D2.0

Cl **00** *SC* **0** *P* *L* # 163

Grow, Robert — Intel

Comment Type **TR** *Comment Status* **A** *URL*

Inconsistent URLs for downloads. We shouldn't have three download sites, staff has promised a site with sufficient structure, but I've yet to see it meet requirements. The site must support revisions (e.g., the current file needs to be distinguished from a superseded file). The first URL given to us is now a broken link, that makes one question the durability of the current downloads link.

We have a Style Manual detailing all sorts of stuff, but there is no guidance on important topics that should have equal rigor and consistency across IEEE standards. For example, does one name the file for the parent standard or the amendment? Is the year included to cover superseded files? If an amendment is superseded does one keep the same file name? Should the references be to file lists or to specific files?

SuggestedRemedy

Fix with consistent file naming conventions, the following URLs.

40.1.3.5, NOTE on p. 185, l. 51 is broken, footnote on next page is to http://standards.ieee.org/reading/ieee/std/downloads/index.html. Unfortunately this redirects to Xplore.

76A.1, footnote on p. 803, l. 54 is to a list at http://www.ieee802.org/3/av/online_resources/.

40.6.1.3, NOTE on p. 236, l. 1 has same problems as above.

40.6.1.2.4, NOTE on p. 241, l. 11 is broken

55A.2, footnote 29 on p. 593, l. 54 does link to a zip file, its parent http://standards.ieee.org/downloads/802/ takes one to a flat list for all 802 (not very forward looking if IEEE-SA ever enters the electronic age with gusto).

68.6.6.2, footnote 24, p. 367, l. 54 takes one to the file, but unlike the clause 55 matrices, the file name includes project identification.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.
Issue currently being worked on with IEEE staff

Cl **01** *SC* **1.3** *P* **9** *L* **37** # 7

Dawe, Piers — IPtronics

Comment Type **TR** *Comment Status* **R** *Standards reference change*

This reference:
ANSI/EIA/TIA-455-127-1991, FOTP-127-Spectral Characterization of Multimode Laser Diodes
is very old. There is now TIA-455-127-A FOTP-127-A Basic Spectral Characterization of Laser Diodes Publication Date: Nov 1, 2006 (note no ANSI - and is this the same content or not?). But there is an even newer, and international,
IEC 61280-1-3 ed2.0 Fibre optic communication subsystem test procedures - Part 1-3: General communication subsystems - Central wavelength and spectral width measurement, Publication date 2010-03-18
http://webstore.iec.ch/Webstore/webstore.nsf/Artnum_PK/43879
1.3 Normative references also lists IEC 61280-1-3:1998.

SuggestedRemedy

Consider if the references to ANSI/EIA/TIA-455-127-1991, FOTP-127 and the references to IEC 61280-1-3:1998 should be updated to IEC 61280-1-3 ed2.0. If so, remove ANSI/EIA/TIA-455-127-1991, FOTP-127 from the list of normative references but consider adding TIA-455-127-A FOTP-127-A to the bibliography. Update 1.4.350 RMS spectral width.
Consider doing the same for other old or non-international references, unless used by the non-maintained clauses or where we refer to an old version for a reason.

Response *Response Status* **U**

REJECT.

The historical references are appropriate in this case, and there is no consensus to make this change.

Cl **01** *SC* **1.4** *P* **17** *L* **39** # 1

Dawe, Piers — IPtronics

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

The Definitions section is 27 pages long. Although it is finely subdivided, the subheadings do not appear in the bookmarks, so it is hard to navigate quickly to a particular definition.

SuggestedRemedy

Please introduce bookmarked subheadings e.g. 1 to 9, A to E, F to O, P to Z. The current subheadings can become fourth-level non-bookmarked subheadings.

Response *Response Status* **U**

REJECT.

There was no agreement that this change improves the document.

Cl **01** *SC* **1.5** *P* **45** *L* **13** # 2

Dawe, Piers IPtronics

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

The Abbreviations section is 5 pages long with no subdivisions. It is hard to navigate quickly to a particular abbreviation.

SuggestedRemedy

Please consider introducing bookmarked subheadings e.g. 1 to L, M to Z.

Response *Response Status* **U**

REJECT.

There was no agreement that this change improves the document.

Cl **30** *SC* **30.2.5** *P* **325** *L* **41** # 72

Dawe, Piers IPtronics

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

Text says "For LLDP management, the LLDP Basic Package is mandatory." and Table 30-7 says LLDP Basic Package (mandatory). I don't think management is like MDIO or I2C where there are reserved register addresses that are zero whether an implementation knows what they will be used for or even whether they will be used. As far as I know, LLDP is not a requirement of 802.3 so its management package can't be mandatory either.

SuggestedRemedy

Change "For LLDP management, the LLDP Basic Package is mandatory." to "The LLDP Basic Package is optional." and show it as optional in the table.

Response *Response Status* **U**

REJECT.

There are requirements where LLDP is mandatory. The text is correct. There are other instances where the term "mandatory" is used for other management packages that are mandated when an option is supported.

Cl **30A** *SC* **30A** *P* **701** *L* **8** # 15

Dawe, Piers IPtronics

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

This says "NOTE—The GDMO specification was moved to IEEE Std 802.3.1-2011."

SuggestedRemedy

So, add IEEE Std 802.3.1-2011 to the list of references, and explain in 1.1 and 30.1 how it fits in.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Will add a reference to Clause 1. If the commenter would like to see intro text, he is invited to propose some for the BRC to consider.

Cl **30A** *SC* **30A** *P* **703** *L* **8** # 16

Dawe, Piers IPtronics

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

This says "NOTE—The SNMP for Link Aggregation specification was moved to IEEE Std 802.1AX-2008."

SuggestedRemedy

So, add IEEE Std 802.1AX-2008 to the list of references, and explain in 1.1 and 30.1 how it fits in.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Will add a reference to the Annex A (references to 802.1AX are non-normative). If the commenter would like to see intro text, he is invited to propose some for the BRC to consider.

Cl **33** *SC* **2.7.5** *P* **605** *L* **47** # 145

Michael, McCormack — Texas Instruments

Comment Type **TR** *Comment Status* **R** *PoE: PSE Startup*

In IEEE Std 802.3-2008, section 33.2.8.5 which was the equivalent section, there was allowance for 1ms of settling time (item b.) This settling time has been removed which will make some previously compliant systems no longer compliant.

SuggestedRemedy

1) Restore the 1ms allowance.
2) Add note that preferred behavior is to meet output requirements during 1ms settling time.
3) Add note in section 33.3.5.2 that some PSEs may oscillate during the first millisecond and therefore filtering of 1ms variations may be prudent.

Response *Response Status* **U**

REJECT.

The suggested remedy does not fully resolve the problem identified in the comment.

Cl **38** *SC* **38.11.1** *P* **131** *L* **26** # 28

Dawe, Piers — IPtronics

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

Updating reference to IEC 60793-2, which is too broad anyway.
The dispersion limits have changed slightly for 50 um MMF and I think for SMF. Both old and new limits are allowable, and this must be made clear.
I don't think SMF is called "10/125" any more.
The "type A1a" naming is not memorable. It might help to give the "OM2" style names as well.

SuggestedRemedy

List old and new dispersion limits.
Use dated old and new references to IEC 60793-2-10 and IEC 60793-2-50.
Update the name of SMF.
Add rows to Table 38-12 with A1a and OM2 style fibre names.
Do similar in Clause 52.

Response *Response Status* **U**

REJECT.

The key fiber parameters are called in the table and not from the references.

Cl **52** *SC* **52.14.1** *P* **456** *L* **26** # 45

Dawe, Piers — IPtronics

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

Now that IEC 60793-2-10 ed.4 is published, we should not include TIA-492AAAD in the normative spec. That's the policy: international standards only unless there isn't a suitable one available, "NOTE--Local and national standards such as those supported by ANSI, EIA, MIL, NFPA, and UL are not a formal part of this standard except where no international standard equivalent exists."

In general, we refer to IEC 60793-2-10 without a date or edition number, except in the table of references and two cases which I think are in error.

Also, as IEC 60793-2-10 contains many things, and doesn't mention OM4 by that name (at least in the table of contents), we need to mention type A1a.3 so the reader can find the right spec.

Also, there have been minor changes in chromatic dispersion limits, for 50 um MMF and I believe for SMF. The newer limits provide slightly better performance but one case is formally outside the previous limits. We do not want to make existing serviceable fibre non-compliant, so we need to keep the old limits (as 802.3 does for twisted pair copper) as well as introduce the new ones.

SuggestedRemedy

So, please change
Effective modal bandwidth for fiber meeting TIA/EIA-492AAAC-2002 when used with sources meeting the wavelength (range) and encircled flux specifications of Table 52-7.
to
Effective modal bandwidth for OM4 fibers are specified for type A1a.3 in IEC 60793-2-10.
Add IEC 60793-2-10 (2011) to 1.3 Normative references, or replace IEC 60793-2-10 (2004).
Give the old and new chromatic dispersion parameters for 50 um MMF and SMF, and say that either old or new is compliant.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.
This note is for OM3 fibre.
Change:
"Effective modal bandwidth for fiber meeting TIA/EIA-492AAAC-2002 when used with sources meeting the wavelength (range) and encircled flux specifications of Table 52-7."
to:
"Effective modal bandwidth for fiber meeting IEC 60793-2-10 Type A1a.2 when used with sources meeting the wavelength (range) and encircled flux specifications of Table 52-7."

Replace IEC 60793-2-10 (2004) with IEC 60793-2-10 (2011) in 1.3 Normative references.

See also comments #12, #106, #109, #108

A vote of the BRC was taken on whether to accept this proposed response:
Yes 15

No 1
Abstain 3

Cl **54** *SC* **54.6** *P* **509** *L* **42** # 427

Maguire, Valerie Siemon

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

Balanced twisted-pair and optical fiber MDI interfaces are interoperable between vendors. In addition, industry comparative evaluation events (e.g. Ethernet Alliance Plugfests) go to great lengths to ensure interoperability between equipment manufactured by different vendors. In may cases, however, EEPROM circuitry is built into the 10GBASE-CX4 MDI for the specific purpose of ensuring that products between vendors DO NOT work together. This is outside the spirit of an applications Standard that specifies requirements "to allow for maximum interoperability between various 10 Gb/s components" (e.g. see clause 54.6.4.3) and should not be allowed.

SuggestedRemedy

Insert new clause:
"54.6.1 Interoperability

The 10GBASE-CX4 MDI shall not contain circuitry or use other means to prohibit interoperability between compliant interfaces and cable assemblies.

Response *Response Status* **U**

REJECT.

An interface that does not operate according to the requirements for 10GBASE-CX4 when connected to equipment from a different vendor (that does meet the requirements for 10GBASE-CX4) is already non-compliant with the 10GBASE-CX4 specification, so no new subclauses are needed.

A vote of the BRC on whether to reject the comment with the above text was:
Yes 8
No 3
Abstain 6

The 10GBASE-CX4 MDI shall be interoperable with compliant interfaces and cable assemblies

A vote of the BRC on whether to AIP the comment with the above text was:
Yes 8
No 7
Abstain 2

Move to re-consider the first vote
Yes 12
No 3

Motion to overrule the chair
Yes 3
No 11
Abstain 3

The first vote of the BRC on whether to reject the comment with the proposed text was re-taken:
Yes 11
No 3
Abstain 2

Cl **83A** *SC* **83A.3.3.1** *P* **302** *L* # 110

Dawe, Piers IPtronics

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

According to the PCI Express Base Specification Revision 3.0,
De-emphasis = 20log10 Vb/Va, where in our terminology Vb is VMA and Va is differential peak-to-peak amplitude.
Or, from the same document,
VTX-DE-RATIO = -20log10 (VTX-DIFF-PP/VTX-DE-EMPH-PP), where in our terminology VTX-DIFF-PP is differential peak-to-peak amplitude and VTX-DE-EMPH-PP is VMA.
Example: -3.5 dB De-emphasis
So, it is clear that more negative de-emphasis is more emphasis, in line with what de- means in English.
But 83A and 83B have got this upside down.

SuggestedRemedy

Either change the sign of all entries for de-emphasis, paying attention to maxima and minima, and equation 83B-6 (about 12 changes in all of Section 6 including consequential changes such as PICS);
or change "de-emphasis" to "emphasis and keep the positive sign. 24 changes, easy to do.

Response *Response Status* **U**

REJECT.
De-emphasis is an industry standard term where implementations are de-emphasizing low frequency content.
This was repeatedly debated during the development of the 802.3ba amendment with no consensus to change from the current usage.
See Comment #84 against D2.2
http://ieee802.org/3/ba/public/sep09/P8023ba-D22-Final_Responses_byID.pdf
See Comment #55 against D2.3
http://ieee802.org/3/ba/public/nov09/P8023ba-D23-Final_Responses_byID.pdf
See Comment #318 against D3.0
http://ieee802.org/3/ba/public/jan10/P8023ba-D30-Final_Responses_byID.pdf

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Cl **85** *SC* **10.9.5** *P* **206** *L* **35** # 151

Palkert, Thomas Luxtera

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

The mated test fixture ICN values were generated based on a 4 lane interface. The values are used for both 4 and 10 lane implementations and need to be modified to include the performance of 10 lane compliance boards.

SuggestedRemedy

Modify the values in Table 85-12 per the following:
Change SDNEXT from 0.7 to 3.0
Change SDFEXT from 2.5 to 4.0
Change MDNEXT from 1.0 to 3.5
Change MDNEXT from 3.5 to 5.0

Response *Response Status* **U**

REJECT.

This modification would modify the specifcation for the 4 lane interfaces as well as the 10 lane interfaces.
The commenter has not provided information on the impact of this change on the SR10 specifications such as the jitter budget.
The chair has appointed an Adhoc to gather more information on the impact of this proposed change.

Cl **85** *SC* **85.8** *P* **181** *L* **48** # 428

Maguire, Valerie Siemon

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

Balanced twisted-pair and optical fiber MDI interfaces are interoperable between vendors. In addition, industry comparative evaluation events (e.g. Ethernet Alliance Plugfests) go to great lengths to ensure interoperability between equipment manufactured by different vendors. In may cases, however, EEPROM circuitry is built into 40GBASE-CR4 and 100GBASE-CR10 MDIs for the specific purpose of ensuring that products between vendors DO NOT work together. This is outside the spirit of an applications Standard that specifies generic performance requirements and should not be allowed.

SuggestedRemedy

Insert new clause:
"85.8.1 Interoperability

The 40GBASE-CR4 and 100GBASE-CR10 MDI shall not contain circuitry or use other means to prohibit interoperability between compliant interfaces and cable assemblies.

Response *Response Status* **U**

REJECT.
An interface that does not operate according to the requirements for 40GBASE-CR4 when connected to equipment from a different vendor (that does meet the requirements for 40GBASE-CR4) is already non-compliant with the 40GBASE-CR4 specification (likewise for 100GBASE-CR10), so no new subclauses are needed.

D2.1

Cl **01** *SC* **1.4** *P* **66** *L* **30** # 53

Dawe, Piers IPtronics

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

D2.0 comment 1 pointed out that the Definitions section is 27 pages long. Although it is finely subdivided, the subheadings do not appear in the bookmarks, so it is like a single subclause, 27 pages long, when typically we have at least one bookmark per page. This makes it hard to navigate quickly to a particular definition.
The suggested remedy was:
Please introduce bookmarked subheadings e.g. 1 to 9, A to E, F to O, P to Z. The current subheadings can become fourth-level non-bookmarked subheadings.

SuggestedRemedy

Another way to get the same effect would be to set the Frame properties on just a few paragraphs (e.g. the first 1, the first A, the first F and so on) so that they show up in the pdf bookmarks list like any other third level heading.

Response *Response Status* **U**

REJECT.
This is a restatement of the comment and issues of comment #1 on the initial ballot.
The BRC was unanimous in that these changes do not improve the document.

Cl **01** *SC* **1.5** *P* **94** *L* **5** # 54

Dawe, Piers IPtronics

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

D2.0 comment 2 pointed out that the Abbreviations section is 5 pages long with no subdivisions (much longer than almost any other section). It is hard to navigate quickly to a particular abbreviation. Introducing bookmarked subheadings e.g. 1 to L, M to Z. would improve usability, with no downside that I can see. The response did not point out any reason not to do this.

SuggestedRemedy

Please introduce bookmarked subheadings e.g. 1 to E, F to O, P to Z to improve usability.

Response *Response Status* **U**

REJECT.
This is a restatement of the comment and issues of comment #2 on the initial ballot. The BRC was unanimous in that these changes do not improve the document.

Cl **86** *SC* **86.8.4.1** *P* **239** *L* **6** # 58

Dawe, Piers IPtronics

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

D2.0 comment 7: We use three references for the same thing. ANSI/EIA/TIA-455-127-1991 is very obsolete - not good practice. I believe that TIA-455-127-A:2006 and IEC 61280-1-3:1998 are also obsolete. Here are all the places they appear:
1.3
ANSI/EIA/TIA-455-127-1991, FOTP-127—Spectral Characterization of Multimode Laser Diodes.
TIA-455-127-A:2006 FOTP-127-A Basic Spectral Characterization of Laser Diodes.
IEC 61280-1-3:1998, Fibre optic communication subsystem basic test procedures—Part 1-3: Test procedures for general communication subsystems—Central wavelength and spectral width measurement.
1.4.350 RMS spectral width: A measure of the optical wavelength range as defined by TIA 455-127-A (FOTP-127-A).
Annex A
[B10] ANSI/EIA/TIA 455-127-1991 (FOTP-127), Spectral Characterization of Multimode Lasers.
38.6.1 Center wavelength and spectral width measurements
... per ANSI/EIA/TIA-455-127-1991 [B10].
38.12.4.5 Optical measurement requirements
OR2 Center wavelength and spectral width measurement conditions 38.6.1 Using optical spectrum analyzer per ANSI/EIA/TIA-455-127-1991 [B10] M Yes [ ]
52.9.2 Center wavelength and spectral width measurements
... per TIA/EIA-455-127 under modulated conditions ...
52.15.3.9 Optical measurement requirements
OM2 Center wavelength and spectral width measurement 52.9.2 Measured using an optical spectrum analyzer per TIA/EIA-455-127 under modulated conditions M Yes [ ]
58.7.2 Wavelength and spectral width measurements
... according to ANSI/EIA/TIA-455-127, ...
58.10.3.5 Optical measurement requirements
OM3 Wavelength and spectral width 58.7.2 Per TIA/EIA-455-127 under modulated conditions M Yes [ ]
And equivalents in 59 and 60.
75.7.4 Wavelength and spectral width measurement
... according to TIA-455-127-A ...
75.10.4.13 Definitions of optical parameters and measurement methods
OM2 Wavelength and spectral width 75.7.4 Per TIA–455–127–A under modulated conditions. M Yes [ ]
86.8.4.1 Wavelength and spectral width
... method given in TIA–455–127-A.
86.11.4.4 Definitions of parameters and measurement methods
SOM2 Center wavelength 86.8.4.1 Per TIA-455-127-A M Yes [ ]
87.8.3 Wavelength
per TIA/EIA–455–127–A or IEC 61280–1–3.
87.12.4.4 Optical measurement methods
87.12.4.5 Environmental specifications
XLOM2 Center wavelength 87.8.3 Per TIA–455–127–A or IEC 61280–1–3 under

modulated conditions M Yes [ ]
And equivalents in 88 and 89.

SuggestedRemedy

Replace them all with IEC 61280-1-3 (2010) Fibre optic communication subsystem test procedures - Part 1-3: General communication subsystems - Central wavelength and spectral width measurement
I don't believe we need [B10] in the bibliography any more.

Response *Response Status* **U**

REJECT.

This is a restatement of comment #7 on D2.0. There was no consensus for a change by the BRC and it was noted that the historic references were appropriate.

Cl **30** *SC* **30.2.5** *P* **363** *L* **41** # 59

Dawe, Piers IPtronics

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

Following up on D2.0 comment 72: text says "For LLDP management, the LLDP Basic Package is mandatory." and Table 30-7 says LLDP Basic Package (mandatory). If LLDP management had been a physically identifiable thing like "managed Midspans" we might have got away with such language, but this can be read as "For the sake of LLDP management, the LLDP Basic Package is mandatory, for any 802.3 thing." Which is far too wide.

SuggestedRemedy

Use the kind of wording in the following paragraphs: change "For LLDP management, the LLDP Basic Package is mandatory." to "The LLDP Basic Package is mandatory for managed entities that support IEEE 802.3 LLDP TLVs (see Clause 79)."

Response *Response Status* **U**

REJECT.

This is a restatement of the comment and issues of comment #72 on the initial ballot. As was noted in the original resolution, the text as is, is correct.

Cl **83A** *SC* **83A.3.3.1** *P* **340** *L* **11** # 61

Dawe, Piers IPtronics

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

D2.0 comment 110 points out something that previous comments on this subject did not: that according to the PCI Express Base Specification Revision 3.0,
De-emphasis = 20log10 Vb/Va, where in our terminology Vb is VMA and Va is differential peak-to-peak amplitude.
Or, from the same document,
VTX-DE-RATIO = -20log10 (VTX-DIFF-PP/VTX-DE-EMPH-PP), where in our terminology VTX-DIFF-PP is differential peak-to-peak amplitude and VTX-DE-EMPH-PP is VMA.
Example: -3.5 dB De-emphasis
So, it is clear that more negative de-emphasis is more emphasis, in line with what de- means in English.
But 83A and 83B have got this upside down.
Responses to comments say e.g. "REJECT. De-emphasis is an industry standard term."

SuggestedRemedy

If De-emphasis is an industry standard term, then we need to use it competently with the industry standard meaning. As we fixed the formula for Vertical eye-closure penalty in 38.6.11.
Change equation 83A-3 to
De-emphasis (dB) = 20log10(VMA / Differential peak-to-peak amplitude)
Change the sign of all entries for de-emphasis, paying attention to maxima and minima (about 11 changes in Section 6 including consequential changes such as PICS).

Response *Response Status* **U**

REJECT.

This is a restatement of the comment / issues addressed in comment #110 of the initial ballot.

De-emphasis is defined locally in the standard. Changing the sign of this quantity at this point would cause more confusion, rather than clarify anything.

Cl **86A** *SC* **86A.4.1** *P* **387** *L* **11** # 63

Dawe, Piers IPtronics

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

The common-mode return loss specifications have disappeared!
D2.0 comment 149 alleges that "This spec. was added to limit EMI." which is misleading. It was included to limit the AC common-mode voltage. The inputs can have a high common-mode impedance, so if the output is allowed to have a very bad common-mode return loss, the VSWR of the common mode is unbounded at certain frequencies, and so the common mode voltage can be multiplied up. Even a small common-mode loss will keep this under control. The former specs should be relaxed to allow higher bandwidth connectors.

SuggestedRemedy

Reinstate the two common-mode return loss specifications in 86A.4 and one in 83B.2.1, but make them easier, changing 3 dB to 2 dB and the corner frequency from 2.5 GHz to 1.6 GHz:
7-3.125f 0.01<=f<=1.6 (86A-2)
2 1.6<=f<=11.1

Response *Response Status* **U**

REJECT.

This comment seeks to reverse the removal of the common-mode return loss spec for the mated compliance boards due to comment #149 against D2.0 without establishing that there is indeed a correlation between common-mode return loss and unacceptable performance or providing evidence that the relaxed limit proposed will ensure adequate performance.

Cl **83B** *SC* **83B.2.2** *P* **362** *L* **22** # 64

Dawe, Piers IPtronics

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

While checking the common-mode return loss specs I noticed that while the module had such a spec, the host did not. This spec limits the AC common-mode voltage. The inputs can have a high common-mode impedance, so if the output is allowed to have a very bad common-mode return loss, the VSWR of the common mode is unbounded at certain frequencies, and so the common mode voltage can be multiplied up. Even a small common-mode loss will keep this under control. The very relaxed spec that I propose for 86A (host and module) would be better than no spec here (a relaxed spec is needed to allow higher bandwidth connectors).

SuggestedRemedy

Minimum host common-mode output return loss HCB output TP1a See Equation (86A–2) dB
(Per another comment, the relaxed 86A-2 would change 3 dB to 2 dB and the corner frequency from 2.5 GHz to 1.6 GHz:
7-3.125f 0.01<=f<=1.6 (86A-2)
2 1.6<=f<=11.1)

Response *Response Status* **U**

REJECT.

This comment is on text that was unchanged and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot (together with justification of the need and choice of limit) when the scope of the draft will be open.

Cl **85** *SC* **85.10.9.2** *P* **206** *L* **3** # 65

Dawe, Piers IPtronics

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

D2.0 comment 146 alleged that "85.10.9.3 specifies common mode output return loss. This spec. was added to limit EMI. It has been shown that there is no correlation between common mode return loss and EMI." I do not believe it has been shown, just postulated. In any case, this is a spec on the mated test fixtures, which should be well controlled like any test equipment. However, to allow for the new generation of higher bandwidth connectors, the common-mode return loss specification should be relaxed.

SuggestedRemedy

Reinstate the common-mode return loss spec for the mated compliiance boards, but instead of
12-2.8f 0.01<=f<=2.5
5.2-0.08f 2.5<=f<=10
use
12-5.625f 0.01<=f<=1.6
3 1.6<=f<=10

Response *Response Status* **U**

REJECT.

This comment seeks to reverse the removal of the common-mode return loss spec for the mated compliance boards due to comment #146 against D2.0 without establishing that there is indeed a correlation between common-mode return loss and unacceptable performance.

Cl **51** *SC* **51.1.1** *P* **435** *L* **46** # 77

Kolesar, Paul CommScope

Comment Type **TR** *Comment Status* **R** *interop*

It is common to find PMA interfaces from major vendors that are electrically and physically compatible with PMDs but intentionally made to not interoperate. This defeats the purpose of the standard which is to support broad interoperability. The Scope of clause 51.1.1 contains a sentence regarding implemetation and conformance considerations. As such it seems the appropriate place to add text concerning interoperability.

SuggestedRemedy

Add the following sentence after sentence two of clause 51.1.1: Electrically and physically compatible PMA and PMD interfaces shall interoperate.

Response *Response Status* **U**

REJECT.

This comment is on text that did not change or is not affected by changes made during the recirc and is thus out of scope.

An ad-hoc was chartered to discuss this issue and provide a recommendation for consideration at sponsor ballot

Cl **83** *SC* **83.1.1** *P* **137** *L* **17** # 78

Kolesar, Paul CommScope

Comment Type **TR** *Comment Status* **R** *interop*

It is common to find PMA interfaces from major vendors that are electrically and physically compatible with PMDs but intentionally made to not interoperate. This defeats the purpose of the standard which is to support broad interoperability. The Scope of clause 83.1.1 contains a discussion on implemetation and compliance considerations. As such it seems the appropriate place to add text concerning interoperability.

SuggestedRemedy

Append the following sentence to paragraph two: Electrically and physically compatible PMA and PMD interfaces shall interoperate.

Response *Response Status* **U**

REJECT.

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