

802.3cp D1.0 Bidirectional 10 Gb/s, 25 Gb/s, and 50 Gb/s Optical Access PHYs 1st Task Force review cor

CI 30 SC 30.5.1.1.2 P21 L # 2
 BOURGART, Fabrice Orange
 Comment Type E Comment Status A EZ
 No explanation is given on the change of naming convention moving from BX for 1Gb/s Bidi to the -BR extension.
 SuggestedRemedy
 Add for newcomers to the IEEE world a note explaining the reason since remains stable across the line rates in the document
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 CI 157.1.3, add a new line before line "x..." as follows:
 "BR Bidirectional 64B/66B line coding"

CI 30 SC 30.5.1.1.2 P21 L15 # 3
 BOURGART, Fabrice Orange
 Comment Type E Comment Status A EZ
 From the definitions no clue is given on the purpose of BR40+ vs BR40 before table 158-10
 SuggestedRemedy
 Purpose should preferably be explained sooner than it is now not to onfuse the reader
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Propose to explain BR40+ in CI 157.1.3. Change "x refers to the PHY reach; 10 (10 km), 20 (20 km), or 40 (40 km)" into
 "x refers to the PHY reach; 10 (10 km), 20 (20 km), 40 (40 km), or 40+ (legacy 40km)."

CI 30 SC 30.5.1.1.2 P21 L15 # 1
 BOURGART, Fabrice Orange
 Comment Type E Comment Status R EZ
 In the definition the wording is "supporting a dsitance of at least nn km". Since distances are related to operator engineering rules, unless hard limitations to distance are introduced, it would be safer to refer to actual optical budget enabled by module pairings
 SuggestedRemedy
 Refer to optical budget values later described in tables 158-16, 159-15 and 160-15
 Response Response Status C
 REJECT.
 This follows 802.3 aMAUType legacy, it registers .3cp BiDi PHY into CI 30.

CI 56 SC 56.1.1.1 P34 L20 # 4
 BOURGART, Fabrice Orange
 Comment Type E Comment Status A EZ
 Possible typo in the sentence "The 1000BASE-X PCS and PMA sublayers are used to support a bit rate of 100 Mb/s as defined in 66.2"
 SuggestedRemedy
 may be 100Mb/s should be made 1000Mb/s
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Correct the error as per remedy. Add an editor's note saying "review and correct as necessary changes made to CI 56.1.1"

CI 56 SC 56.1.1.2 P34 L28 # 5
 BOURGART, Fabrice Orange
 Comment Type E Comment Status R EZ
 Added value of the copper references is unsure, here unless for a bug fixing not related to this work?
 SuggestedRemedy
 Remove from this text ?
 Response Response Status C
 REJECT.
 This is reformatting of CI 56.1.1

CI 56 SC Table 56-1 P37 L6 # 7
 BOURGART, Fabrice Orange
 Comment Type T Comment Status R EZ
 Since distances are made uncertain because of very diverse passive plant engineering rules, it would be safer to refer to optical budgets
 SuggestedRemedy
 Replace the column with distances by optical budget classes enabled by the modules specified
 Response Response Status C
 REJECT.
 Table 56-1 follows 802.3 convention by stating the nominal distance rather than the loss.

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CI 56 SC Table 56-1 P37 L6 # 6

BOURGART, Fabrice

Orange

Comment Type T Comment Status A LB

4 module types have been defined to cover distances up to 40, two of them tagged "40" this will probably result in splitting the market and will cause inventory problems with related OPEX costs if link engineering is required.

SuggestedRemedy

Based on the experience and best practices that opto-electronic manufacturers have developed for PONs, it is believed that thanks to a 15dB dynamic the full range of distances/budgets could be covered with only two module types 0-15dB & 10 - 2x dB. Furthermore this could solve some issues documented in the next comments

Response Response Status C

ACCEPT IN PRINCIPLE.
Refer to #29

CI 157 SC 1.3 P39 L47 # 39

Frank, Effenberger

Futurewei Technologies

Comment Type T Comment Status A

In the definition of "x", the option of "40+" is missing

SuggestedRemedy

Add "40+" as one of the options.

Response Response Status C

ACCEPT.
Refer to #3

CI 157 SC 1.4 P42 L33 # 40

Frank, Effenberger

Futurewei Technologies

Comment Type T Comment Status A

The RS clause for 25G is listed as C74. This is wrong. We should use the clause give by the 25G two fiber PMDs

SuggestedRemedy

Change clause number to 108. Also, I do beleive that this is mandatory for all distances.

Response Response Status C

ACCEPT IN PRINCIPLE.
Table 157-3, remove column "74", make all entries in column "108" as "M"

CI 158 SC 1 P49 L32 # 44

Frank, Effenberger

Futurewei Technologies

Comment Type T Comment Status A

in fig 158-1, it says FEC is optional for BR40 and BR40+. This is different than table 157-2

SuggestedRemedy

Change to mandatory here, or make it optional back in 157

Response Response Status C

ACCEPT IN PRINCIPLE.
In Table 157-2, column 74, change all to "O".

CI 158 SC 6.1 P54 L21 # 46

Frank, Effenberger

Futurewei Technologies

Comment Type T Comment Status A

In table 158-6, we should adjust the Tx values to adapt to the agreed link loss values

SuggestedRemedy

Increase BR20 and BR40+ min power to 0.6 dB.
Increase BR20 and BR40+ max power to 5.6 dB. (THis gives a 5dB range)
Increase BR40 min power to -4.4 dB, and the max power to 0.6 dB.

Shift all other optical values as appropriate (e.g., if min ave power increases by 2dB, then the min OMA will also increase by 2dB)

And table 158-7 should be made to match.

Response Response Status C

ACCEPT IN PRINCIPLE.
Refer to #29.
Guideline is to adjust Tx power to accomadate the power budget change, keep Rx the same.

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CI 158 SC 6.2 P56 L14 # 47

Frank, Effenberger Futurewei Technologies

Comment Type T Comment Status A

Adjust receiver to match the modified Tx and Fiber channel changes

SuggestedRemedy

BR20 max power is 5.6 dB. (a 20 dB range)
 BR40 and 40+ min power is -22.4 dB.
 BR40 max power is -9.4 dB.
 BR40+ max power is -2.4 dB. (a 20 dB range).

Also adjust all other values to follow these power adjustments.

Response Response Status C

ACCEPT IN PRINCIPLE.
 Refer to #29.
 Adjust "Average receive power (max)" to fit the updated power budget.

CI 158 SC 7 P58 L15 # 41

Frank, Effenberger Futurewei Technologies

Comment Type T Comment Status R

Footnotes c, d, and e don't make sense for our case.

SuggestedRemedy

Remove those footnotes.

Response Response Status C

REJECT.

This table is illustrative.

CI 158 SC 11 P65 L4 # 45

Frank, Effenberger Futurewei Technologies

Comment Type T Comment Status A

BR10 max loss is 6.2 dB. It would be more widely applicable if it was 9 dB. Since 6.2 is already marketed, we would propose to define a new BR10+.

BR20 max loss is 13 dB. It would be more widely applicable if it was 15 dB. Additionally, it should be possible to make the receiver tolerate sufficient dynamic range to allow a minimum link loss of 0 dB.

BR40+ max loss is 23 dB, and we can try to get a similar dynamic range as BR20. Therefore, the minimum loss should be 8 dB

SuggestedRemedy

Change table entries as indicated.

This table should then be largely replicated in clauses 159 and 160. The fiber does not care about the bit rate.

Response Response Status C

ACCEPT IN PRINCIPLE.
 Refer to #29.

CI 158 SC 11.1 P65 L54 # 42

Frank, Effenberger Futurewei Technologies

Comment Type T Comment Status A

None of our pmds use 1550 nm.

SuggestedRemedy

Delete 1550 column, and delete footnote c

Response Response Status C

ACCEPT.

CI 158 SC 11.3 P66 L24 # 43

Frank, Effenberger Futurewei Technologies

Comment Type T Comment Status A

This section uses half a page and a graph to show you how an attenuator works. That is dumb.

SuggestedRemedy

Just remove this section. It's not needed.

Response Response Status C

ACCEPT.

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CI 158 SC 158.5.6 P41 L53 # 16
 Wey, Jun Shan ZTE TX Inc.
 Comment Type ER Comment Status A EZ
 Typos in this sentence: "PMDs compliant with this clause shall include the The PMD_global_transmit_disable function which allows the optical transmitter to be disabled.is optional."
 SuggestedRemedy
 Remove the repeated "the". Delete the "." between disabled and is.
 Response Response Status C
 ACCEPT.

CI 158 SC 158.6 P53 L # 17
 Wey, Jun Shan ZTE TX Inc.
 Comment Type TR Comment Status A LB
 It is unclear what the loss budget for BR40+ is. It would be helpful to show a table of max and min loss for each transmission class
 SuggestedRemedy
 Describe the loss budget for BR40+
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Refer to #29

CI 158 SC 158.6.1 P54 L21 # 18
 Wey, Jun Shan ZTE TX Inc.
 Comment Type TR Comment Status R SV
 Table 158-6. PMD values for BR20 and BR40+ are the same
 SuggestedRemedy
 Correct the values for BR20
 Response Response Status C
 REJECT.
 Remedy is not proposed for the specific BR20 values.
 BR20 and BR40+ Rx sensitivity values show the link difference.

CI 158 SC 158.6.1 P55 L12 # 19
 Wey, Jun Shan ZTE TX Inc.
 Comment Type TR Comment Status R SV
 Table 158-7. PMD values for BR20 and BR40+ are the same
 SuggestedRemedy
 Correct the values for BR20
 Response Response Status C
 REJECT.
 Remedy is not proposed for the specific BR20 values.
 BR20 and BR40+ Rx sensitivity values show the link difference.

CI 158 SC 158.10 P65 L1 # 20
 Wey, Jun Shan ZTE TX Inc.
 Comment Type TR Comment Status A LB
 Table 158-16
 To align with ITU-T G.9806 specifications, consider a 15dB dynamic range for the loss budget classes.
 G.9806 draft spec: Class S (0-15dB), Class (10-25dB)
 This comment also applies to Table 159-15.
 SuggestedRemedy
 Discussion needed
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Refer to #29

CI 158 SC 158.11.2.1 P66 L13 # 14
 BOURGART, Fabrice Orange
 Comment Type T Comment Status R LB
 A 2 dB allowance for connectors and splices independantly of distance seems extremely short.
 SuggestedRemedy
 Is it safe to speculate in such details about engineerings that even operators struggle to express across their full footprint?
 Response Response Status C
 REJECT.
 No specific remedy is proposed. See comment resolution #29 on loss budget.

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CI 158 SC Table 158-16 P65 L5 # 12

BOURGART, Fabrice Orange

Comment Type T Comment Status A EZ

Note a) gives figures at 1310, while the window is at 1270nm

SuggestedRemedy

use attenuation covering the 1270nm window

Response Response Status C

ACCEPT IN PRINCIPLE.

In Note a, change "Channel insertion loss at 1310 nm includes" to "Channel insertion losses include"

Delete superscript "a" from 1270 column header. Also apply this to Table 159-15.

CI 158 SC Table 158-10 P58 L9 # 27

Khotimsky, Denis Verizon

Comment Type TR Comment Status A LB

Presently specified budget classes barely hold even under the fiber attenuation assumptions listed in the corresponding tables (Tab 158-10, 159-10, 160-10). Normally, fiber distance increase comes at least with the proportional number of splices, which contribute to the insertion loss. I would suggest redefining the power classes.

Same comment applies to Tables 158/159/160-5, 158/159/160-6, 158/159/160-7, 158/159/160-8, 158/159/160-9, 159/160-10

SuggestedRemedy

Propose to specify budget loss as the following three classes:

- 0(min)-9 dB(max),
- 0(min)-15 dB(max), and
- 10(min)-23 dB(max).

Apply the above changes to Tables 158/159/160-5, 158/159/160-6, 158/159/160-7, 158/159/160-8, 158/159/160-9, 159/160-10

Response Response Status C

ACCEPT IN PRINCIPLE.

Refer to #29

CI 158 SC Table 158-10 P58 L9 # 11

BOURGART, Fabrice Orange

Comment Type T Comment Status A SV

Channel insertion loss with footnote d & e do not match what can be found in other tables at the relevant wavelengths.

SuggestedRemedy

Considering the table 158-17 lineic loss
 $10 \cdot 5 + 2 = 7\text{dB} > 6.2\text{ dB}$

Response Response Status C

ACCEPT IN PRINCIPLE.

Remove row "Additional insertion loss allowed" from Table 158-10. Apply the same change to Table 159-10, 160-10.

Change Table title from "10GBASE-BRx link power budget" into "10GBASE-BRx illustrative link power budget".

Page 57, line 42, change CI title "10GBASE-BRx link power budgets (informative)" into "10GBASE-BRx illustrative link power budgets". Line 44, change "Example" into "Illustrative".

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CI 158 SC Table 158-10 P58 L9 # 29

Dawes, Peter Vodafone

Comment Type TR Comment Status A LB

Channel insertion loss specs should be updated by providing the min and max values. Current values of 6.3 dB, 13 dB, 18 dB, and 23 dB should be updated.

Same comment applies to 25G loss in Clause 159 (Table 159-10) and 50G loss in Clause 160 (Table 160-10)

SuggestedRemedy

Propose to specify channel insertion loss as two rows in the table: one row for minimum value and the other for maximum value.

Propose to specify 3 classes as channel insertion loss: 0(min)-9 dB(max), 0-15 dB, and 10-23 dB.

Apply the above changes to Clauses 159 and 160.

Response Response Status C

ACCEPT IN PRINCIPLE.

Consensus was reached in Kona meeting. Following changes on loss budgets will be made to Clauses 158, 159, 160.

BR20 min 0dB, max 15dB
BR40 min 5dB, max 18dB
BR40+ min 10dB, max 23dB

CI 158 SC Table 158-10 P58 L9 # 25

Rafel, Albert BT

Comment Type TR Comment Status A LB

Table 158-10 on Page 58 Clean version, channel insertion loss. Propose values for Channel Insertion Loss specification using BOTH minimum and maximum. Industrial temperature range assumption for specification. A 0.0 dB value for minimum insertion loss allows back to back testing and avoiding the use of an optical attenuator in practice on short links. The specification of minimum Channel Insertion Loss adds a test case for compliance

SuggestedRemedy

Propose adding a row in Table with a minimum Channel Insertion Loss with a value proposed of 0.0 dB. Change the value of 6.3 dB in Draft to a new value of 9.0 dB for maximum Channel Insertion Loss. The maximum Channel insertion loss of 9 dB can be achieved by narrowing the transmit power range used for 6.3 dB.

Change 13 dB into 15 dB for max channel insertion loss, its min is 0 dB.

For 23 dB max channel insertion loss, its min value is 10 dB.

Remove 18 dB class.

Response Response Status C

ACCEPT IN PRINCIPLE.

Refer to #29

CI 158 SC Table 158-17 P65 L49 # 13

BOURGART, Fabrice Orange

Comment Type T Comment Status A EZ

Why not give the attenuation at both values applicable to the two wavelength windows used instead of 0.4 or 0.5 which are significantly different

SuggestedRemedy

figures must be made consistent across the tables 158-5, 158-10 and 158-17

Response Response Status C

ACCEPT IN PRINCIPLE.

Values 0.4 and 0.5 are found in fiber standards. Comments are invited to clarify which std are referred to.

In Table 158-17, delete column 1550, and clear the note related to 1550, as 1550nm is not in .3cp.

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CI 158 SC Table 158-5 P53 L45 # 8

BOURGART, Fabrice Orange

Comment Type T Comment Status R D

"Minimum range" values don't seem practical given the figures and assumptions given later in the section.

SuggestedRemedy

Either assumptions need to be changed or minimum range values. For instance given the lineic loss of fibre (0.4 or 0.5 according to table 158-17) at the considered wavelengths, the dynamic of fibre loss between 0m and 40km exceeds 16dB can it be achieved without specific external conditions (e.g. attenuators?).

Response Response Status C

REJECT.
There are other requirements to be considered. This minimum range is just one factor. Examples of other requirements are minimum loss, maximum loss, etc.

CI 158 SC Table 158-5 P53 L45 # 9

BOURGART, Fabrice Orange

Comment Type T Comment Status R D

Considering the up and down link characteristics, the damage threshold seems lower than the Tx max with modulation of the corresponding device.

SuggestedRemedy

Back to back testing should be made possible or testing conditions indicate that attenuators are required given the current figures and testing is mentioned with a 2m patchcord (e.g. for BR40 & 40+)

Response Response Status C

REJECT.
There is no specific remedy. Please review the new draft and bring contributions on this.

CI 158 SC Table 158-6 P54 L20 # 37

Luo, Yuanqiu Futurewei

Comment Type TR Comment Status A SV

In Table 158-6, row "Side Mode Suppression Ratio (min)", both 10GBASEBR20-D and 10GBASEBR40+-D values are empty

SuggestedRemedy

Propose to set these two values as 30 dB.

Response Response Status C

ACCEPT IN PRINCIPLE.
Merge SMSR in the table into one value, 30 dB.

CI 158 SC Table 158-8 P56 L17 # 10

BOURGART, Fabrice Orange

Comment Type E Comment Status A SV

No unit is given for the "Maximum receive power (for damage)"

SuggestedRemedy

Should it be "dBm" ?

Response Response Status C

ACCEPT.

CI 159 SC 6.1 P76 L12 # 48

Frank, Effenberger Futurewei Technologies

Comment Type T Comment Status A

We should adjust the transmitter powers to match the agreed link loss values. Adjust the max powers to maintain a more reasonable Tx control range

SuggestedRemedy

BR20 min power should be -6 dBm.
BR20 max power should be -1 dBm.
BR40 max power should be +2 dBm.
BR40+ max power should be left at +6 (a special case, because that's getting rather high).

Response Response Status C

ACCEPT IN PRINCIPLE.
Refer to #29. This is for 25G spec.

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CI 159 SC 6.1 P78 L8 # 34

Frank, Effenberger Futurewei Technologies
 Comment Type T Comment Status A WL

To optimize the wavelengths for BR20 and higher, we should use a more standard wavelength. The dispersion impacts can be found in Liu_3cp_1_1909.

SuggestedRemedy

The upstream wavelength should be 1260 to 1280 nm. This requires a chirped transmitter, but such chirp comes for free from DMLs. DML's are cheaper and higher power than EMLs, so this seems to be a no brainer. And, by shifting to a shorter wavelength, the guard band between up and down becomes 20nm, which is much more forgiving.

If accepted, this would affect tables 159-6, 7, 8, and 9; and tables 160-6, 7, 8, and 9.

Response Response Status C

ACCEPT IN PRINCIPLE.
 See straw poll #2 in Kona meeting. Consensus was achieved to make change as follows:
 DS: 1314+/-8nm
 US: 1288+/-8nm
 Editor will make changes in tables 159-6, 7, 8, and 9; and tables 160-6, 7, 8, and 9 to follow this consensus.

CI 159 SC 6.1 P78 L8 # 31

Frank, Effenberger Futurewei Technologies
 Comment Type T Comment Status D WL

To optimize the wavelengths for BR20 and higher, we should use a more standard wavelength. The dispersion impacts can be found in Liu_3cp_1_1909.

SuggestedRemedy

The upstream wavelength should be 1260 to 1280 nm. This requires a chirped transmitter, but such chirp comes for free from DMLs. DML's are cheaper and higher power than EMLs, so this seems to be a no brainer. And, by shifting to a shorter wavelength, the guard band between up and down becomes 20nm, which is much more forgiving.

If accepted, this would affect tables 159-6, 7, 8, and 9; and tables 160-6, 7, 8, and 9.

Proposed Response Response Status Z

REJECT.
 This comment was WITHDRAWN by the commenter.
 This is a duplicate comment.

CI 159 SC 6.1 P113 L8 # 33

Frank, Effenberger Futurewei Technologies
 Comment Type T Comment Status A WL

To optimize the wavelengths for BR20 and higher, we should use standard wavelengths. The dispersion impacts can be found in Liu_3cp_1_1909.

SuggestedRemedy

The downstream wavelength should be specified 1300-1320 nm. Given the distance and dispersion, this band would require a chirp-free Tx, which is not too bad. The width also enables uncooled operation (potentially).

Response Response Status C

ACCEPT IN PRINCIPLE.
 Refer to #34

CI 159 SC 6.1 P113 L8 # 30

Frank, Effenberger Futurewei Technologies
 Comment Type T Comment Status D WL

To optimize the wavelengths for BR20 and higher, we should use standard wavelengths. The dispersion impacts can be found in Liu_3cp_1_1909.

SuggestedRemedy

The downstream wavelength should be specified 1300-1320 nm. Given the distance and dispersion, this band would require a chirp-free Tx, which is not too bad. The width also enables uncooled operation (potentially).

Proposed Response Response Status Z

REJECT.
 This comment was WITHDRAWN by the commenter.
 This is a duplicate comment.

CI 159 SC 6.3 P115 L15 # 49

Frank, Effenberger Futurewei Technologies
 Comment Type T Comment Status A

Change the max receive powers to match the Tx and link loss values.

SuggestedRemedy

BR20 Max power should be -1 dBm.
 BR40 Max power should be -8 dBm.
 BR40+ max power should be -2 dBm.

Response Response Status C

ACCEPT IN PRINCIPLE.
 Refer to #29. This is for Rx power adjustment.

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CI 159 SC 159.6 P113 L12 # 22
 Wey, Jun Shan ZTE TX Inc.
 Comment Type **TR** Comment Status **A** LB
 Table 159-6
 BR20 transmitter has a dynamic range of 14dB, while the other classes are at 9dB, 4dB.
 Why such a high dynamic range for this class?
 SuggestedRemedy
 Discussion needed
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Refer to #29

CI 159 SC 159.6 P114 L12 # 23
 Wey, Jun Shan ZTE TX Inc.
 Comment Type **TR** Comment Status **A** LB
 Table 159-7
 BR20 transmitter has a dynamic range of 14dB, while the other classes are at 9dB, 4dB.
 Why such a high dynamic range for this class?
 SuggestedRemedy
 Discussion needed
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Refer to #29

CI 159 SC 159.6.3 P113 L1 # 21
 Wey, Jun Shan ZTE TX Inc.
 Comment Type **TR** Comment Status **R** WL
 Table 159-6
 Wavelength plan for BR20/40/40+ only allows a 4nm guard band between upstream and downstream. This will be challenging to meet with low cost optics
 SuggestedRemedy
 Discussion needed
 Response Response Status **C**
 REJECT.
 No specific remedy is proposed by the commentor.

CI 159 SC Table 159-10 P81 L4 # 28
 McCammon, Kent AT&T
 Comment Type **TR** Comment Status **A** LB
 Table 159-10 on Page 81 Clean version, row 4. Propose values for Channel Insertion Loss specification using BOTH minimum and maximum. Industrial temperature range assumption for specification. A 0.0 dB value for minimum insertion loss allows back to back testing and avoiding the use of an optical attenuator in practice on short links. The specification of minimum Channel Insertion Loss adds a test case for compliance.
 SuggestedRemedy
 Propose adding a row in Table with a minimum Channel Insertion Loss with a value proposed of 0.0 dB. Change the value of 6.3 dB in Draft to a new value of 9.0 dB for maximum Channel Insertion Loss. The maximum Channel insertion loss of 9 dB might be achieved by narrowing the transmit power range used for 6.3 dB.

Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Refer to #29

CI 159 SC Table 159-10 P81 L4 # 24
 Rafel, Albert BT
 Comment Type **TR** Comment Status **A** LB
 Table 159-10 on Page 81 Clean version, row 4. Propose values for Channel Insertion Loss specification using BOTH minimum and maximum. Industrial temperature range assumption for specification. A 0.0 dB value for minimum insertion loss allows back to back testing and avoiding the use of an optical attenuator in practice on short links. The specification of minimum Channel Insertion Loss adds a test case for compliance.

SuggestedRemedy
 Propose adding a row in Table with a minimum Channel Insertion Loss with a value proposed of 0.0 dB. Change the value of 6.3 dB in Draft to a new value of 9.0 dB for maximum Channel Insertion Loss. The maximum Channel insertion loss of 9 dB can be achieved by narrowing the transmit power range used for 6.3 dB.
 Change 13 dB into 15 dB for max channel insertion loss, its min is 0 dB.
 For 23 dB max channel insertion loss, its min value is 10 dB.
 Remove 18 dB class.

Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Refer to #29

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CI 159 SC Table 159-5 P76 L27 # 15
 BOURGART, Fabrice Orange
 Comment Type T Comment Status A LB
 Remarks done for table 158-5 about the dynamic "2m - max length" are also valid for clauses 159 and 160.
 SuggestedRemedy
 Realistic values based on possible damage and actual dynamic should be given.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Refer to #29

CI 160 SC 1.6 P77 L48 # 50
 Frank, Effenberger Futurewei Technologies
 Comment Type T Comment Status A
 Change the Tx values to increase BR20 by 2dB, and make Tx control range reasonable.
 SuggestedRemedy
 BR20 min power should be -2.5. Max power should be 2.5 dBm.
 BR40+ max power should be 8.4 dBm (making range 3 dB, which is all we can afford)
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Refer to #29. This is for 50G spec.

CI 160 SC 6.2 P80 L12 # 51
 Frank, Effenberger Futurewei Technologies
 Comment Type T Comment Status A
 Adjust max powers to fit the Tx and min loss.
 SuggestedRemedy
 BR20 max power should be -2.5 dBm.
 BR40+ max power should be 0.4 dBm
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Refer to #29. This is for 50G Rx adjustment.

CI 160 SC 9 P111 L1 # 35
 Frank, Effenberger Futurewei Technologies
 Comment Type T Comment Status D EZ
 Table 160-14 should be made to follow the format of table 159-14, especially the wavelengths.
 SuggestedRemedy
 Simplest thing is to just copy the 159 table to here. Or just do it by reference.
 Proposed Response Response Status Z
 REJECT.
 This comment was WITHDRAWN by the commenter.
 This is a duplicate comment

CI 160 SC 9 P111 L1 # 32
 Frank, Effenberger Futurewei Technologies
 Comment Type T Comment Status A EZ
 Table 160-14 should be made to follow the format of table 159-14, especially the wavelengths.
 SuggestedRemedy
 Simplest thing is to just copy the 159 table to here. Or just do it by reference.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Delete Table 160-14, change all references from Table 160-14 to Table 159-14.

CI 160 SC 160.6.3 P101 L35 # 38
 Lewis, David Lumentum
 Comment Type T Comment Status A SV
 In Table 160-10, Power budget (for maximum TDECQ) values should add up to Channel insertion loss plus Allocation for penalties (for maximum TDECQ).
 SuggestedRemedy
 Change values of Power budget (for maximum TDECQ) to: 10.1, 16.8, 21.8, and 26.8 for 50GBASE-BR10, -BR20, -BR40 and -BR40+ respectively.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Check "Allocation for penalties" values from related tables, apply them to Table 160-10, recalculate values for "Power budget (for maximum TDECQ)".
 Apply the same check and change to Tables 159-10, 158-10.

CI 160 SC Table 160-10 P101 L42 # 26

Rafel, Albert

BT

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

Table 160-10 on Page 101 Clean version, channel insertion loss. Propose values for Channel Insertion Loss specification using BOTH minimum and maximum. Industrial temperature range assumption for specification. A 0.0 dB value for minimum insertion loss allows back to back testing and avoiding the use of an optical attenuator in practice on short links. The specification of minimum Channel Insertion Loss adds a test case for compliance

SuggestedRemedy

Propose adding a row in Table with a minimum Channel Insertion Loss with a value proposed of 0.0 dB. Change the value of 6.3 dB in Draft to a new value of 9.0 dB for maximum Channel Insertion Loss. The maximum Channel insertion loss of 9 dB can be achieved by narrowing the transmit power range used for 6.3 dB.

Change 13 dB into 15 dB for max channel insertion loss, its min is 0 dB.

For 23 dB max channel insertion loss, its min value is 10 dB.

Remove 18 dB class.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Refer to #29

CI 160 SC Table 160-7 P98 L53 # 36

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

In Table 160-7, row "Outer Optical Modulation Amplitude (OMA_{outer})(min)", the 50GBASE-BR20-U value should be about 5dB lower than that of the 50GBASE-BR40-U value.

SuggestedRemedy

Propose to change the OMA_{outer}(min) value of 50GBASE-BR20-U from "3.4" into "-1.5".

Response Response Status **C**

ACCEPT.