Chief Editor Report

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Introduction

- D3.1 comments closed on July 4th.

P802.3cc D3.1 Comments		
Type	**Count**	
E	0	3
ER	3	
T	0	6
TR	6	
G	2	2
GR	0	
Total	11	
Required	9	

Proposed Response Summary

CommentID	Clause	Subclause	CommentType	ProposedResponse	Group
r01-8	1	1	G	REJECT	0
r01-11	0	0	G	ACCEPT	0
r01-1	30	30.5.1.1.2	ER	REJECT	1
r01-2	45	45.2.1.8	ER	REJECT	1
r01-3	108	108.7.3	ER	REJECT	1
r01-4	114	114.6.1	TR	REJECT	2
r01-5	114	114.6.2	TR	REJECT	2
r01-6	114	114.6.3	TR	ACCEPT IN PRINCIPLE	2
r01-7	114	114.1	TR	ACCEPT IN PRINCIPLE	2
r01-9	114	114.6	TR	Presentation	3
r01-10	114	114.6	TR	Presentation	3

Comments r01-6, r01-7

Table 87–9—40GBASE-LR4 and 40GBASE-ER4 illustrative link power budgets

Parameter	40GBASE-LR4	40GBASE-ER4		Unit
Power budget (for max TDP)	9.3	21.1		dB
Operating distance	10	30	40[a]	km
Channel insertion loss	6.7[b]	16.5[b]	18.5[a]	dB
Maximum discrete reflectance	−26	−26		dB
Allocation for penalties[c] (for max TDP)	2.6	2.6		dB
Additional insertion loss allowed	0	2	0	dB

[a]Links longer than 30 km are considered engineered links. Attenuation for such links needs to be less than the worst case for B1.1, B1.3, or B6_a single-mode cabled optical fiber.
[b]The channel insertion loss is calculated using the maximum distance specified in Table 87–6 and cabled optical fiber attenuation of 0.47 dB/km at 1264.5 nm plus an allocation for connection and splice loss given in 87.11.2.1.
[c]Link penalties are used for link budget calculations. They are not requirements and are not meant to be tested.

Table 114–8—25GBASE-LR and 25GBASE-ER illustrative link power budgets

Parameter	25GBASE-LR	25GBASE-ER		Unit
Power budget (for maximum TDP)	9	20.7		dB
Operating distance	10	30	40[a]	km
Channel insertion loss (max) ~~—~~	6.3[b]	15 [b]	18 [a]	dB
~~Channel insertion loss (min)~~	~~0~~	~~10~~		~~dB~~
Maximum discrete reflectance	−26	−26		dB
Allocation for penalties[c] (for maximum TDP)	2.7	2.7		dB
Additional insertion loss allowed	0	3	0	dB

[a]Links longer than 30 km are considered engineered links. Attenuation for such links needs to be less than the worst case for cables containing IEC 60793-2-50 type B1.1, type B1.3, or type B6_a single-mode cabled optical fiber.
[b]The channel insertion loss is calculated using the maximum distance specified in Table 114–5 for 25GBASE-LR and fiber attenuation of 0.43 dB/km at 1295 nm plus an allocation for connection and splice loss given in 88.11.2.1.
[c]Link penalties are used for link budget calculations. They are not requirements and are not meant to be tested.

Table 87–14—Fiber optic cabling (channel) characteristics

Description	40GBASE-LR4	40GBASE-ER4		Unit
Operating distance (max)	10	30	40	km
Channel insertion loss[a, b](max)	6.7	18.5		dB
Channel insertion loss (min)	0	9		dB
Positive dispersion[b] (max)	33.5	100.5	134	ps/nm
Negative dispersion[b] (min)	−59.5	−178.5	−238	ps/nm
DGD_max[c]	10	12		ps
Optical return loss (min)	21	21		dB

[a]These channel insertion loss values include cable, connectors, and splices.
[b]Over the wavelength range 1264.5 nm to 1337.5 nm.
[c]Differential Group Delay (DGD) is the time difference at reception between the fractions of a pulse that were transmitted in the two principal states of polarization of an optical signal. DGD_max is the maximum differential group delay that the system must tolerate.

Table 114–11—Fiber optic cabling (channel) characteristics

Description	25GBASE-LR	25GBASE-ER		Unit
Operating distance (max)	10	30	40	km
Channel insertion loss[a, b](max)	6.3	18 Combine into single cell 18		dB
Channel insertion loss (min)	0	10[c]		dB
Positive dispersion[b] (max)	22.6	27.6	36.8	ps/nm
Negative dispersion[b] (min)	−27.9	−83.7	−111.6	ps/nm
DGD_max[d]	8	10.3	10.3	ps
Optical return loss (min)	21	21	21	dB

[a]These channel insertion loss values include cable, connectors, and splices.
[b]Over the wavelength range 1295 nm to 1325 nm for 25GBASE-LR and 1295 nm to 1310 nm for 25GBASE-ER.
[c]Channel insertion loss (min) may be implemented with an optical attenuator.
[d]DGD_max is the maximum differential group delay that the system must tolerate.

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Comments r01-9

Implement the following changes (pending discussion in Berlin):

1. Table 114-6: Change Transmitter reflectance (max) from -12 to -26 dB.
2. Table 114-7: Change Receiver sensitivity (OMA) (max) from -11.3 to -12 dBm for 25GBASE-LR.
3. Table 114-7: Change Stressed receiver sentivity (OMA) (max) from -8.8 to -9.5 dBm for 25GBASE-LR.
4. Table 114-8: Change Power budget (for maximum TDP) from 9 to 9.7 dB for 25GBASE-LR (see below).
5. Table 114-8: Change Allocation for penalties (for maximum TDP) from 2.7 to 3.4 dB for 25GBASE-LR (see below)
6. Table 114-8: Add new footnote "c" to the maximum discrete reflectance of 25GBASE-LR that says, "The number of maximum discrete reflectances in the range > −35 dB and ≤ −26 dB is at most 3; the number of maximum discrete reflectances ≤ −35 dB is at most 6; and the total number of maximum discrete reflectances is at most 6." (see below)
7. Table 114-8: Change footnote label of existing footnote "c" to "d" (see below).

Table 114–8—25GBASE-LR and 25GBASE-ER illustrative link power budgets

Parameter	25GBASE-LR	25GBASE-ER		Unit
Power budget (for maximum TDP)	~~9~~ -9.7	20.7		dB
Operating distance	10	30	40ᵃ	km
Channel insertion loss (~~max~~)	6.3ᵇ	15 ᵇ	18 ᵃ	dB
~~Channel insertion loss (min)~~	~~0~~	~~10~~		~~dB~~
Maximum discrete reflectance	−26ᶜ	−26		dB
Allocation for penalties ᵈ(for maximum TDP)	~~2.7~~ 3.4	2.7		dB
Additional insertion loss allowed	0	3	0	dB

ᵃLinks longer than 30 km are considered engineered links. Attenuation for such links needs to be less than the worst case for cables containing IEC 60793-2-50 type B1.1, type B1.3, or type B6_a single-mode cabled optical fiber.
ᵇThe channel insertion loss is calculated using the maximum distance specified in Table 114–5 for 25GBASE-LR and fiber attenuation of 0.43 dB/km at 1295 nm plus an allocation for connection and splice loss given in 88.11.2.1.
ᵈLink penalties are used for link budget calculations. They are not requirements and are not meant to be tested.

ᶜ The number of discrete reflectances in the range > −35 dB and ≤ −26 dB is at most 3; the number of discrete reflectances ≤ −35 dB is at most 6; and the total number of discrete reflectances is at most 6.

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Comment r01-10

(In addition to changes in Table 114-8):

Change Clause 114.9 as follows:

114.9 Fiber optic cabling model
The fiber optic cabling model for 25GBASE-LR and 25GBASE-ER is as specified for 100GBASE-LR4 and 100GBASE-ER4 in 88.10 with the exceptions that Table 88-14 is replaced by Table 114–11. and the insertion loss contribution of discrete reflectances for 25GBASE-ER is specified by Table 114-12.

Insert Table 114-12 as shown below in Clause 114.9 after Table 114-11 (this will require changing existing Table 114-12 to 114-13).

Insertion loss contribution of discrete reflectances (dB)		Number of discrete reflectances ≦ -35 dB						
		0	**1**	**2**	**3**	**4**	**5**	**6**
Number of discrete reflectances > -35 dB and ≦ -26 dB	**0**	0	0	0	0.1	0.1	0.1	0.2
	1	0.1	0.1	0.1	0.2	0.2	0.3	-[a]
	2	0.2	0.2	0.3	0.3	0.4	-[a]	-[a]
	3	0.3	0.4	0.4	0.6	-[a]	-[a]	-[a]
	4	0.5	0.6	0.7	-[a]	-[a]	-[a]	-[a]
	>4	-[a]	-[a]	-[a]	-[a]	-[a]	-[a]	-[a]

[a] The indicated combination of reflectances is not supported.

Table 114-12 –Insertion loss contribution of discrete reflectances in 25GBASE-ER

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