test fixture frequency range fmax after Tr (8.5 dB at 50 GHz) + minimum ~16 dB cable loss even at 40 GHz + PCBs + packages + Butterworth filter (8.5) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM result is quite tolerant to the extrapolation. If ma a start frequency no larger than fmin" is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz. For these cable lengths, a 10 MHz step should be good enough. <i>IggestedRemedy</i> In Table 162-11, insert ar two for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequency step Delta for form to table 163-11 and 120F-8. 163A.3.1, refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 34A.1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	ve, Piers J G NVIDIA		Comment 7	ype E	Comment St	atus X		
because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B are specified to 50 GHz. Including out-of-spec elements in a measurement is bad practice; it is better to stop at 50 GHz and use consistent extrapolation. As we have agreed the test fixture frequency range fmax after plenty of discussion, no more information is needed. We have to use it in the spec. The responses are filtered by the sinc function for NRZ signalling + driver Gaussian filter Tr (8.5 dB at 50 GHz) + minimum -16 dB cable loss even at 40 GHz + PCBs + packages + Butterworth filter (8.5) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM result is quite tolerant to the extrapolation. The ambiguity of "3A.1.1 "It is recommended from a start frequency no larger than fmin" is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz. For these cable lengths, a 10 MHz step should be good enough. Suggested/Remedy In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta 1 from finin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	because 93A.1.1 recommends including frequencies up to at least 53.125 GHz while the test fixtures of specified in Annex 162B are specified to 50 GHz. Including out-of-spec elements in a measurement is bad practice; it is better to stop at 50 GHz and use consistent extrapolation. As we have agreed the test fixture frequency range fmax after plenty of discussion, no more information is needed. We have to use it in the spec. The responses are filtered by the sinc function for NRZ signalling + driver Gaussian filter Tr (8.5 dB at 50 GHz) + minimum -16 dB cable loss even at 40 GHz + PCBs + packages + Butterworth filter (8.5) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM result is quite tolerant to the extrapolation. The ambiguity of "93A.1.1 "It is recommended from a start frequency no larger than fimin" is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz. For these cable lengths, a 10 MHz step should be good enough. <i>IggestedRemedy</i> In Table 162-11, insert a row for fmax, value 50 GHz. The acute tartoptation as necessary. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary. For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. (163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A.1.1, so add similar clear reference to tom in pa3A.1.1.	nment Type TR Comment Status X		Cross-r	eference "Figur	e 162B" should	be "Annex 16	62B".	
Butterworth filter (8.5) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM result is quite tolerant to the extrapolation. The ambiguity of "93A.1.1 "It is recommended from a start frequency no larger than fmim" is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz. For these cable lengths, a 10 MHz step should be good enough. SuggestedRemedy In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1., so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	Butterworth filter (8.5) + p2 of the CTLE. So there is very little energy above 50 GHz and the COM result is quite tolerant to the extrapolation. The ambiguity of "93A.1.1 "It is recommended from a start frequency no larger than fmin" is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz. For these cable lengths, a 10 MHz step should be good enough. <i>rggestedRemedy</i> In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1, refers to 93A.1.4, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	consistent extrapolation. As we have agreed the test fixture frequency r plenty of discussion, no more information is needed. We have to use it	ange fmax after in the spec.	Proposed F		Response Sta			
the COM result is quite tolerant to the extrapolation. The ambiguity of "93A.1.1 "It is recommended from a start frequency no larger than fmin" is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz. For these cable lengths, a 10 MHz step should be good enough. SuggestedRemedy In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	the COM result is quite tolerant to the extrapolation. The ambiguity of "33A.1.1 "It is recommended from a start frequency no larger than fmin" is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz. For these cable lengths, a 10 MHz step should be good enough. <i>IggestedRemedy</i> In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from finin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	(8.5 dB at 50 GHz) + minimum ~16 dB cable loss even at 40 GHz + PCI	Bs + packages +	C/ 162C	SC 162C.3.1		P 313	L <b>8</b>	# R3-5
The ambiguity of "93A.1.1 "It is recommended from a start frequency no larger than fmin" is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwidth VNAs that go to 50 GHz. For these cable lengths, a 10 MHz step should be good enough. SuggestedRemedy In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	The ambiguity of "93A.1.1 "It is recommended from a start frequency no larger than fmim" is either building inaccuracy into the spec, or is unnecessary. Whichever, it should be avoided. Measurements from 50 MHz are commonplace, particularly with the higher bandwitht VNAs that go to 50 GHz. For these cable lengths, a 10 MHz step should be good enough. <i>IggestedRemedy</i> In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.		pove 50 GHz and	Ran, Adee		(	Cisco System	ns, Inc.	
bandwidth VNAs that go to 50 GHz.       SuggestedRemedy         For these cable lengths, a 10 MHz step should be good enough.       Change per comment.         SuggestedRemedy       Proposed Response       Response Status       O         In Table 162-11, insert a row for fmax, value 50 GHz.       Proposed Response       O         At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary".       O         For 162 and 120F: Add fmax row in Table 163-11 and 120F-8.       163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.       Vervice an explicit fmax, there is a recommendation in 93A.1.1.	bandwidth VNAs that go to 50 GHz. For these cable lengths, a 10 MHz step should be good enough. In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	The ambiguity of "93A.1.1 "It is recommended from a start frequency fmin" is either building inaccuracy into the spec, or is unnecessary. Whi	ichever, it should					162C".	
For these cable lengths, a 10 MHz step should be good enough.       Change per comment.         SuggestedRemedy       Proposed Response       Response Status       O         In Table 162-11, insert a row for fmax, value 50 GHz.       At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary".       For 162 and 120F: Add fmax row in Table 163-11 and 120F-8.       163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.       Change per comment.	For these cable lengths, a 10 MHz step should be good enough.       Change per comment. <i>iggestedRemedy Proposed Response Response Status</i> O         In Table 162-11, insert a row for fmax, value 50 GHz.       At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary".       O         For 162 and 120F: Add fmax row in Table 163-11 and 120F-8.       163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.       O		y with the higher	Suggested	Remedy				
In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.			Change	e per comment.				
In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	In Table 162-11, insert a row for fmax, value 50 GHz. At the beginning of this paragraph, insert "COM is based on measurements with uniform frequency step Delta f from fmin to fmax. The cable responses at lower and higher frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta f and fmax there. In Table 93A-1, add a row for fmax, with a note that for clauses that don't provide an explicit fmax, there is a recommendation in 93A.1.1.	igestedRemedy		Proposed F	Response	Response Sta	atus <b>O</b>		
Proposed Response Response Status <b>O</b>	oposed Response Response Status O	At the beginning of this paragraph, insert "COM is based on measureme frequency step Delta f from fmin to fmax. The cable responses at lower frequencies are estimated by careful extrapolation as necessary". For 162 and 120F: Add fmax row in Table 163-11 and 120F-8. 163A.3.1 refers to 93A.1.1, so add similar clear reference to fmin, Delta In Table 93A-1, add a row for fmax, with a note that for clauses that don	and higher f and fmax there.						
		posed Response Response Status <b>O</b>							

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

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# IEEE P802.3ck D3.3 3rd Sponsor recirculation ballot comments

C/ 163	SC 163.9.2.6	P 208	L 24	# R3-14	C/ 163A S	C 163A.2	P 319	L <b>4</b>	# R3-12
Dawe, Pie		NVIDIA			Dawe, Piers J		NVIDIA	-	
Comment		Comment Status X			Comment Type		Comment Status X		
This fo	ormula for SCMR	divides a 1-sided peak volta	ige by a 2-sided p	peak-to-peak voltage,	4.Test				
		bles to oranges. The reader			SuggestedRen	nedv			
		which would be strange, or tl ntities, which would be near			Insert space				
norma		,			Proposed Res	oonse	Response Status <b>O</b>		
project	t.	ed on an apples-to-apples ba							
fixture) dB imp	), 15 dB implies a plies a VCM_FB o	in the example in Table 163 a VCM_FB of 42 or 84 mV do of 71 or 142 mV. I expected natives so even after some i	epending. If v_pe something aroun	eak is, say, 400 mV, 15 nd 80 mV pk-pk but					
Suggested	Remedy								
Define	SCMR as 20*log	g10(2*v_peak/VCM_FB). De 21 dB, in tables 163-5 and 1:		is intended, change					
Define the lim	SCMR as 20*log			is intended, change					
Define the lim Proposed I	SCMR as 20*log nit from 15 dB to 2	21 dB, in tables 163-5 and 1		is intended, change					
Define the lim Proposed I	SCMR as 20*log iit from 15 dB to 2 Response SC <b>163.13.3</b>	21 dB, in tables 163-5 and 1 Response Status <b>O</b>	20F-1.						
the lim	SCMR as 20*log it from 15 dB to 2 Response SC <b>163.13.3</b>	21 dB, in tables 163-5 and 1: Response Status O P <b>220</b>	20F-1.						
Define the lim Proposed I Cl 163 Ran, Adee Comment There There	SCMR as 20*log it from 15 dB to 2 Response SC 163.13.3 Type E is no 200GBASE are two items na	21 dB, in tables 163-5 and 1 Response Status O P 220 Cisco Systen Comment Status X	20F-1. <i>L</i> <b>16</b> ns, Inc. hould be for 400G	# <u>R3-2</u>					
C/ 163 C/ 163 Comment There There Item P	SCMR as 20*log it from 15 dB to 2 Response SC 163.13.3 S Type E is no 200GBASE are two items nai CS400 has incor	21 dB, in tables 163-5 and 1 <i>Response Status</i> <b>O</b> <i>P</i> <b>220</b> Cisco System <i>Comment Status</i> <b>X</b> E-P PMA. med PMA200, the second sl	20F-1. <i>L</i> <b>16</b> ns, Inc. hould be for 400G	# <u>R3-2</u>					
Define the lim Proposed I C/ 163 Ran, Adee Comment <sup>+</sup> There There Item P Suggested In the f	SCMR as 20*log it from 15 dB to 2 Response SC 163.13.3 S Type E is no 200GBASE are two items nai CS400 has incor IRemedy first "PMA200" ite	21 dB, in tables 163-5 and 1 <i>Response Status</i> <b>O</b> <i>P</i> <b>220</b> Cisco System <i>Comment Status</i> <b>X</b> E-P PMA. med PMA200, the second sl	20F-1. <i>L</i> 16 hould be for 400G 32.9.4.8. BASE-R PMA".	# <u>R3-2</u> BBASE-R PMA.					
Cl 163 Ran, Adee Comment There Item P Suggested In the f	SCMR as 20*log it from 15 dB to 2 Response SC 163.13.3 SType E is no 200GBASE are two items nai CS400 has incor IRemedy first "PMA200" ite second one, cha	21 dB, in tables 163-5 and 1 <i>Response Status</i> <b>O</b> <i>P</i> <b>220</b> Cisco System <i>Comment Status</i> <b>X</b> E-P PMA. med PMA200, the second sl rect subclause reference, 16 em, change feature to "200G	20F-1. <i>L</i> 16 hould be for 400G 22.9.4.8. BASE-R PMA". feature to "400GE	# <u>R3-2</u> BBASE-R PMA.					

C/ 163A SC 163A.2